MONOLITHIC POWER SYSTEMS INC
Form 10-K
March 01, 2019

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number: 000-51026

Monolithic Power Systems, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**77-0466789**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

4040 Lake Washington Blvd. NE, Suite 201, Kirkland, Washington 98033

(Address of principal executive offices)(Zip code)

(425) 296-9956

(Registrant’s telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.001 Par Value	**The NASDAQ Global Select Market**

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

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Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	Accelerated filer	Non-accelerated filer	Smaller reporting company	Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant, based upon the closing price of the common stock on the Nasdaq Global Select Market on June 29, 2018, was $4.5 billion.*

There were 42,916,000 shares of the registrant's common stock issued and outstanding as of February 20, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the registrant's 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K to the extent stated herein. The Proxy Statement will be filed within 120

days of the registrant's fiscal year ended December 31, 2018.

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* Excludes 8,813,000 million shares of the registrant's common stock held by executive officers, directors and stockholders whose ownership exceeds 5% ("affiliates") of the common stock outstanding at June 30, 2018. Exclusion of such shares should not be construed to indicate that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

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MONOLITHIC POWER SYSTEMS, INC.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, that have been made pursuant to and in reliance on the provisions of the Private Securities Litigation Reform Act of 1995. These statements include, among others, statements concerning:

- the above-average industry growth of product and market areas that we have targeted,
- our plan to increase our revenue through the introduction of new products within our existing product families as well as in new product categories and families,
- our belief that we may incur significant legal expenses that vary with the level of activity in each of our current or future legal proceedings,
- the effect that liquidity of our investments has on our capital resources,
- the continuing application of our products in the computing and storage, automotive, industrial, communications and consumer markets,
- estimates of our future liquidity requirements,
- the cyclical nature of the semiconductor industry,
- protection of our proprietary technology,
- business outlook for 2019 and beyond,
- the factors that we believe will impact our ability to achieve revenue growth,
- the percentage of our total revenue from various end markets,
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our ability to identify, acquire and integrate the companies, businesses and products that we acquire and achieve the anticipated benefits from such acquisitions,

- the impact of the U.S. Tax Cuts and Jobs Act enacted in December 2017 (the "2017 Tax Act") on our income tax provision and cash flows,

- our plan to repatriate cash from our international subsidiaries,

- our intention and ability to pay future cash dividends and dividend equivalents, and

- the factors that differentiate us from our competitors.

In some cases, words such as “would,” “could,” “may,” “should,” “predict,” “potential,” “targets,” “continue,” “anticipate,” “ex “intend,” “plan,” “believe,” “seek,” “estimate,” “project,” “forecast,” “will,” the negative of these terms or other variations of s terms and similar expressions relating to the future identify forward-looking statements. All forward-looking statements are based on our current outlook, expectations, estimates, projections, beliefs and plans or objectives about our business and our industry. These statements are not guarantees of future performance and are subject to risks and uncertainties. Actual events or results could differ materially and adversely from those expressed in any such forward-looking statements. Risks and uncertainties that could cause actual results to differ materially include those set forth throughout this Annual Report on Form 10-K and, in particular, in the section entitled “Item 1A. Risk Factors.” Except as required by law, we disclaim any duty to, and undertake no obligation to, update any forward-looking statements, whether as a result of new information relating to existing conditions, future events or otherwise or to release publicly the results of any future revisions we may make to forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Readers are cautioned not to place undue reliance on such statements, which speak only as of the date of this Annual Report on Form 10-K. Readers should carefully review future reports and documents that we file from time to time with the Securities and Exchange Commission (“SEC”), such as our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and any Current Reports on Form 8-K.

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Except as the context otherwise requires, the terms “Monolithic Power Systems”, “MPS”, “Registrant”, “Company”, “we”, “us “our” as used herein are references to Monolithic Power Systems, Inc. and its consolidated subsidiaries.

PART I

ITEM 1. BUSINESS

General

Monolithic Power Systems (“MPS”) is a leading semiconductor company that designs, develops and markets high-performance power solutions. Incorporated in 1997, MPS’s core strengths include deep system-level and applications knowledge, strong analog design expertise and innovative proprietary process technologies. These combined strengths enable MPS to deliver highly integrated monolithic products that offer energy efficient, cost-effective, easy-to-use solutions for systems found in computing and storage, automotive, industrial, communications and consumer applications. MPS's mission is to reduce total energy consumption in its customers' systems with green, practical and compact solutions.

Our principal executive office is located in Kirkland, Washington and we have over 1,700 employees worldwide, with locations in Asia (primarily in China, India, Japan, Korea, Singapore and Taiwan), Europe (primarily in France, Germany, Spain, Switzerland and the United Kingdom), and the United States.

Industry Overview

Semiconductors comprise the basic building blocks of electronic systems and equipment. Within the semiconductor industry, components can be classified either as discrete devices, such as individual transistors or integrated circuits (“ICs”), in which a number of transistors and other elements are combined to form a more complicated electronic circuit. ICs can be further divided into three primary categories: digital, analog, and mixed-signal. Digital ICs, such as memory devices and microprocessors, can store or perform arithmetic functions on data that is represented by a series of ones and zeroes. Analog ICs, in contrast, handle real world signals such as temperature, pressure, light, sound, or speed. In addition, analog ICs also perform power management functions, such as regulating or converting voltages, for electronic devices. Mixed-signal ICs combine digital and analog functions onto a single chip and play an important role in bridging real world to digital systems.

Analog and Mixed-Signal Markets. We focus on the market for high performance analog and mixed-signal ICs. High performance products generally are differentiated by functionality and performance factors which include integration of higher levels of functionality onto a single chip, greater precision, higher speed and lower heat and noise. There are several key factors that distinguish the analog and mixed-signal IC markets, and in particular the high performance portion of the analog and mixed signal IC market, from digital IC markets. These factors include longer product life cycles, numerous market segments, technology that is difficult to replicate, relative complexity of design and process technology, importance of experienced design engineers, lower capital requirements and diversity of end markets. We have targeted product and market areas that we believe have the ability to offer above-average growth over the long term, compared to the semiconductor industry as a whole.

End Markets and Applications

We currently target our products in the computing and storage, automotive, industrial, communications and consumer markets, with the consumer market representing the largest portion of our revenue. The following is a summary of the various applications of our products in each end market, and such market's contribution as a percentage of our total revenue:

		Percentage of Total Revenue		
End Markets	**Applications**	**2018**	**2017**	**2016**
Computing and storage	Storage networks, computers and notebooks, printers, servers and workstations.	27.3%	21.4%	20.7%
Automotive	Infotainment, safety and connectivity applications	13.8%	11.4%	8.7 %
Industrial	Power sources, security, point-of-sale systems, smart meters and other industrial equipment.	15.2%	13.4%	14.4%
Communications	Networking and telecommunication infrastructure, routers and modems, wireless access points and voice over IP.	12.1%	13.5%	16.7%
Consumer	Set-top boxes, monitors, gaming, lighting, chargers, home appliances, cellular handsets, digital video players, GPS, televisions, stereos and cameras.	31.6%	40.3%	39.5%

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Product Families

Our proprietary process technologies enable us to design and deliver smaller, single-chip power management ICs. These technologies simplify the design process, and are applicable across a wide range of analog applications within the computing and storage, automotive, industrial, communications and consumer markets. Our product families are differentiated with respect to their high degree of integration and strong levels of accuracy and efficiency, making them cost-effective relative to many competing solutions. Our key product families include the following:

Direct Current (DC) to DC Products. DC to DC ICs are used to convert and control voltages within a broad range of electronic systems, such as portable electronic devices, wireless LAN access points, computers, and monitors, automobiles and medical equipment. We believe that our DC to DC products are differentiated in the market, particularly with respect to their high degree of integration, high voltage operation, high load current, high switching speed and small footprint. These features are important to our customers as they result in fewer components, a smaller form factor, more accurate regulation of voltages, and, ultimately, lower system cost and increased reliability through the elimination of many discrete components and power devices. The DC to DC product family accounted for 92%, 92% and 90% of our total revenue in 2018, 2017 and 2016, respectively.

Lighting Control Products. Lighting control ICs are used in backlighting and general illumination products. Lighting control ICs for backlighting are used in systems that provide the light source for LCD panels typically found in notebook computers, monitors, car navigation systems and televisions. Backlighting solutions are typically either white light emitting diode lighting sources or cold cathode fluorescent lamps. The Lighting control product family accounted for 8%, 8% and 10% of our total revenue in 2018, 2017 and 2016, respectively.

In the future, we plan to continue to introduce additional new products within our existing product families, as well as expand our newer product families. Our ability to achieve revenue growth will depend in part upon our ability to enter new market segments, gain market share, grow in regions outside of China, Taiwan and other Asian markets, expand our customer base and continue to secure manufacturing capacity.

Customers, Sales and Marketing

We sell our products through third-party distributors, value-added resellers and directly to original equipment manufacturers (“OEMs”), original design manufacturers (“ODMs”), and electronic manufacturing service (“EMS”) providers. Our third-party distributors are subject to distribution agreements with us which allow the distributor to sell our products to end customers and other resellers. Distributors sell our products to end customers which include OEMs, ODMs or EMS providers. Our value-added resellers may second source our products and provide other services to customers. ODMs typically design and manufacture electronic products on behalf of OEMs, and EMS

providers typically provide manufacturing services for OEMs and other electronic product suppliers.

Sales to our largest distributor accounted for 22% of our total revenue in 2018, 17% in 2017, and 22% in 2016. In addition, one other distributor accounted for 10% of our total revenue in 2018 and one other distributor accounted for 10% of our total revenue in 2017. No other distributors or end customers accounted for more than 10% of our total revenue in any of the periods presented.

Current distribution agreements with several of our major distributors provide that each distributor has the non-exclusive right to sell and use its best efforts to promote and develop a market for our products. These agreements provide that payment for purchases from us will generally occur within 30 to 60 days from the date of invoice. In addition, we allow for limited stock rotation in certain agreements.

We have sales offices located in China, India, Japan, Korea, Singapore, Taiwan, the United States and Europe. Our products typically require a highly technical sales and applications engineering effort where we assist our customers in the design and use of our products in their application. We maintain a staff of applications engineers who work directly with our customers' engineers in the development of their systems' electronics containing our products.

Because our sales are primarily billed and payable in United States dollars, our sales are generally not subject to fluctuating currency exchange rates. However, because a majority of our revenue is attributable to sales to customers in Asia, changes in the relative value of the dollar may create pricing pressures for our products. For the years ended December 31, 2018, 2017 and 2016, our revenue from sales to customers in Asia was 88%, 89% and 91%, respectively.

Our sales are made primarily pursuant to standard individual purchase orders. Our backlog consists of orders that we have received from customers which have not yet shipped. Because orders in backlog are subject to cancellation or postponement, and backlog at any particular date is not necessarily representative of actual sales for any succeeding period, we believe that our backlog is not necessarily a reliable indicator of future revenues.

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Our manufacturing lead times are generally 8 to 16 weeks and we often build inventory in advance of customer orders based on our forecast of future customer orders. This subjects us to certain risks, most notably the possibility that sales will not meet our forecast, which could lead to inventories in excess of demand. If excess inventory exists, it may be necessary for us to sell it at a substantial discount, take a significant write-down or dispose of it altogether, all of which would negatively affect our profit margins.

We operate in the cyclical semiconductor industry where there is seasonal demand for certain of our products. While we are not immune from current and future industry downturns, we have targeted product and market areas that we believe have the ability to offer above average industry performance over the long term.

Research and Development

We have assembled a qualified team of engineers in China, Spain and the United States with core competencies in analog and mixed-signal design. Through our research and development efforts, we have developed a collection of intellectual property and know-how that we are able to leverage across our products and markets. These include the development of high efficiency power devices, the design of precision analog circuits, expertise in mixed-signal integration and the development of proprietary semiconductor process technologies.

Our research and development efforts are generally targeted at three areas: systems architecture, circuit design and implementation, and process technology. In the area of systems architecture, we are exploring new ways of solving our customers’ system design challenges and are investing in the development of systems expertise in new markets and applications that align well with our core capabilities. In the area of circuit design and implementation, our initiatives include expanding our portfolio of products and adding new features to our products. In the area of process technology, we are investing research and development resources to provide leading-edge analog power processes for our next generation of integrated circuits. Process technology is a key strategic component to our future growth.

Patents and Intellectual Property Matters

We rely on our proprietary technologies, which include both our proprietary circuit designs for our products and our proprietary manufacturing process technologies. Our future success and competitive position depend in part upon our ability to obtain and maintain protection of our proprietary technologies.

In general, we have elected to pursue patent protection for aspects of our circuit and device designs that we believe are patentable and to protect our manufacturing process technologies by maintaining those process technologies as trade

secrets. As of December 31, 2018, we had 1,133 patents/applications issued or pending, of which 402 patents have been issued in the United States. Our issued patents are scheduled to expire at various times through December 2038. Our patents are material to our business, but we do not rely on any one particular patent for our success. We also rely on a combination of nondisclosure agreements and other contractual provisions, as well as our employees' commitment to confidentiality and loyalty, to protect our technology, know-how and processes. We also seek to register certain of our trademarks as we deem appropriate. We have not registered any of our copyrights and do not believe registration of copyrights is material to our business. Despite precautions that we take, it may be possible for unauthorized third parties to copy aspects of our current or future technology or products or to obtain and use information that we regard as proprietary. There can be no assurance that the steps we take will be adequate to protect our proprietary rights, that our patent applications will lead to issued patents, that others will not develop or patent similar or superior products or technologies, or that our patents will not be challenged, invalidated or circumvented by others. Furthermore, the laws of the countries in which our products are or may be developed, manufactured or sold may not protect our products and intellectual property rights to the same extent as laws in the United States. Our failure to adequately protect our proprietary technologies could materially harm our business.

The semiconductor industry is characterized by frequent claims of infringement and litigation regarding patent and other intellectual property rights. Patent infringement is an ongoing risk, in part because other companies in our industry could have patent rights that may not be identifiable when we initiate development efforts. Litigation may be necessary to enforce our intellectual property rights, and we may have to defend ourselves against infringement claims. Any such litigation could be very costly and may divert our management resources. Further, we have agreed to indemnify certain of our customers and suppliers in some circumstances against liability from infringement by our products. In the event any third party were to make an infringement claim against us or our customers, we could be enjoined from selling selected products, could be required to indemnify our customers or suppliers, or could pay royalties or other damages to third parties. If any of our products are found to infringe and we are unable to obtain necessary licenses or other rights on acceptable terms, we would either have to change our product so that it does not infringe or stop making the infringing product, which could have a material adverse effect on our operating results, financial condition and cash flows.

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Manufacturing

We utilize a fabless business model, working with third parties to manufacture and assemble our ICs. This fabless approach allows us to focus our engineering and design resources on our strengths and to reduce our fixed costs and capital expenditures. In contrast to many fabless semiconductor companies, which utilize standard process technologies and design rules established by their foundry partners, we have developed our own proprietary process technologies and collaborate with our foundry partners to install our technologies on their equipment in their facilities for use solely on our behalf. This close collaboration and control over the manufacturing process has historically resulted in favorable yields and product performance for our ICs.

We currently contract with four suppliers to manufacture our wafers in foundries located in China and Korea. Once our silicon wafers have been produced, they are shipped to our facility in Chengdu, China for wafer sort, which is a testing process performed to identify non-functioning dies. Our semiconductor products are then assembled and packaged by independent subcontractors in China and Malaysia. The assembled ICs are then sent either for final testing at our Chengdu facility, or to other turnkey providers who perform final testing based on our standards prior to shipping to our customers.

We have a 60,000 square-foot manufacturing facility located in Chengdu, China. The facility has been fully operational since 2006 and we have benefitted from shorter manufacturing cycle times and lower labor and overhead costs. We have expanded our product testing capabilities in this facility and are able to take advantage of the rich pool of local engineering talent to expand our manufacturing support and engineering operations.

Key Personnel and Employees

Our performance is substantially dependent on the performance of our executive officers and key employees. Due to the relative complexity of the design of our analog and mixed-signal ICs, our engineers generally have more years of experience and greater circuit design aptitude than the more prevalent digital circuit design engineer. Analog engineers with advanced skills are limited in number and difficult to replace. The loss of the services of key officers, managers, engineers and other technical personnel would materially harm our business. Our future success will depend, in part, on our ability to attract, train, retain, and motivate highly qualified technical and managerial personnel. We may not be successful in attracting and retaining such personnel. Our employees are not represented by a collective bargaining organization, and we have never experienced a work stoppage or strike. Our management considers employee relations to be good. As of December 31, 2018, we employed 1,737 employees primarily located in Asia, Europe and the United States, compared with 1,534 employees as of December 31, 2017.

Competition

The analog and mixed-signal semiconductor industry is highly competitive, and we expect competitive pressures to continue. Our ability to compete effectively and to expand our business will depend on our ability to continue to recruit both applications engineering and design engineering personnel, our ability to introduce new products, and our ability to maintain the rate at which we introduce these new products. Our industry is characterized by decreasing unit selling prices over the life of a product. We compete with domestic and international semiconductor companies, many of which have substantially greater financial and other resources with which to pursue engineering, manufacturing, marketing, and distribution of their products and, in some cases, have a broader product offerings that may enable them to more effectively market and sell to customers. We are in direct and active competition, with respect to one or more of our product lines, with at least ten manufacturers of such products, of varying size and financial strength. We consider our primary competitors to include Analog Devices, Infineon Technologies, Maxim Integrated Products, NXP Semiconductors, ON Semiconductor, Power Integrations, Renesas Electronics, ROHM Semiconductor, Semtech and Texas Instruments.

We expect continued competition from existing competitors as well as competition from new entrants into the semiconductor market. We believe that we are competitive in the markets in which we sell, particularly because our ICs typically are smaller in size, are highly integrated, possess higher levels of power management functionalities and achieve high performance specifications at lower price points than most of our competition. However, there is no assurance that our products will continue to compete favorably or that we will be successful in the face of increasing competition from new products and enhancements introduced by existing competitors or new companies entering this market. In addition, there has recently been a high level of consolidation in the semiconductor industry. If these or future acquisitions are successful, competition may intensify, and our competitors may have additional resources to compete against us.

Available Information

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, current reports on Form 8-K, and amendments to those filed or furnished pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge. They may be obtained from our website at www.monolithicpower.com under “Investor Relations” as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC, or at the SEC website at www.sec.gov. Information contained on our website is not a part of this Annual Report on Form 10-K.

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Executive Officers of the Registrant

Information regarding our executive officers as of March 1, 2019 is as follows:

Name	Age	Position
Michael Hsing	59	President, Chief Executive Officer and Director
Bernie Blegen	61	Vice President and Chief Financial Officer
Deming Xiao	56	President of Asia Operations
Maurice Sciammas	59	Senior Vice President of Worldwide Sales and Marketing
Saria Tseng	48	Vice President, Strategic Corporate Development, General Counsel and Corporate Secretary

Michael Hsing has served on our Board of Directors and has served as our President and Chief Executive Officer since founding MPS in August 1997. Prior to founding MPS, Mr. Hsing was a Senior Silicon Technology Developer at several analog IC companies, where he developed and patented key technologies, which set new standards in the power electronics industry. Mr. Hsing is an inventor on numerous patents related to the process development of bipolar mixed-signal semiconductor manufacturing. Mr. Hsing holds a B.S.E.E. from the University of Florida.

Bernie Blegen has served as our Chief Financial Officer since July 2016 and is responsible for finance, accounting, tax, treasury and investor relations. From August 2011 to June 2016, Mr. Blegen served as our Corporate Controller. Prior to joining MPS, Mr. Blegen held a number of executive finance and accounting positions for other publicly traded technology companies, including Xilinx, Inc. and Credence Systems. Mr. Blegen is a CPA and holds a B.A. from the University of California, Santa Barbara.

Deming Xiao has served as our President of Asia Operations since January 2008. Since joining us in May 2001, Mr. Xiao has held several executive positions, including Foundry Manager and Senior Vice President of Operations. Before joining MPS, from June 2000 to May 2001, Mr. Xiao was Engineering Account Manager at Chartered Semiconductor Manufacturing, Inc. Prior to that, Mr. Xiao spent six years as the Manager of Process Integration Engineering at Fairchild Imaging Sensors. Mr. Xiao holds a B.S. in Semiconductor Physics from Sichuan University, Chengdu, China and an M.S.E.E. from Wayne State University.

Maurice Sciammas has served as our Senior Vice President of Worldwide Sales and Marketing since 2007. Mr. Sciammas joined MPS in July 1999 and served as Vice President of Products and Vice President of Sales (excluding greater China) until he was appointed to his current position. Before joining MPS, he was Director of IC Products at Supertex from 1990 to 1999. He has also held positions at Micrel, Inc. He holds a B.S.E.E. degree from San Jose State University.

Saria Tseng has served as our Vice President, General Counsel and Corporate Secretary since 2004 and additionally as our Vice President, Strategic Corporate Development since 2009. Ms. Tseng joined the Company from MaXXan Systems, Inc., where she was Vice President and General Counsel from 2001 to 2004. Previously, Ms. Tseng was an attorney at Gray Cary Ware & Freidenrich, LLP and Jones, Day, Reavis & Pogue. Ms. Tseng is a member of the state bar in both California and New York and is a member of the bar association of the Republic of China (Taiwan). Ms. Tseng currently serves on the Board of Directors of Super Micro Computer, Inc., a global leader in high performance server technology. Ms. Tseng holds Masters of Law degrees from the University of California at Berkeley and the Chinese Culture University in Taipei.

ITEM 1A. RISK FACTORS

Our business involves numerous risks and uncertainties. You should carefully consider the risks described below, together with all of the other information in this Annual Report on Form 10-K and other filings with the Securities and Exchange Commission in evaluating our business. If any of the following risks actually occur, our business, financial condition, operating results, and growth prospects would likely be materially and adversely affected. In such an event, the trading price of our common stock could decline, and you could lose all or part of your investment in our common stock. Our past financial performance should not be considered to be a reliable indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods. These risks involve forward-looking statements and our actual results may differ substantially from those discussed in these forward-looking statements.

The future trading price of our common stock could be subject to wide fluctuations in response to a variety of factors.

The future trading price of our common stock is likely to be highly volatile and could be subject to wide fluctuations in response to various factors, many of which are beyond our control, including:

- actual or anticipated results of operations and financial performance;

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- general economic, industry and market conditions worldwide;
- our ability to outperform the market, and outperform at a level that meets or exceeds our investors’ expectations;
- whether our guidance meets the expectations of our investors;
- the breath and liquidity of the market for our common stock;
- developments generally affecting the semiconductor industry;
- commencement of or developments relating to our involvement in litigation;
- investor perceptions of us and our business strategies;
- changes in securities analysts’ expectations or our failure to meet those expectations;
- actions by institutional or other large stockholders;
- terrorist acts or acts of war;
- actual or anticipated manufacturing capacity limitations;
- developments with respect to intellectual property rights;
- introduction of new products by us or our competitors;
- our sale of common stock or other securities in the future;
- conditions and trends in technology industries;
- our loss of key customers;
- changes in market valuation or earnings of our competitors;
- any mergers, acquisitions or divestitures of assets undertaken by us;
- government debt default;
- government policies and regulations on corporate taxes, including the impact of the 2017 Tax Act;
- government policies and regulations on international trade policies and restrictions, including tariffs on imports of foreign goods;
- our ability to develop new products, enter new market segments, gain market share, manage litigation risk, diversify our customer base and successfully secure manufacturing capacity;
- our ability to increase our gross margins;

- market reactions to guidance from other semiconductor companies or third-party research groups;
- market reactions to merger and acquisition activities in the semiconductor industry, and rumors or expectations of further consolidation in the industry;
- investments in sales and marketing resources to enter new markets;
- costs of increasing wafer capacity and qualifying additional third-party wafer fabrication facilities;
- our ability to pay quarterly cash dividends to stockholders; and,
- changes in the estimation of the future size and growth rate of our markets.

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In addition, the stock market often experiences substantial volatility that may be unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock.

We expect our operating results to fluctuate from quarter to quarter and year over year, which may make it difficult to predict our future performance and could cause our stock price to decline and be volatile.

Our revenue, expenses, and results of operations are difficult to predict, have varied significantly in the past and will continue to fluctuate significantly in the future due to a number of factors, many of which are beyond our control. We expect fluctuations to continue for a number of reasons, including:

- changes in general demand for electronic products as a result of worldwide macroeconomic conditions;
- changes in business conditions at our distributors, value-added resellers and/or end-customers;
- changes in general economic conditions in the countries where our products are sold or used;
- the timing of developments and related expenses in our litigation matters;
- the loss of key customers or our inability to attract new customers due to customer and prospective customer concerns about being litigation targets;
- continued dependence on turns business (orders received and shipped within the same fiscal quarter);
- continued dependence on the Asian markets for our customer base;
- increases in assembly costs due to commodity price increases, such as the price of gold;
- the timing of new product introductions by us and our competitors;
- changes in our revenue mix between OEMs, ODMs, distributors and value-added resellers;
- changes in product mix, product returns, and actual and potential product liability;
- the acceptance of our new products in the marketplace;
- our ability to develop new process technologies and achieve volume production;
- our ability to meet customer product demand in a timely manner;
- the scheduling, rescheduling, or cancellation of orders by our customers;

- the cyclical nature of demand for our customers' products;
- fluctuations in our estimate for stock rotation reserves;
- our ability to manage our inventory levels, including the levels of inventory held by our distributors;
- product obsolescence;
- seasonality and variability in the computing and storage, automotive, industrial, communications and consumer markets;
- the availability of adequate manufacturing capacity from our outside suppliers;
- increases in prices for finished wafers due to general capacity shortages;
- the potential loss of future business resulting from capacity issues;
- changes in manufacturing yields;
- movements in foreign exchange rates, interest rates or tax rates;
- the impact of the 2017 Tax Act on our income tax provision and cash flows;

- the impact of tariffs on imports of foreign goods; and,
- stock-based compensation charges primarily resulting from performance and market-based equity awards granted to our employees.

Due to the factors noted above and other risks described in this section, many of which are beyond our control, you should not rely on quarter-to-quarter or year-over-year comparisons to predict our future financial performance. Unfavorable changes in any of the above factors may seriously harm our business and results of operations, and may cause our stock price to decline and be volatile.

Our business has been and may be significantly impacted by worldwide economic conditions, in particular changing economic conditions in China.

In recent years, global credit and financial markets experienced disruptions, and may experience disruptions in the future, including diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates, and uncertainty about economic stability. Economic uncertainty affects businesses such as ours in a number of ways, making it difficult to accurately forecast and plan our future business activities. The tightening of credit in financial markets may lead consumers and businesses to postpone spending, which may cause our customers to cancel, decrease or delay their existing and future orders with us. In addition, financial difficulties experienced by our suppliers or distributors could result in product delays, increased accounts receivable defaults and inventory challenges. Volatility in the credit markets could severely diminish liquidity and capital availability.

Demand for our products is a function of the health of the economies in the United States, Europe, China and the rest of Asia. We cannot predict the timing, strength or duration of any economic disruption or subsequent economic recovery worldwide, in the United States, in our industry, or in the different markets that we serve. These and other economic factors have had, and may in the future have, a material adverse effect on demand for our products and on our financial condition and operating results.

In particular, since we have significant operations in China, our business development plans, results of operations and financial condition may be materially adversely affected by significant political, social and economic developments in China. A slowdown in economic growth in China could adversely impact our customers, prospective customers, suppliers, distributors and partners in China, which could have a material adverse effect on our results of the operations and financial condition. There is no guarantee that economic downturns, whether actual or perceived, any further decrease in economic growth rates or an otherwise uncertain economic outlook in China will not occur or persist in the future, that they will not be protracted or that governments will respond adequately to control and reverse such conditions, any of which could materially and adversely affect our business, financial condition and results of operations.

The highly cyclical nature of the semiconductor industry, which has produced significant and sometimes prolonged downturns, could materially adversely affect our operating results, financial condition and cash flows.

Historically, the semiconductor industry has been highly cyclical and, at various times, has experienced significant downturns and wide fluctuations in supply and demand. These conditions have caused significant variances in product demand and production capacity, as well as rapid erosion of average selling prices. The industry may experience severe or prolonged downturns in the future, which could result in downward pressure on the price of our products as well as lower demand for our products. Because significant portions of our expenses are fixed in the short term or incurred in advance of anticipated sales, we may not be able to decrease our expenses in a timely manner to offset any sales shortfall. Any significant or prolonged downturns could have a material adverse effect on our operating results, financial condition and cash flows.

Rising concern of international tariffs, including tariffs applied to goods traded between the United States and China, could materially and adversely affect our business and results of operations.

Since the beginning of 2018, there has been increasing rhetoric, in some cases coupled with legislative or executive action, from several U.S. and foreign leaders regarding tariffs against foreign imports of certain materials. More specifically, there have been three rounds of U.S. tariffs on Chinese goods taking effect in July, August and September 2018 (some of which prompted retaliatory Chinese tariffs on U.S. goods). The institution of trade tariffs both globally and between the U.S. and China specifically carries the risk of negatively affecting China's overall economic condition, which could have a negative impact on us as we have significant operations in China. Furthermore, imposition of tariffs could cause a decrease in the sales of our products to customers located in China or other customers selling to Chinese end users, which would directly impact our business and operating results.

We may not be profitable on a quarterly or annual basis.

Our profitability is dependent on many factors, including:

- our sales, which because of our turns business, are difficult to accurately forecast;

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- the cancellation or rescheduling of our customers' orders, which may occur without significant penalty to our customers;
- changes in general demand for electronic products as a result of worldwide macroeconomic conditions;
- changes in revenue mix between OEMs, ODMs, distributors and value-added resellers;
- changes in product mix, and actual and potential product liability;
- changes in revenue mix between end market segments (i.e. computing and storage, automotive, industrial, communications and consumer);
- our competition, which could adversely impact our selling prices and our potential sales;
- our manufacturing costs, including our ability to negotiate with our vendors and our ability to efficiently run our test facility in China;
- manufacturing capacity constraints;
- level of activity in our legal proceedings, which could result in significant legal expenses;
- the impact of the 2017 Tax Act on our income tax provision and cash flows;
- the impact of tariffs on imports between the U.S. and China;
- stock-based compensation charges primarily resulting from performance and market-based equity awards granted to our employees; and,
- our operating expenses, including general and administrative expenses, selling and marketing expenses, and research and development expenses relating to products that will not be introduced and will not generate revenue until later periods, if at all.

We may not achieve profitability on a quarterly or annual basis in the future. Unfavorable changes in our operations, including any of the factors noted above, may have a material adverse effect on our quarterly or annual profitability.

We may not experience growth rates comparable to past years.

In the past, our revenue increased significantly in certain years due to increased sales of certain of our products. We are subject to numerous risks and factors that could cause a decrease in our growth rates compared to past periods, including increased competition, loss of certain of our customers, unfavorable changes in our operations, reduced global electronics demand, a deterioration in market conditions, end-customer market downturn, market acceptance and penetration of our current and future products and litigation. A material decrease in our growth rates could adversely affect our stock price and results of operations.

We may be unsuccessful in developing and selling new products with margins similar to or better than what we have experienced in the past, which would impact our overall gross margin and financial performance.

Our success depends on products that are differentiated in the market, which result in gross margins that have historically been above industry averages. Should we fail to improve our gross margin in the future, and accordingly develop and introduce sufficiently differentiated products that result in higher gross margins than industry averages, our financial condition and results of operations could be materially and adversely affected.

Industry consolidation may lead to increased competition and may harm our operating results.

In recent years, there has been a trend toward semiconductor industry consolidation. We expect this trend to continue as companies attempt to improve the leverage of growing research and development costs, strengthen or hold their market positions in an evolving industry, or become unable to continue operations unless they find an acquirer or consolidate with another company. In addition, companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us. We believe that semiconductor industry consolidation may result in stronger competitors that are better able to compete as sole-source vendors for customers. This could lead to more variability in our operating results and could have a material adverse effect on our business, operating results and financial condition.

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If demand for our products declines in the major end markets that we serve, our revenue will decrease and our results of operations and financial condition would be materially and adversely affected.

We believe that the application of our products in the computing and storage, automotive, industrial, communications and consumer markets will continue to account for the majority of our revenue. If the demand for our products declines in the major end markets that we serve, our revenue will decrease and our results of operations and financial condition would be materially and adversely affected. In addition, as technology evolves, the ability to integrate the functionalities of various components, including our discrete semiconductor products, onto a single chip and/or onto other components of systems containing our products increases. Should our customers require integrated solutions that we do not offer, demand for our products could decrease, and our business and results of operations would be materially and adversely affected.

We may be unsuccessful in developing and selling new products or in penetrating new markets required to maintain or expand our business.

Our competitiveness and future success depend on our ability to design, develop, manufacture, assemble, test, market, and support new products and enhancements on a timely and cost-effective basis. A fundamental shift in technologies in any of our product markets could have a material adverse effect on our competitive position within these markets. Our failure to timely develop new technologies or to react quickly to changes in existing technologies could materially delay our development of new products, which could result in product obsolescence, decreased revenue, and/or a loss of market share to competitors.

As we develop new product lines, we must adapt to market conditions that are unfamiliar to us, such as competitors and distribution channels that are different from those we have known in the past. Some of our new product lines require us to re-equip our labs to test parameters we have not tested in the past. If we are unable to adapt rapidly to these new and additional conditions, we may not be able to successfully penetrate new markets.

The success of a new product depends on accurate forecasts of long-term market demand and future technological developments, as well as on a variety of specific implementation factors, including:

- timely and efficient completion of process design and device structure improvements;
- timely and efficient implementation of manufacturing, assembly, and test processes;
- the ability to secure and effectively utilize fabrication capacity in different geometries;

•product performance;

•product availability;

•product quality and reliability; and,

•effective marketing, sales and service.

To the extent that we fail to timely introduce new products or to quickly penetrate new markets, our revenue and financial condition could be materially adversely affected.

We may face competition from customers developing products internally.

Our customers generally have substantial technological capabilities and financial resources. Some customers have traditionally used these resources to develop their own products internally. The future prospects for our products in these markets are dependent in part upon our customers' acceptance of our products as an alternative to their internally developed products. Future sales prospects also are dependent upon acceptance of third-party sourcing for products as an alternative to in-house development. Customers may in the future continue to use internally developed components. They also may decide to develop or acquire components, technologies or products that are similar to, or that may be substituted for, our products. If our customers fail to accept our products as an alternative, if they develop or acquire the technology to develop such components internally rather than purchase our products, or if we are otherwise unable to develop or maintain strong relationships with them, our business, financial condition and results of operations could be materially and adversely affected.

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We derive most of our revenue from direct or indirect sales to customers in Asia and have significant operations in Asia, which may expose us to political, cultural, regulatory, economic, foreign exchange, and operational risks.

We derive most of our revenue from customers located in Asia through direct sales or indirect sales through distribution arrangements and value-added reseller agreements with parties located in Asia. As a result, we are subject to increased risks due to this geographic concentration of business and operations. For the year ended December 31, 2018, 88% of our revenue was from customers in Asia. There are risks inherent in doing business in Asia, and internationally in general, including:

- changes in, or impositions of, legislative or regulatory requirements, including tax laws in the U.S. and in the countries in which we manufacture or sell our products;
- trade restrictions, including restrictions imposed by the United States on trading with parties in foreign countries;
- currency exchange rate fluctuations impacting intra-company transactions;
- the fluctuations in the value of the U.S. Dollar relative to other foreign currencies, which could affect the competitiveness of our products;
- transportation delays;
- changes in tax regulations in China that may impact our tax status in Chengdu, Hangzhou and other regions where we have significant operations;
- tariffs imposed by China and the United States that may impact our sales;
- multi-tiered distribution channels that lack visibility to end customer pricing and purchase patterns;
- international political relationships and threats of war;
- terrorism and threats of terrorism;
- epidemics and illnesses;
- work stoppages and infrastructure problems due to adverse weather conditions or natural disasters;
- work stoppages related to employee dissatisfaction;
- economic, social and political instability;
- longer accounts receivable collection cycles and difficulties in collecting accounts receivables;

•enforcing contracts generally; and,

•less effective protection of intellectual property and contractual arrangements.

If we fail to expand our customer base and significantly reduce the geographic concentration of our customers, we will continue to be subject to the foregoing risks, which could materially and adversely affect our revenue and financial condition.

We depend on a limited number of customers, including distributors, for a significant percentage of our revenue.

Historically, we have generated most of our revenue from a limited number of customers, including distributors. For example, sales to our largest distributor accounted for 22% of our total revenue for the year ended December 31, 2018. We continue to rely on a limited number of customers for a significant portion of our revenue. Because we rely on a limited number of customers for significant percentages of our revenue, a decrease in demand or significant pricing pressure for our products from any of our major customers for any reason (including due to competition, market conditions, catastrophic events or otherwise) could have a materially adverse impact on our financial conditions and results of operations.

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We are subject to anti-corruption laws in the jurisdictions in which we operate, including the U.S. Foreign Corrupt Practices Act, or the FCPA. Our failure to comply with these laws could result in penalties which could harm our reputation and have a material adverse effect on our business, results of operations and financial condition.

We are subject to the FCPA, which generally prohibits companies and their intermediaries from making improper payments to foreign officials for the purpose of obtaining or keeping business and/or other benefits, along with various other anti-corruption laws. Although we have implemented policies and procedures designed to ensure that we, our employees and other intermediaries comply with the FCPA and other anti-corruption laws to which we are subject, there is no assurance that such policies or procedures will work effectively all of the time or protect us against liability under the FCPA or other laws for actions taken by our employees and other intermediaries with respect to our business or any businesses that we may acquire. We have significant operations in Asia, which place us in frequent contact with persons who may be considered “foreign officials” under the FCPA, resulting in an elevated risk of potential FCPA violations. If we are not in compliance with the FCPA and other laws governing the conduct of business with government entities (including local laws), we may be subject to criminal and civil penalties and other remedial measures, which could have a material adverse impact on our business, financial condition, results of operations and liquidity. Any investigation of any potential violations of the FCPA or other anti-corruption laws by the U.S. or foreign authorities could harm our reputation and have an adverse impact on our business, financial condition and results of operations.

We receive a significant portion of our revenue from distribution arrangements, value-added resellers and direct customers, and the loss of any one of these distributors, value-added resellers or direct customers or failure to collect a receivable from them could adversely affect our operations and financial position.

We market our products through distribution arrangements and value-added resellers and through our direct sales and applications support organization to customers that include OEMs, ODMs and EMS providers. Receivables from our customers are generally not secured by any type of collateral and are subject to the risk of being uncollectible. Sales to our largest distributor accounted for 22% of our total revenue for the year ended December 31, 2018. Significant deterioration in the liquidity or financial condition of any of our major customers or any group of our customers could have a material adverse impact on the collectability of our accounts receivable and our future operating results. We primarily conduct our sales on a purchase order basis, and we do not have any long-term supply commitments.

Moreover, we believe a high percentage of our products are eventually sold to a number of OEMs. Although we communicate with OEMs in an attempt to achieve “design wins,” which are decisions by OEMs and/or ODMs to incorporate our products, we do not have purchase commitments from these end users. Therefore, there can be no assurance that the OEMs and/or ODMs will continue to incorporate our ICs into their products. OEM technical specifications and requirements can change rapidly, and we may not have products that fit new specifications from an end customer for whom we have had previous design wins. We cannot be certain that we will continue to achieve design wins from large OEMs, that our direct customers will continue to be successful in selling to the OEMs, or that the OEMs will be successful in selling products which incorporate our ICs. The loss of any significant customer, any

material reduction in orders by any of our significant customers or by their OEM customers, the cancellation of a significant customer order, or the cancellation or delay of a customer's or an OEM's significant program or product could reduce our revenue and adversely affect our results of operations and financial condition.

Due to the nature of our business as a component supplier, we may have difficulty both in accurately predicting our future revenue and appropriately managing our expenses.

Because we provide components for end products and systems, demand for our products is influenced by our customers' end product demand. As a result, we may have difficulty in accurately forecasting our revenue and expenses. Our revenue depends on the timing, size, and speed of commercial introductions of end products and systems that incorporate our products, all of which are inherently difficult to forecast, as well as the ongoing demand for previously introduced end products and systems. In addition, demand for our products is influenced by our customers' ability to manage their inventory. Our sales to distributors are subject to higher volatility because they service demand from multiple levels of the supply chain which, in itself, is inherently difficult to forecast. If our customers, including distributors, do not manage their inventory correctly or misjudge their customers' demand, our shipments to and orders from our customers may vary significantly on a quarterly basis, which could reduce our revenue and adversely affect our results of operations and financial condition.

Our ability to increase product sales and revenue may be constrained by the manufacturing capacity of our suppliers.

Although we provide our suppliers with rolling forecasts of our production requirements, their ability to provide wafers to us is limited by the available capacity, particularly capacity in the geometries we require, at the facilities in which they manufacture wafers for us. As a result, this lack of capacity has at times constrained our product sales and revenue growth. In addition, an increased need for capacity to meet internal demands or demands of other customers could cause our suppliers to reduce capacity available to us. Our suppliers may also require us to pay amounts in excess of contracted or anticipated amounts for wafer deliveries or require us to make other concessions in order to acquire the wafer supply necessary to meet our customer requirements. If our suppliers extend lead times, limit supplies or the types of capacity we require, or increase prices due to capacity constraints or other factors, our revenue and gross margin may materially decline. In addition, if we experience supply delays or limitations, our customers may reduce their purchase levels with us and/or seek alternative solutions to meet their demand, which could materially and adversely impact our business and results of operations. Delays in increasing third-party manufacturing capacity may also limit our ability to meet customer demand.

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We currently depend on third-party suppliers to provide us with wafers for our products. If any of our wafer suppliers become insolvent or capacity constrained and are unable and/or fail to provide us sufficient wafers at acceptable yields and at anticipated costs, our revenue and gross margin may decline or we may not be able to fulfill our customer orders.

We have a supply arrangement with certain suppliers for the production of wafers. Should any of our suppliers become insolvent or capacity constrained, we may not be able to fulfill our customer orders, which would likely cause a decline in our revenue.

While certain aspects of our relationship with these suppliers are contractual, many important aspects of this relationship depend on our suppliers' continued cooperation and our management of the supplier relationships. In addition, the fabrication of ICs is a highly complex and precise process. Problems in the fabrication process can cause a substantial percentage of wafers to be rejected or numerous ICs on each wafer to be non-functional. This could potentially reduce yields. The failure of our suppliers to supply us wafers at acceptable yields could prevent us from fulfilling our customer orders for our products and would likely cause a decline in our revenue.

Further, as is common in the semiconductor industry, our customers may reschedule or cancel orders on relatively short notice. If our customers cancel orders after we submit a committed forecast to our suppliers for the corresponding wafers, we may be required to purchase wafers that we may not be able to resell, which would adversely affect our operating results, financial condition and cash flows.

We might not be able to deliver our products on a timely basis if our relationships with our assembly and test subcontractors are disrupted or terminated.

We do not have direct control over product delivery schedules or product quality because all of our products are assembled by third-party subcontractors and a portion of our testing is currently performed by third-party subcontractors. Also, due to the amount of time typically required to qualify assembly and test subcontractors, we could experience delays in the shipment of our products if we were forced to find alternate third parties to assemble or test our products. In addition, events such as global economic crises may materially impact our assembly suppliers' ability to operate. Any future product delivery delays or disruptions in our relationships with our subcontractors could have a material adverse effect on our operating results, financial condition and cash flows.

There may be unanticipated costs associated with adding to or supplementing our third-party suppliers' manufacturing capacity.

We anticipate that future growth of our business will require increased manufacturing capacity on the part of third-party supply foundries, assembly shops, and testing facilities for our products. In order to facilitate such growth, we may need to enter into strategic transactions, investments and other activities. Such activities are subject to a number of risks, including:

- the costs and expense associated with such activities;
- the availability of modern foundries to be developed, acquired, leased or otherwise made available to us or our third-party suppliers;
- the ability of foundries and our third-party suppliers to obtain the advanced equipment used in the production of our products;
- delays in bringing new foundry operations online to meet increased product demand; and
- unforeseen environmental, engineering or manufacturing qualification problems relating to existing or new foundry facilities, including delays in qualification of new foundries by our customers.

These and other risks may affect the ultimate cost and timing of any expansion of our third-party suppliers' capacity.

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We purchase inventory in advance based on expected demand for our products, and if demand is not as expected, we may have insufficient or excess inventory, which could adversely impact our financial position.

As a fabless semiconductor company, we purchase our inventory from third-party manufacturers in advance of selling our products. We place orders with our manufacturers based on existing and expected orders from our customers for particular products. While most of our contracts with our customers and distributors include lead time requirements and cancellation penalties that are designed to protect us from misalignment between customer orders and inventory levels, we must nonetheless make some predictions when we place orders with our manufacturers. In the event that our predictions are inaccurate due to unexpected increases in orders or unavailability of product within the timeframe that is required, we may have insufficient inventory to meet our customer demands. In the event that we order products that we are unable to sell due to a decrease in orders, unexpected order cancellations, injunctions due to patent litigation, or product returns, we may have excess inventory which, if not sold, may need to be written down or would result in a decrease in our revenue in future periods as the excess inventory at our distributors is sold. If any of these situations were to arise, it could have a material impact on our business and financial position.

The 2017 Tax Act will continue to have significant effects on our income tax expense, which could result in a material adverse impact on our results of operations, financial condition and cash flows.

In December 2017, the 2017 Tax Act was enacted and includes a broad range of tax reforms, including changes to the corporate tax rate, business deductions and international tax provisions. Many of these provisions significantly differ from prior U.S. tax law, resulting in material tax accounting implications for us. Some of the significant new requirements include, but are not limited to, a one-time mandatory deemed repatriation transition tax on previously deferred foreign earnings, a remeasurement of our deferred taxes due to the change in the corporate tax rate, taxation of certain global intangible low-taxed income under the international tax provisions, and limitations on the deductibility of performance-based compensation for officers. Any increase in our income tax expense as a result of the 2017 Tax Act could have a material negative impact on our results of operations. In addition, the deemed repatriation transition tax liability, which is payable in installments over eight years, will adversely impact our cash flows and financial condition in future periods. Any changes to our corporate tax planning and strategies may not result in a favorable impact on our income tax expense in future periods.

The calculation of the tax impact under the 2017 Tax Act is complex. It requires the collection and analysis of extensive information, the use of estimates and the exercise of significant judgment in determining our tax provision. As we continue to evaluate our existing processes and controls necessary to address the financial reporting effects of the 2017 Tax Act, we also expect further guidance may be forthcoming from the Financial Accounting Standards Board (“FASB”) and the SEC, as well as regulations, interpretations and rulings from federal and state tax agencies. If we fail to correctly interpret the tax law or implement effective internal controls on gathering, analyzing and reviewing data used in our calculations, our income tax provision could be misstated, which could have a material adverse impact on our results of operations and financial condition.

The complexity of calculating our tax provision may result in errors that could result in restatements of our financial statements.

Due to the complexity associated with the calculation of our tax provision, including the effects of the 2017 Tax Act, we engage third-party tax advisors to assist us in the calculation. If we or our tax advisors fail to resolve or fully understand certain issues that we may have had in the past and issues that may arise in the future, we could be subject to errors, which, if material, would result in us having to restate our financial statements. Restatements are generally costly and could adversely impact our results of operations, damage our reputation, and/or have a negative impact on the trading price of our common stock.

Changes in effective tax rates or adverse outcomes resulting from examination of our income tax returns could adversely affect our results.

Our future effective tax rates could be adversely affected by earnings being lower than anticipated in countries where we have lower statutory rates and higher than anticipated in countries where we have higher statutory rates, by changes in the valuation of our deferred tax assets, or by changes in tax laws such as the 2017 Tax Act, regulations, accounting principles or interpretations thereof and discrete items such as vesting of restricted stock units. In addition, we are subject to potential future examinations of our income tax returns by the Internal Revenue Service (“IRS”) and other tax authorities. We assess the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from any examinations will not have an adverse effect on our operating results and financial condition.

Implementation of an enterprise resource planning (“ERP”) or other information technology systems could result in significant disruptions to our operations.

From time to time, we may implement new ERP software solutions or upgrade existing systems. Implementation of these solutions and systems is highly dependent on coordination of system providers and internal business teams. We may experience difficulties as we transition to these new or upgraded systems and processes, including loss or corruption of financial, business or customer data. In addition, transitioning to these new systems requires significant capital investments and personnel resources. Difficulties in implementing new or upgraded information systems or any significant system failures could disrupt our operations, which could have a material adverse effect on our capital resources, financial condition or results of operations.

System security risks, data protection or privacy breaches, cyber attacks and systems integration issues could disrupt our internal operations and/or harm our reputation, and any such disruption or harm could cause a reduction in our expected revenue, increase our expenses, negatively impact our results of operation or otherwise adversely affect our stock price.

Experienced computer programmers and hackers may be able to penetrate our network security and misappropriate or compromise our confidential and proprietary information, create system disruptions or cause shutdowns. The costs to us to eliminate or alleviate cyber or other security problems, bugs, viruses, worms, malicious software programs and security vulnerabilities could be significant, and our efforts to address these problems may not be successful and could result in interruptions and delays that may impede our sales, manufacturing, distribution, financial reporting or other critical functions.

In the ordinary course of business, we store sensitive data on our internal systems, network and servers, such as proprietary business and financial information, and confidential data pertaining to our customers, suppliers and business partners. The secure maintenance of sensitive information on our networks and the protection features of our solutions are both critical to our operations and business strategy. We devote significant resources to network security, data encryption, and other security measures to protect our systems and data. However, these security measures cannot provide absolute security. Although we make significant efforts to maintain the security and integrity of our systems and solutions, any destructive or intrusive breach could compromise our networks, creating system disruptions or slowdowns, and the information stored on our networks could be accessed, publicly disclosed, lost or stolen. If any of these types of security breaches were to occur and we were unable to protect sensitive data, our relationships with our business partners and customers could be materially damaged, our reputation could be materially harmed, and we could be exposed to a risk of litigation and possible significant liability.

Portions of our IT infrastructure also may experience interruptions, delays or cessations of service or produce errors in connection with systems integration or migration work that takes place from time to time. We may not be successful in implementing new systems and transitioning data, which could cause business disruptions and our remediation efforts may be expensive, time consuming, disruptive and resource-intensive. Such disruptions could adversely impact our ability to fulfill orders and interrupt other processes. Delayed sales or lost customers resulting from these disruptions could adversely affect our financial results, stock price and reputation.

If we are unsuccessful in legal proceedings brought against us or any of our customers, we could be prevented from selling many of our products and/or be required to pay substantial damages. An unfavorable outcome or an additional award of damages, attorneys' fees or an injunction could cause our revenue to decline significantly and could severely harm our business and operating results.

From time to time we are a party to various legal proceedings. If we are not successful in litigation that could be brought against us or our customers, we could be ordered to pay monetary fines and/or damages. If we are found liable

for willful patent infringement, damages could be significant. We and/or our customers could also be prevented from selling some or all of our products. Moreover, our customers and end-users could decide not to use our products, and our products and our customers' accounts payable to us could be seized. Finally, interim developments in these proceedings could increase the volatility in our stock price as the market assesses the impact of such developments on the likelihood that we will or will not ultimately prevail in these proceedings.

Given our inability to control the timing and nature of significant events in our legal proceedings that either have arisen or may arise, our legal expenses are difficult to forecast and may vary substantially from our publicly disclosed forecasts with respect to any given quarter, which could contribute to increased volatility in our stock price and financial condition.

Historically, we have incurred significant expenses in connection with various legal proceedings that vary with the level of activity in the proceeding. It is difficult for us to forecast our legal expenses for any given quarter, which adversely affects our ability to forecast our expected results of operations in general. We may also be subject to unanticipated legal proceedings, which would result in us incurring unexpected legal expenses. If we fail to meet the expectations of securities or industry analysts as a result of unexpected changes in our legal expenses, our stock price could be materially impacted.

Future legal proceedings may divert our financial and management resources.

The semiconductor industry is characterized by frequent claims of infringement and litigation regarding patent and other intellectual property rights. Patent infringement is an ongoing risk, in part because other companies in our industry could have patent rights that may not be identifiable when we initiate development efforts. Litigation may be necessary to enforce our intellectual property rights, and we may have to defend ourselves against additional infringement claims. Such litigation is very costly. In the event any third party makes a new infringement claim against us or our customers, we could incur additional ongoing legal expenses. In addition, in connection with these legal proceedings, we may be required to post bonds to defend our intellectual property rights in certain countries for an indefinite period of time, until such dispute is resolved. If our legal expenses materially increase or exceed anticipated amounts, our capital resources and financial condition could be adversely affected. Further, if we are not successful in any of our intellectual property defenses, our financial condition could be adversely affected and our business could be harmed. Our management team may also be required to devote a great deal of time and effort to these legal proceedings, which could divert management's attention from focusing on our operations and adversely affect our business.

Failure to protect our proprietary technologies or maintain the right to certain technologies may negatively affect our ability to compete.

We rely heavily on our proprietary technologies. Our future success and competitive position depend in part upon our ability to obtain and maintain protection of certain proprietary technologies used in our products. We pursue patents for some of our new products and unique technologies, and we also rely on a combination of nondisclosure agreements and other contractual provisions, as well as our employees' commitment to confidentiality and loyalty, to protect our technology, know-how and processes. Despite the precautions we take, it may be possible for unauthorized third parties to copy aspects of our current or future technologies or products, or to obtain and use information that we regard as proprietary. We intend to continue to protect our proprietary technologies, including through patents. However, there can be no assurance that the steps we take will be adequate to protect our proprietary rights, that our patent applications will lead to issued patents, that others will not develop or patent similar or superior products or technologies, or that our patents will not be challenged, invalidated or circumvented by others. Furthermore, the laws of the countries in which our products are or may be developed, manufactured or sold may not protect our products and intellectual property rights to the same extent as laws in the United States. Our failure to adequately protect our proprietary technologies could materially harm our business.

The market for government-backed student loan auction-rate securities has suffered a decline in liquidity which may impact the liquidity and potential value of our investment portfolio.

The market for government-backed student loan auction-rate securities became illiquid in 2008. Since 2008, we have redeemed 92% of the original portfolio of our auction-rate securities at par and continue to hold $3.6 million in principal amount as of December 31, 2018. The underlying maturity of these auction-rate securities is up to 28 years. We have historically recorded temporary and other-than-temporary impairment charges on these investments. The valuation is subject to fluctuations in the future, which will depend on many factors, including the quality of underlying collateral, estimated time for liquidity including potential to be called or restructured, underlying final maturity, insurance guaranty and market conditions, among others. Should there be further deterioration in the market for auction-rate securities, the value of our portfolio may decline, which may have an adverse impact on our cash position and our results of operations if management determines the decline in value to be other-than-temporary. If the accounting rules for these securities change, there may be an adverse impact on our earnings.

We face risks in connection with our internal control over financial reporting.

Effective internal control over financial reporting is necessary for us to provide reliable and accurate financial reports. If we cannot provide reliable financial reports or prevent fraud or other financial misconduct, our business and operating results could be harmed. Our failure to implement and maintain effective internal control over financial reporting could result in a material misstatement of our financial statements or otherwise cause us to fail to meet our

financial reporting obligations. This, in turn, could result in a loss of investor confidence in the accuracy and completeness of our financial reports, which could have an adverse effect on our results of operations and/or have a negative impact on the trading price of our common stock, and could subject us to stockholder litigation. In addition, we cannot assure you that we will not in the future identify material weaknesses in our internal control over financial reporting that we have not discovered to date, which may impact the reliability of our financial reporting and financial statements.

Our products must meet specifications, and undetected defects and failures may occur, which may cause customers to return or stop buying our products and may expose us to product liability risk.

Our customers generally establish demanding specifications for quality, performance, and reliability that our products must meet. ICs as complex as ours often encounter development delays and may contain undetected defects or failures when first introduced or after commencement of commercial shipments, which might require product replacement or recall. Further, our third-party manufacturing processes or changes thereof, or raw material used in the manufacturing processes may cause our products to fail. We have from time to time in the past experienced product quality, performance or reliability problems. Our standard warranty period is generally one to two years, which exposes us to significant risks of claims for defects and failures. If defects and failures occur in our products, we could experience lost revenue, increased costs, including warranty expense and costs associated with customer support, cancellations or rescheduling of orders or shipments, and product returns or discounts, any of which would harm our operating results.

In addition, product liability claims may be asserted with respect to our technology or products. Although we currently have insurance, there can be no assurance that we have obtained a sufficient amount of insurance coverage, that asserted claims will be within the scope of coverage of the insurance, or that we will have sufficient resources to satisfy any asserted claims.

The price and availability of commodities (e.g., gold, copper and silicon) may adversely impact our ability to deliver our products in a timely and cost-effective manner, and may adversely affect our business and results of operations.

Our products incorporate commodities such as gold, copper and silicon. An increase in the price or a decrease in the availability of these commodities and similar commodities that we use could negatively impact our business and results of operations.

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Fluctuations in the value of the U.S. Dollar relative to other foreign currencies, including the Renminbi, may adversely affect results of operations.

Our manufacturing and packaging suppliers are and will continue to be primarily located in China for the foreseeable future. If the value of the Renminbi rises against the U.S. Dollar, there could be an increase in our manufacturing costs relative to competitors who have manufacturing facilities located in the U.S., which could adversely affect our operations. In addition, our sales are primarily denominated in the U.S. Dollar. If the value of the U.S Dollar rises against other currencies, it may adversely affect the demand for our products in international markets, which could negatively impact our business and results of operations.

We incur foreign currency exchange gains or losses related to the timing of payments for transactions between the U.S. and our foreign subsidiaries, which are reported in interest and other income in the statements of operations. Fluctuations in the value of the U.S. Dollar relative to the foreign currencies could increase the amount of foreign currency exchange losses we record, which could have an adverse impact on our results of operations.

Our business is subject to various governmental laws and regulations, and compliance with these regulations may impact our revenue and cause us to incur significant expense. If we fail to maintain compliance with applicable regulations or obtain government licenses and approvals for our desired international trading activities or technology transfers, we may be forced to recall products and cease their distribution, and we could be subject to civil or criminal penalties.

Our business is subject to various significant laws and other legal requirements imposed by the U.S. and other countries we conduct business with, including export control laws such as the Export Administration Act, the Export Administration Regulations ("EAR") and other laws, regulations and requirements governing international trade and technology transfer. These laws and regulations are complex, change frequently and have generally become more stringent over time. We may be required to incur significant expense to comply with these regulations or to remedy violations of these regulations. In addition, if our customers fail to comply with these regulations, we may be required to suspend sales to these customers, which could negatively impact our results of operations. We must conform the manufacture and distribution of our products to various laws and adapt to regulatory requirements in many countries as these requirements change. If we fail to comply with these requirements in the manufacture or distribution of our products, we could be required to pay civil penalties, face criminal prosecution and, in some cases, be prohibited from distributing our products commercially until the products are brought into compliance.

Environmental laws and regulations could cause a disruption in our business and operations.

We are subject to various state, federal and international laws and regulations governing the environment, including those restricting the presence of certain substances in electronic products and making manufacturers of those products financially responsible for the collection, treatment, recycling and disposal of certain products. Such laws and regulations have been passed in several jurisdictions in which we operate, including various European Union member countries and countries in Asia. There can be no assurance that similar laws and regulations will not be implemented in other jurisdictions resulting in additional costs, possible delays in delivering products, and even the discontinuance of existing and planned future products if the cost were to become prohibitive.

We and our manufacturing partners are or will be subject to extensive Chinese government regulation, and the benefit of various incentives from Chinese governments that we and our manufacturing partners receive may be reduced or eliminated, which could increase our costs or limit our ability to sell products and conduct activities in China.

We have manufacturing and testing facilities in China and most of our manufacturing partners are located in China. The Chinese government has broad discretion and authority to regulate the technology industry in China. Additionally, China's government has implemented policies from time to time to regulate economic expansion in China. It exercises significant control over China's economic growth through the allocation of resources, controlling payment of foreign currency-denominated obligations, setting monetary policy and providing preferential treatment to particular industries or companies.

Personal privacy, cyber security, and data protection are becoming increasingly significant issues in China. To address these issues, the Standing Committee of the National People's Congress promulgated the Cyber Security Law of the People's Republic of China (the "Cyber Security Law"), which took effect on June 1, 2017. The Cyber Security Law sets forth various requirements relating to the collection, use, storage, disclosure and security of data, among other things. Various Chinese agencies are expected to issue additional regulations in the future to define these requirements more precisely. These requirements may increase our costs of compliance. We cannot assure you that we will be able to comply with all of these regulatory requirements. Any failure to comply with the Cyber Security Law and the relevant regulations and policies could result in further cost and liability to us and could adversely affect our business and results of operations. Additionally, increased costs to comply with, and other burdens imposed by, the Cyber Security Law and relevant regulations and policies that are applicable to the businesses of our suppliers, vendors and other service providers, as well as our customers, could adversely affect our business and results of operations.

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Any additional new regulations or the amendment or modification of previously implemented regulations could require us and our manufacturing partners to change our business plans, increase our costs, or limit our ability to sell products and conduct activities in China, which could adversely affect our business and operating results.

The Chinese government and provincial and local governments also have provided, and continue to provide, various incentives to encourage the development of the semiconductor industry in China. Such incentives include tax rebates, reduced tax rates, favorable lending policies and other measures, some or all of which may be available to our manufacturing partners and to us with respect to our facilities in China. Any of these incentives could be reduced or eliminated by governmental authorities at any time. Any such reduction or elimination of incentives currently provided to us and our manufacturing partners could adversely affect our business and operating results.

There are inherent risks associated with the operation of our manufacturing and testing facilities in China, which could increase product costs or cause a delay in product shipments.

We have manufacturing and testing facilities in China. We face the following risks, among others, with respect to our operations in China:

•inability to hire and maintain a qualified workforce;

•inability to maintain appropriate and acceptable manufacturing controls; and,

•higher than anticipated overhead and other costs of operation.

If we are unable to maintain our facilities in China at fully operational status with qualified workers, appropriate manufacturing controls and reasonable cost levels, we may incur higher costs than our current expense levels, which would affect our gross margins. In addition, if capacity restraints result in significant delays in product shipments, our business and results of operations would be adversely affected.

The average selling prices of products in our markets have historically decreased over time and could do so in the future, which could harm our revenue and gross profits.

Average selling prices of semiconductor products in the markets we serve have historically decreased over time. Our gross profits and financial results will suffer if we are unable to offset any reductions in our average selling prices by reducing our costs, developing new or enhanced products on a timely basis with higher selling prices or gross profits, or increasing our sales volumes. Additionally, because we do not operate our own wafer manufacturing or assembly

facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities, and our costs may even increase, which could also reduce our profit margins.

Because of the lengthy sales cycles for our products and the fixed nature of a significant portion of our expenses, we may incur substantial expenses before we earn associated revenue and may not ultimately achieve our forecasted sales for our products.

The introduction of new products presents significant business challenges because product development plans and expenditures may be made up to two years or more in advance of any sales. It generally takes us up to 12 months or more to design and manufacture a new product prototype. Only after we have a prototype do we introduce the product to the market and begin selling efforts in an attempt to achieve design wins. This sales process requires us to expend significant sales and marketing resources without any assurance of success. Volume production of products that use our ICs, if any, may not be achieved for an additional period of time after an initial sale. Sales cycles for our products are lengthy for a number of reasons, including:

- our customers usually complete an in-depth technical evaluation of our products before they place a purchase order;
- the commercial adoption of our products by OEMs and ODMs is typically limited during the initial release of their product to evaluate product performance and consumer demand;
- our products must be designed into our customers' products or systems; and,
- the development and commercial introduction of our customers' products incorporating new technologies frequently are delayed.

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As a result of our lengthy sales cycles, we may incur substantial expenses before we earn associated revenue because a significant portion of our operating expenses is relatively fixed and based on expected revenue. The lengthy sales cycles of our products also make forecasting the volume and timing of orders difficult. In addition, the delays inherent in lengthy sales cycles raise additional risks that customers may cancel or change their orders. Our sales are made by purchase orders. Because industry practice allows customers to reschedule or cancel orders on relatively short notice, backlog is not always a good indicator of our future sales. If customer cancellations or product changes occur, we could lose anticipated sales and not have sufficient time to reduce our inventory and operating expenses.

Our success depends on our investment of significant resources in research and development. We may have to invest more resources in research and development than anticipated, which could increase our operating expenses and negatively impact our operating results.

Our success depends on us investing significant amounts of resources into research and development. We expect to have to continue to invest heavily in research and development in the future in order to continue to innovate and introduce new products in a timely manner and increase our revenue and profitability. If we have to invest more resources in research and development than we anticipate, we could see an increase in our operating expenses which may negatively impact our operating results. Also, if we are unable to properly manage and effectively utilize our research and development resources, we could see material adverse effects on our business, financial condition and operating results.

In addition, if new competitors, technological advances by existing competitors, our entry into new markets, or other competitive factors require us to invest significantly greater resources than anticipated in our research and development efforts, our operating expenses would increase. If we are required to invest significantly greater resources than anticipated in research and development efforts without a corresponding increase in revenue, our operating results could decline. Research and development expenses are likely to fluctuate from time to time to the extent we make periodic incremental investments in research and development and these investments may be independent of our level of revenue, which could negatively impact our financial results. In order to remain competitive, we anticipate that we will continue to devote substantial resources to research and development, and we expect these expenses to increase in absolute dollars in the foreseeable future due to the increased complexity and the greater number of products under development.

The loss of any of our key personnel or the failure to attract or retain specialized technical and management personnel could affect our operations or impair our ability to grow our business.

Our future success depends upon our ability to attract and retain highly qualified technical and managerial personnel. We are particularly dependent on the continued services of our key executives, including Michael Hsing, our President and Chief Executive Officer, who founded our company and developed our proprietary process technology. In addition, personnel with highly skilled analog and mixed-signal design engineering expertise are scarce and

competition for personnel with these skills is intense. There can be no assurance that we will be able to retain existing key employees or that we will be successful in attracting, integrating or retaining other highly qualified personnel with critical capabilities in the future. If we are unable to retain the services of existing key employees or are unsuccessful in attracting new highly qualified employees quickly enough to meet the demands of our business, including design cycles, our business could be harmed. Furthermore, if we lose key personnel, the search for a qualified replacement and the transition could interrupt our operations as the search could take us longer than expected and divert management resources, and the newly hired employee could take longer than expected to integrate into the team.

If we fail to retain key employees in our sales, applications, finance and legal staff or to make continued improvements to our internal systems, particularly in the accounting and finance area, our business may suffer.

If we fail to continue to adequately staff our sales, applications, financial and legal staff, maintain or upgrade our business systems and maintain internal control that meet the demands of our business, our ability to operate effectively will suffer. The operation of our business also depends upon our ability to retain these employees, as these employees hold a significant amount of institutional knowledge about us and our products, and, if they were to terminate their employment, our sales and internal control over financial reporting could be adversely affected.

We intend to continue to expand our operations, which may strain our resources and increase our operating expenses.

We plan to continue to expand our domestic and foreign operations through internal growth, strategic relationships, and/or acquisitions. We expect that any such expansion will strain our systems and operational and financial controls. In addition, we are likely to incur significantly higher operating costs. To manage our growth effectively, we must continue to improve and expand our systems and controls, as well as hire experienced administrative and financial personnel. If we fail to do so, our growth will be limited. If we fail to effectively manage our planned expansion of operations, our business and operating results may be harmed.

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We may not realize the anticipated benefits of any company or business that we acquire. In addition, acquisitions could result in diluting the ownership interests of our stockholders, reduce our cash balances, and cause us to incur debt or to assume contingent liabilities, which could adversely affect our business. We may also be the target of strategic transactions, which could divert our management's attention and otherwise disrupt our operations and adversely affect our business.

As a part of our business strategy, from time to time we review acquisition prospects that would complement our current product offerings, enhance our design capability or offer other competitive opportunities. As a result of completing acquisitions, we could use a significant portion of our available cash, cash equivalents and short-term investments, issue equity securities that would dilute current stockholders' percentage ownership, or incur substantial debt or contingent liabilities. Such actions could impact our operating results and the price of our common stock.

In addition, we may be unable to identify or complete prospective acquisitions for various reasons, including competition from other companies in the semiconductor industry, the valuation expectations of acquisition candidates and applicable antitrust laws or related regulations. If we are unable to identify and complete acquisitions, we may not be able to successfully expand our business and product offerings.

We cannot guarantee that any future acquisitions will improve our results of operations or that we will otherwise realize the anticipated benefits of any acquisitions. In addition, if we are unsuccessful in integrating any acquired company or business into our operations or if integration is more difficult than anticipated, we may experience disruptions that could harm our business and result in our failure to realize the anticipated benefits of the acquisitions. Some of the risks that may adversely affect our ability to integrate or realize any anticipated benefits from the acquired companies, businesses or assets include those associated with:

- unexpected losses of key employees or customers of the acquired companies or businesses;
- conforming the acquired company's standards, processes, procedures and controls with our operations;
- coordinating new product and process development;
- hiring additional management and other critical personnel;
- increasing the scope, geographic diversity and complexity of our operations;
- difficulties in consolidating facilities and transferring processes and know-how;
- difficulties in the assimilation of acquired operations, technologies or products;
- the risk of undisclosed liabilities of the acquired businesses and potential legal disputes with founders or stockholders of acquired companies;

- our inability to commercialize acquired technologies;
- the risk that the future business potential as projected is not realized and as a result, we may be required to take an impairment charge related to goodwill or acquired intangibles that would impact our profitability;
- difficulties in assessing the fair value of earn-out arrangements;
- diversion of management’s attention from other business concerns; and
- adverse effects on existing business relationships with customers.

In addition, third parties may be interested in acquiring us. We will consider and discuss such transactions as we deem appropriate. Such potential transactions may diver the attention of management, and cause us to incur various costs and expenses in investigating and evaluating such transactions, whether or not they are consummated.

If we issue additional shares of stock in the future, it may have a dilutive effect on our stockholders.

We may issue additional shares of common stock in the future in order to raise additional capital to fund our global operations or in connection with an acquisition. We also issue restricted stock units to employees, which convert into shares of common stock upon vesting. Any issuance of our common stock may result in immediate dilution to our stockholders. In addition, the issuance of a significant amount of our common stock may result in additional regulatory requirements, such as stockholder approval.

We compete against many companies with substantially greater financial and other resources, and our market share may be reduced if we are unable to respond to our competitors effectively.

The analog and mixed-signal semiconductor industry is highly competitive, and we expect competitive pressures to continue. Our ability to compete effectively and to expand our business will depend on our ability to continue to recruit applications and design talent, our ability to introduce new products, and our ability to maintain the rate at which we introduce these new products. We compete with domestic and non-domestic semiconductor companies, many of which have substantially greater financial and other resources with which to pursue engineering, manufacturing, marketing, and distribution of their products. We are in direct and active competition, with respect to one or more of our product lines, with many manufacturers of such products, of varying size and financial strength. The number of our competitors has grown due to the expansion of the market segments in which we participate.

We cannot assure you that our products will continue to compete favorably, or that we will be successful in the face of increasing competition from new products and enhancements introduced by existing competitors or new companies entering this market, which would materially and adversely affect our results of operations and our financial condition.

If securities or industry analysts downgrade our stock or do not continue to publish research or reports about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend, in part, on the research and reports that industry or securities analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us downgrade our stock, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

There can be no assurance that we will continue to declare cash dividends at all or in any particular amounts.

In June 2014, the Board of Directors approved a dividend program pursuant to which we intend to pay quarterly cash dividends on our common stock. The declaration of any future cash dividends is at the discretion of our Board of Directors and will depend on, among other things, our financial condition, results of operations, capital requirements, business conditions, and other factors that our Board of Directors may deem relevant, as well as a determination that cash dividends are in the best interests of our stockholders. Our dividend payments may change from time to time, and we cannot provide assurance that we will continue to declare dividends at all or in any particular amounts. A reduction in or elimination of our dividend payments could have a negative effect on the price of our common stock.

Major earthquakes or other natural disasters and resulting systems outages may cause us significant losses.

Our office in California, the production facilities of our third-party wafer suppliers, our IC testing and manufacturing facilities, a portion of our assembly and research and development activities, and certain other critical business operations are located in or near seismically active regions and are subject to periodic earthquakes. We do not maintain earthquake insurance and could be materially and adversely affected in the event of a major earthquake. Much of our revenue, as well as our manufacturers and assemblers, are concentrated in Asia, particularly in China. Such concentration increases the risk that other natural disasters, labor strikes, terrorism, war, political unrest, epidemics, and/or health advisories could disrupt our operations. In addition, we rely heavily on our internal information and communications systems and on systems or support services from third parties to manage our operations efficiently and effectively. Any of these are subject to failure due to a natural disaster or other disruption. System-wide or local failures that affect our information processing could have material adverse effects on our business, financial condition, operating results and cash flows.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

The following table summarizes our primary properties as of December 31, 2018:

Location	Approximate Building Square Footage	Primary Use
Owned:		
San Jose, California	106,000	Research and development, sales and marketing, administrative
Chengdu, China	150,000	Research and development, administrative
Chengdu, China	60,000	Testing and manufacturing
Hangzhou, China	68,000	Research and development
Shanghai, China	23,000	Sales and marketing
Shenzhen, China	8,000	Sales and marketing
Taipei, Taiwan	47,000	Sales and marketing, research and development
Leased:		
Kirkland, Washington	9,000	Principal executive office, research and development, sales and marketing
Chengdu, China	89,000	Manufacturing operations, inventory warehouse
Barcelona, Spain	5,000	Research and development
Tolochenaz, Switzerland	5,000	Research and development
Tokyo, Japan	3,000	Sales and marketing

We also lease other sales and marketing, and research and development offices in Asia, Europe and the United States. We believe that our existing facilities are adequate for our current operations.

ITEM 3. LEGAL PROCEEDINGS

We are a party to actions and proceedings in the ordinary course of business, including potential litigation initiated by our shareholders, challenges to the enforceability or validity of our intellectual property, claims that our products infringe on the intellectual property rights of others, and employment matters. These proceedings often involve complex questions of fact and law and may require the expenditure of significant funds and the diversion of other resources to prosecute and defend. We defend ourselves vigorously against any such claims. As of December 31, 2018, there were no material pending legal proceedings to which we were a party.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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PART II

ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Common Stock Information

Our common stock is traded on the Nasdaq Global Select Market under the symbol "MPWR."

Holders of Common Stock

As of February 20, 2019, there were nine registered holders of record of our common stock. A substantially greater number of holders of our common stock are "street name" or beneficial holders, whose shares are held by banks, brokers and other financial institutions on their behalf.

Dividend Policy

We currently have a dividend program pursuant to which we intend to pay quarterly cash dividends on our common stock. Based on our historical practice, stockholders of record as of the last business day of the quarter are entitled to receive the quarterly cash dividends when and if declared by our Board of Directors, which are payable to the stockholders in the following month.

The declaration of any future cash dividends is at the discretion of our Board of Directors and will depend on, among other things, our financial condition, results of operations, capital requirements, business conditions and other factors that our Board of Directors may deem relevant, as well as a determination that cash dividends are in the best interests of the stockholders.

Stock Performance Graph

The following graph compares the cumulative five-year total return on our common stock relative to the cumulative total returns of the Nasdaq Composite Index and the PHLX Semiconductor Sector Index. An investment of $100 is assumed to have been made in our common stock on December 31, 2013 and its relative performance is tracked through December 31, 2018, assuming the reinvestment of dividends. Historic stock performance is not indicative of future performance.

The information contained in this stock performance graph section shall not be deemed to be "soliciting material," or "filed" or incorporated by reference in future filings with the SEC, or subject to the liabilities of Section 18 of the Securities Exchange Act of 1934, except to the extent that we specifically incorporate it by reference into a document filed under the Securities Act of 1933 or the Securities Exchange Act of 1934.

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ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and the notes thereto included elsewhere in this Annual Report on Form 10-K to fully understand factors that may affect the comparability of the information presented below. We derived the selected consolidated balance sheet data as of December 31, 2018 and 2017, and the consolidated statement of operations data for the years ended December 31, 2018, 2017 and 2016 from our audited consolidated financial statements and accompanying notes included in this Annual Report on Form 10-K. The consolidated balance sheet data as of December 31, 2016, 2015 and 2014, and the consolidated statement of operations data for the years ended December 31, 2015 and 2014 are derived from our audited consolidated financial statements which are not included in this report. Operating results for any year are not necessarily indicative of results to be expected for any future periods.

Consolidated Statement of Operations Data:

	Year Ended December 31,				
	2018	**2017**	**2016**	**2015**	**2014**
	(in thousands, except per share amounts)				
Revenue	$582,382	$470,929	$388,665	$333,067	$282,535
Cost of revenue	259,714	212,646	177,792	152,898	129,917
Gross profit	322,668	258,283	210,873	180,169	152,618
Operating expenses:					
Research and development	93,455	82,359	73,643	65,787	58,590
Selling, general and administrative	113,803	97,257	83,012	72,312	66,755
Litigation expense (benefit), net	1,922	1,243	(229)	1,000	(8,027)
Total operating expenses	209,180	180,859	156,426	139,099	117,318
Income from operations	113,488	77,424	54,447	41,070	35,300
Interest and other income, net	4,994	5,520	2,817	1,421	1,092
Income before income taxes	118,482	82,944	57,264	42,491	36,392
Income tax provision	13,214	17,741	4,544	7,319	897
Net income	$105,268	$65,203	$52,720	$35,172	$35,495
Net income per share:					
Basic	$2.49	$1.58	$1.30	$0.89	$0.92
Diluted	$2.36	$1.50	$1.26	$0.86	$0.89
Weighted-average shares outstanding:					
Basic	42,247	41,350	40,436	39,470	38,686
Diluted	44,602	43,578	41,915	40,869	39,793
Cash dividends declared per common share	$1.20	$0.80	$0.80	$0.80	$0.45

Consolidated Balance Sheet Data:

	December 31,				
	2018	**2017**	**2016**	**2015**	**2014**
	(in thousands)				
Cash and cash equivalents	$172,704	$82,759	$112,703	$90,860	$126,266
Short-term investments	$204,577	$216,331	$155,521	$144,103	$112,452
Total assets	$793,432	$652,569	$511,126	$431,285	$399,366
Common stock and additional paid-in capital	$450,908	$376,586	$315,969	$265,763	$240,500
Total stockholders' equity	$640,093	$522,007	$431,116	$368,516	$346,425
Working capital	$500,371	$383,253	$330,063	$288,645	$271,051

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the consolidated financial statements and related notes which appear under Item 8 in this Annual Report on Form 10-K.

Overview

We are a leading semiconductor company that designs, develops and markets high-performance power solutions. Incorporated in 1997, MPS's core strengths include deep system-level and applications knowledge, strong analog design expertise and an innovative proprietary process technology. These combined strengths enable MPS to deliver highly integrated monolithic products that offer energy efficient, cost-effective, easy-to-use solutions for systems found in computing and storage, automotive, industrial, communications and consumer applications. Our mission is to reduce total energy consumption in our customers' systems with green, practical and compact solutions. We believe that we differentiate ourselves by offering solutions that are more highly integrated, smaller in size, more energy efficient, more accurate with respect to performance specifications and, consequently, more cost-effective than many competing solutions. We plan to continue to introduce new products within our existing product families, as well as in new innovative product categories.

We operate in the cyclical semiconductor industry where there is seasonal demand for certain products. We are not immune from current and future industry downturns, but we have targeted product and market areas that we believe have the ability to offer above average industry performance over the long term.

We work with third parties to manufacture and assemble our ICs. This has enabled us to limit our capital expenditures and fixed costs, while focusing our engineering and design resources on our core strengths.

Following the introduction of a product, our sales cycle generally takes a number of quarters after we receive an initial customer order for a new product to ramp up. Typical lead time for orders is fewer than 90 days. These factors, combined with the fact that orders in the semiconductor industry can typically be cancelled or rescheduled without significant penalty to the customer, make the forecasting of our orders and revenue difficult.

We derive most of our revenue from sales through distribution arrangements and direct sales to customers in Asia, where our products are incorporated into end-user products. For the years ended December 31, 2018, 2017 and 2016, our revenue from sales to customers in Asia was 88%, 89% and 91%, respectively. We derive a majority of our

revenue from the sales of our DC to DC converter products which serve the computing and storage, automotive, industrial, communications and consumer markets. We believe our ability to achieve revenue growth will depend, in part, on our ability to develop new products, enter new market segments, gain market share, manage litigation risk, diversify our customer base and continue to secure manufacturing capacity.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the U.S. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amount of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. We evaluate our estimates on an on-going basis, including those related to revenue recognition, stock-based compensation, inventories, income taxes, valuation of goodwill and intangible assets, and contingencies. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making the judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Estimates and judgments used in the preparation of our financial statements are, by their nature, uncertain and unpredictable, and depend upon, among other things, many factors outside of our control, such as demand for our products and economic conditions. Accordingly, our estimates and judgments may prove to be incorrect and actual results may differ, perhaps significantly, from these estimates.

We believe the following critical accounting policies reflect our more significant judgments used in the preparation of our consolidated financial statements.

Revenue Recognition

We generate revenue primarily from product sales, which include assembled and tested integrated circuits, as well as dies in wafer form. These product sales were 98%, 98% and 99% of our total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. The remaining revenue primarily includes royalty revenue from licensing arrangements and revenue from wafer testing services performed for third parties, which have not been significant in all periods presented.

We recognize revenue from product sales when we satisfy a performance obligation by transferring control of the promised goods or services to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

Product sales consist of a single performance obligation that we satisfy at a point in time. We recognize product revenue from distributors and direct end customers when the following events have occurred: (a) we have transferred physical possession of the products, (b) we have a present right to payment, (c) the customer has legal title to the products, and (d) the customer bears significant risks and rewards of ownership of the products. In accordance with the shipping terms specified in the contracts, these criteria are generally met when the products are shipped from our facilities (such as the “Ex Works” shipping term) or delivered to the customers’ locations (such as the “Delivered Duty Paid” shipping term).

Under certain consignment agreements, revenue is not recognized when the products are shipped and delivered to be held at customers’ designated locations because we continue to control the products and retain ownership, and the customers do not have an unconditional obligation to pay. We recognize revenue when the customers pull the products from the locations or, in some cases, after a 60-day period from the delivery date has passed, at which time control transfers to the customers and we invoice them for payment.

We account for price adjustment and stock rotation rights as variable consideration that reduces the transaction price, and recognize that reduction in the same period the associated revenue is recognized. Three U.S.-based distributors have price adjustment rights when they sell our products to their end customers at a price that is lower than the distribution price invoiced by us. When we receive claims from the distributors that products have been sold to the end customers at the lower price, we issue the distributors credit memos for the price adjustments. We estimate the price adjustments based on an analysis of historical claims, at both the distributor and product level, as well as an assessment of any known trends of product sales mix. Other U.S. distributors and non-U.S. distributors, which make up the majority of our total sales to distributors, do not have price adjustment rights.

In addition, certain distributors have limited stock rotation rights that permit the return of a small percentage of the previous six months’ purchases in accordance with the contract terms. We estimate the stock rotation returns based on an analysis of historical returns, and the current level of inventory in the distribution channel. We recognize an asset for product returns which represents the right to recover products from the customers related to stock rotations, with a corresponding reduction to cost of revenue.

We pay sales commissions based on the achievement of pre-determined product sales targets. As we recognize product sales at a point in time, sales commissions are expensed as incurred.

Inventory Valuation

We value our inventories at the lower of the standard cost (which approximates actual cost on a first-in, first-out basis) or their current estimated net realizable value. We write down excess and obsolete inventories based on assumptions about future demand and market conditions. If actual demand or market conditions are less favorable than those projected by management, additional inventory write-downs may be required. Conversely, if actual demand or market conditions are more favorable, inventories may be sold that were previously reserved.

Valuation of Goodwill and Acquisition-Related Intangible Assets

We evaluate intangible assets with finite lives for impairment whenever events or changes in circumstances indicate that an impairment may exist. We perform an annual impairment assessment for goodwill in the fourth quarter, or more frequently if indicators of potential impairment exist. Impairment of intangible assets is recognized based on the difference between the fair value of the assets and their carrying value. Impairment for goodwill occurs if the fair value of a reporting unit including goodwill is less than its carrying value and is recognized based on the difference between the implied fair value of the reporting unit's goodwill and the carrying value of the goodwill. The assumptions and estimates used to determine the fair value of goodwill and intangible assets are complex and subjective. They can be affected by various factors, including external factors such as industry and economic trends, and internal factors such as changes in our business strategy and revenue forecasts. If there is a significant adverse change in our business in the future, including macroeconomic and market conditions, we may be required to record impairment charges on our goodwill and acquisition-related intangible assets.

Accounting for Income Taxes

We recognize federal, state and foreign current tax liabilities or assets based on our estimate of taxes payable or refundable in the current fiscal year by tax jurisdiction. We also recognize federal, state and foreign deferred tax assets or liabilities for our estimate of future tax effects attributable to temporary differences and carryforwards. We record a valuation allowance to reduce any deferred tax assets by the amount of any tax benefits that, based on available evidence and judgment, are not expected to be realized.

Our calculation of current and deferred tax assets and liabilities is based on certain estimates and judgments and involves dealing with uncertainties in the application of complex tax laws. Our estimates of current and deferred tax assets and liabilities may change based, in part, on added certainty, finality or uncertainty to an anticipated outcome, changes in accounting or tax laws in the U.S. or foreign jurisdictions where we operate, or changes in other facts or circumstances. In addition, we recognize liabilities for potential U.S. and foreign income tax for uncertain income tax positions taken on our tax returns if it has less than a 50% likelihood of being sustained. If we determine that payment of these amounts is unnecessary or if the recorded tax liability is less than our current assessment, we may be required to recognize an income tax benefit or additional income tax expense in our financial statements in the period such determination is made. We have calculated our uncertain tax positions which were attributable to certain estimates and judgments primarily related to transfer pricing, cost sharing and our international tax structure exposure.

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On December 22, 2017, the 2017 Tax Act was enacted, which significantly changed U.S. corporate income tax law. The 2017 Tax Act made the following material changes: (1) reduction of the corporate income tax rate effective January 1, 2018; (2) replacement of the worldwide tax system with a territorial tax regime, with a one-time mandatory tax on previously deferred foreign earnings; (3) amendment on the deductibility of executive performance-based compensation, and (4) creation of new taxes on certain foreign-sourced earnings. Income tax effects resulting from changes in tax laws are accounted for in the period in which the law is enacted. As permitted by Staff Accounting Bulletin No. 118 ("SAB 118") issued by the SEC on December 22, 2017, we recorded provisional amounts based on reasonable estimates for the year ended December 31, 2017, with a one-year measurement period to complete the analysis. Any subsequent adjustments to these provisional amounts would be recorded to the income tax provision in the period when the analysis was complete. In December 2018, we have completed our accounting for the tax effects of the 2017 Tax Act, including the calculation of the deemed repatriation transition tax. See the "Income Tax Provision" for further discussion.

As of December 31, 2018 and 2017, we had a valuation allowance of $13.0 million and $12.6 million, respectively, attributable to management's determination that it is more likely than not that the deferred tax assets will not be realized. In the fourth quarter of 2017, management assessed the realizability of the deferred tax assets and concluded that a full valuation allowance would no longer be needed on the federal deferred tax assets, due principally to the enactment of the 2017 Tax Act. As a result, we released $21.6 million of valuation allowance which was recorded as a benefit in the income tax provision. In the event we determine that it is more likely than not that we would be able to realize other deferred tax assets in the future in excess of our net recorded amount, an adjustment to the valuation allowance for the deferred tax assets would increase income in the period such determination was made. Likewise, should it be determined that additional amounts of the net deferred tax assets will not be realized in the future, an adjustment to increase the deferred tax assets valuation allowance will be charged to income in the period such determination is made.

Contingencies

We are a party to actions and proceedings in the ordinary course of business, including potential litigation regarding our shareholders and our intellectual property, challenges to the enforceability or validity of our intellectual property, claims that our products infringe on the intellectual property rights of others, and employment matters. The pending proceedings involve complex questions of fact and law and will require the expenditure of significant funds and the diversion of other resources to prosecute and defend. In addition, from time to time, we become aware that we are subject to other contingent liabilities. When this occurs, we will evaluate the appropriate accounting for the potential contingent liabilities to determine whether a contingent liability should be recorded. In making this determination, management may, depending on the nature of the matter, consult with internal and external legal counsel and technical experts. Based on the facts and circumstances in each matter, we use our judgment to determine whether it is probable that a contingent loss has occurred and whether the amount of such loss can be estimated. If we determine a loss is probable and estimable, we record a contingent loss. In determining the amount of a contingent loss, we take into account advice received from experts for each specific matter regarding the status of legal proceedings, settlement negotiations, prior case history and other factors. Should the judgments and estimates made by management need to be adjusted as additional information becomes available, we may need to record additional contingent losses that could materially and adversely impact our results of operations. Alternatively, if the judgments and estimates made by

management are adjusted, for example, if a particular contingent loss does not occur, the contingent loss recorded would be reversed which could result in a favorable impact on our results of operations.

Stock-Based Compensation

We measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The fair value of restricted stock units (“RSUs”) with service conditions or performance conditions is based on the grant date share price. The fair value of shares issued under the employee stock purchase plan and RSUs with a purchase price feature is estimated using the Black-Scholes model. The fair value of RSUs with market conditions, as well as RSUs containing both market and performance conditions, is estimated using a Monte Carlo simulation model.

Compensation expense related to awards with service conditions is recorded on a straight-line basis over the requisite service period. Compensation expense related to awards subject to market or performance conditions is recognized over the requisite service period for each separately vesting tranche. For awards with only market conditions, compensation expense is not reversed if the market conditions are not satisfied. For awards with performance conditions, as well as awards containing both market and performance conditions, we recognize compensation expense when the performance goals are achieved, or when it becomes probable that the performance goals will be achieved. Management performs the probability assessment on a quarterly basis by reviewing external factors, such as macroeconomic conditions and the analog industry revenue forecasts, and internal factors, such as our business and operational objectives and revenue forecasts. Changes in the probability assessment of achievement of the performance conditions are accounted for in the period of change by recording a cumulative catch-up adjustment as if the new estimate had been applied since the service inception date. If the projected achievement was revised upward or if the actual results were higher than the projected achievement, additional compensation expense would be recorded for the awards due to the cumulative catch-up adjustment, which would have an adverse impact on our results of operations. Conversely, if the projected achievement was revised downward or if the actual results were lower than the projected achievement, previously accrued compensation expense would be reversed for the awards, which would have a favorable impact on our results of operations. As a result, our stock-based compensation expense is subject to volatility and may fluctuate significantly each quarter due to changes in our probability assessment or actual results being different from projections made by management.

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We account for forfeitures of equity awards when they occur.

Recent Accounting Pronouncements

Refer to Note 1 to our consolidated financial statements regarding recently adopted accounting pronouncements and recent accounting pronouncements not yet adopted as of December 31, 2018.

Results of Operations

The following table summarizes our results of operations:

	Year Ended December 31,					
	2018		**2017**		**2016**	
	(in thousands, except percentages)					
Revenue	$582,382	100.0%	$470,929	100.0%	$388,665	100.0%
Cost of revenue	259,714	44.6	212,646	45.2	177,792	45.7
Gross profit	322,668	55.4	258,283	54.8	210,873	54.3
Operating expenses:						
Research and development	93,455	16.0	82,359	17.5	73,643	18.9
Selling, general and administrative	113,803	19.5	97,257	20.7	83,012	21.4
Litigation expense (benefit), net	1,922	0.4	1,243	0.2	(229)	-
Total operating expenses	209,180	35.9	180,859	38.4	156,426	40.3
Income from operations	113,488	19.5	77,424	16.4	54,447	14.0
Interest and other income, net	4,994	0.9	5,520	1.2	2,817	0.7
Income before income taxes	118,482	20.4	82,944	17.6	57,264	14.7
Income tax provision	13,214	2.3	17,741	3.8	4,544	1.1
Net income	$105,268	18.1 %	$65,203	13.8 %	$52,720	13.6 %

Revenue

The following table summarizes our revenue by end market:

Year Ended December 31,	**Change**

End Market	2018	% of Revenue	2017	% of Revenue	2016	% of Revenue	From 2017 to 2018	From 2016 to 2017
	(in thousands, except percentages)							
Computing and storage	$159,121	27.3 %	$100,782	21.4 %	$80,562	20.7 %	57.9%	25.1 %
Automotive	80,078	13.8	53,888	11.4	33,954	8.7	48.6%	58.7 %
Industrial	88,472	15.2	62,896	13.4	55,685	14.4	40.7%	12.9 %
Communications	70,589	12.1	63,606	13.5	64,732	16.7	11.0%	(1.7)%
Consumer	184,122	31.6	189,757	40.3	153,732	39.5	(3.0)%	23.4 %
Total	$582,382	100.0 %	$470,929	100.0 %	$388,665	100.0 %	23.7%	21.2 %

Revenue for the year ended December 31, 2018 was $582.4 million, an increase of $111.5 million, or 23.7%, from $470.9 million for the year ended December 31, 2017. This increase was driven by higher sales in all of our end markets except for the consumer market. Overall unit shipments increased by 19% due to higher market demand, and average sales prices increased by 4% from the same period in 2017.

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Revenue from the computing and storage market for the year ended December 31, 2018 increased $58.3 million, or 57.9%, from the same period in 2017. This increase was primarily driven by strength in the solid-state drive storage, cloud computing and high-performance notebook markets. Revenue from the automotive market increased $26.2 million, or 48.6%, from the same period in 2017. This increase was primarily driven by higher sales of products for infotainment, safety and connectivity applications. Revenue from the industrial market increased $25.6 million, or 40.7%, from the same period in 2017. This increase was primarily driven by higher sales in power source, security and meter products. Revenue from the communications market increased $7.0 million, or 11.0%, from the same period in 2017. This increase was primarily driven by higher demand in networking applications. Revenue from the consumer market decreased $5.6 million, or 3.0%, from the same period in 2017. This decrease was primarily due to softness in demand for high volume consumer-related products, particularly those sold in the greater China region. This decrease was partially offset by higher demand for products related to home appliance, specialty lighting and internet-of-things applications.

Revenue for the year ended December 31, 2017 was $470.9 million, an increase of $82.2 million, or 21.2%, from $388.7 million for the year ended December 31, 2016. This increase was driven by higher sales in all of our end markets except for the communications market. Overall unit shipments increased by 9% due to higher market demand, and average sales prices increased by 12% from the same period in 2016.

Revenue from the computing and storage market for the year ended December 31, 2017 increased $20.2 million, or 25.1%, from the same period in 2016. This increase was primarily driven by strength in the solid-state drive storage, cloud computing and high-performance notebook markets. Revenue from the automotive market increased $19.9 million, or 58.7%, from the same period in 2016. This increase was primarily driven by higher sales of products for infotainment, safety and connectivity applications. Revenue from the industrial market increased $7.2 million, or 12.9%, from the same period in 2016. This increase was primarily driven by higher sales in power source products. Revenue from the communications market decreased $1.1 million, or 1.7%, from the same period in 2016. This decrease was primarily due to lower demand in wireless applications. Revenue from the consumer market increased $36.0 million, or 23.4%, from the same period in 2016. This increase was primarily driven by higher demand in gaming and home appliance products.

Cost of Revenue and Gross Margin

Cost of revenue primarily consists of costs incurred to manufacture, assemble and test our products, as well as warranty costs, inventory-related and other overhead costs, and stock-based compensation expenses. In addition, cost of revenue includes amortization for acquisition-related intangible assets.

Year Ended December 31,			**Change**	
2018	**2017**	**2016**	**From 2017**	**From 2016**

				to 2018	**to 2017**
	(in thousands, except percentages)				
Cost of revenue	$259,714	$212,646	$177,792	22.1%	19.6 %
As a percentage of revenue	44.6 %	45.2 %	45.7 %		
Gross profit	$322,668	$258,283	$210,873	24.9%	22.5 %
Gross margin	55.4 %	54.8 %	54.3 %		

Cost of revenue was $259.7 million, or 44.6% of revenue, for the year ended December 31, 2018, and $212.6 million, or 45.2% of revenue, for the year ended December 31, 2017. The $47.1 million increase in cost of revenue was primarily due to a 19% increase in overall unit shipments, which was partially offset by a 1% decrease in the average direct cost of units shipped. The increase in cost of revenue was also driven by a $10.5 million increase in inventory write-downs, a $2.1 million increase in warranty expenses, and a $1.7 million increase in manufacturing overhead costs, which was partially offset by a $1.2 million decrease in amortization expense as certain intangible assets were fully amortized in 2018.

Gross margin was 55.4% for the year ended December 31, 2018, compared with 54.8% for the year ended December 31, 2017. The increase in gross margin was primarily due to increased sales of higher margin products and lower manufacturing overhead costs as a percentage of revenue, which was partially offset by higher inventory write-downs as a percentage of revenue.

Cost of revenue was $212.6 million, or 45.2% of revenue, for the year ended December 31, 2017, and $177.8 million, or 45.7% of revenue, for the year ended December 31, 2016. The $34.8 million increase in cost of revenue was primarily due to a 9% increase in overall unit shipments, coupled with a 13% increase in the average direct cost of units shipped. The increase in cost of revenue was also driven by a $3.5 million increase in inventory write-downs and warranty expenses.

Gross margin was 54.8% for the year ended December 31, 2017, compared with 54.3% for the year ended December 31, 2016. The increase in gross margin was primarily due to lower manufacturing overhead costs as a percentage of revenue, which was partially offset by higher inventory write-downs as a percentage of revenue.

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Research and Development

Research and development ("R&D") expenses primarily consist of salary and benefit expenses, bonuses, stock-based compensation and deferred compensation for design and product engineers, expenses related to new product development and supplies, and facility costs.

	Year Ended December 31,			Change	
	2018	2017	2016	From 2017 to 2018	From 2016 to 2017
	(in thousands, except percentages)				
R&D expenses	$93,455	$82,359	$73,643	13.5%	11.8 %
As a percentage of revenue	16.0 %	17.5 %	18.9 %		

R&D expenses were $93.5 million, or 16.0% of revenue, for the year ended December 31, 2018, and $82.4 million, or 17.5% of revenue, for the year ended December 31, 2017. The $11.1 million increase in R&D expenses was primarily due to an increase of $6.9 million in compensation expenses, which include salary, benefits and bonuses, an increase of $2.4 million in laboratory supplies, an increase of $1.4 million in new product development expenses, and an increase of $1.2 million in stock-based compensation expenses mainly associated with performance-based equity awards. These increases were partially offset by an increase of $1.4 million in income related to changes in the value of the deferred compensation plan liabilities. Our R&D headcount was 710 employees as of December 31, 2018, compared with 629 employees as of December 31, 2017.

R&D expenses were $82.4 million, or 17.5% of revenue, for the year ended December 31, 2017, and $73.6 million, or 18.9% of revenue, for the year ended December 31, 2016. The $8.8 million increase in R&D expenses was primarily due to an increase of $3.8 million in compensation expenses, which include salary, benefits and bonuses, an increase of $1.9 million in laboratory supplies, an increase of $1.6 million in new product development expenses, an increase of $0.8 million in stock-based compensation expenses mainly associated with performance-based equity awards, and an increase of $0.7 million in expenses related to changes in the value of the deferred compensation plan liabilities. Our R&D headcount was 629 employees as of December 31, 2017, compared with 578 employees as of December 31, 2016.

Selling, General and Administrative

Selling, general and administrative ("SG&A") expenses primarily include salary and benefit expenses, bonuses, stock-based compensation and deferred compensation for sales, marketing and administrative personnel, sales

commissions, travel expenses, facilities costs, and professional service fees.

	Year Ended December 31,			**Change**	
	2018	**2017**	**2016**	**From 2017 to 2018**	**From 2016 to 2017**
	(in thousands, except percentages)				
SG&A expenses	$113,803	$97,257	$83,012	17.0%	17.2 %
As a percentage of revenue	19.5 %	20.7 %	21.4 %		

SG&A expenses were $113.8 million, or 19.5% of revenue, for the year ended December 31, 2018, and $97.3 million, or 20.7% of revenue, for the year ended December 31, 2017. The $16.5 million increase in SG&A expenses was primarily due to an increase of $6.6 million in stock-based compensation expenses mainly associated with performance-based equity awards, an increase of $5.0 million in compensation expenses, which include salary, benefits and bonuses, and an increase of $4.0 million in commission expenses driven by higher revenue. These increases were partially offset by an increase of $2.0 million in income related to changes in the value of the deferred compensation plan liabilities. Our SG&A headcount was 433 employees as of December 31, 2018, compared with 389 employees as of December 31, 2017.

SG&A expenses were $97.3 million, or 20.7% of revenue, for the year ended December 31, 2017, and $83.0 million, or 21.4% of revenue, for the year ended December 31, 2016. The $14.3 million increase in SG&A expenses was primarily due to an increase of $3.9 million in stock-based compensation expenses mainly associated with performance-based equity awards, an increase of $3.7 million in compensation expenses, which include salary, benefits and bonuses, an increase of $1.3 million in depreciation expense, and an increase of $1.0 million in expenses related to changes in the value of the deferred compensation plan liabilities. In addition, contributing to the increase in SG&A expenses in 2017 was a stock-based compensation credit of $2.9 million which reduced SG&A expenses in 2016 due to the retirement of our former Chief Financial Officer. As the service or performance conditions for her outstanding restricted stock units had not been satisfied at the time of her departure, we reversed previously accrued stock-based compensation expenses of $2.9 million associated with the unvested restricted stock units and the credit was reflected in SG&A expenses for year ended December 31, 2016. Our SG&A headcount was 389 employees as of December 31, 2017, compared with 355 employees as of December 31, 2016.

Litigation Expense (Benefit), Net

Litigation expense was $1.9 million for the year ended December 31, 2018, compared with $1.2 million for the year ended December 31, 2017. The increase was primarily due to increased expenses on an ongoing lawsuit in which we are the plaintiff.

Litigation expense was $1.2 million for the year ended December 31, 2017, compared with a litigation benefit, net, of $0.2 million for the year ended December 31, 2016. The increase in litigation expense was primarily due to an ongoing lawsuit in which we are the plaintiff. In addition, we did not recognize any litigation benefit for the year ended December 31, 2017, compared with $0.7 million of benefit recognized in connection with two litigation settlements for the year ended December 31, 2016.

Interest and Other Income, Net

Interest and other income, net, was $5.0 million for the year ended December 31, 2018, compared with $5.5 million for the year ended December 31, 2017. The decrease was primarily due to an increase of $3.6 million in expenses related to changes in the value of the deferred compensation plan investments. This decrease was partially offset by an increase of $1.5 million in foreign currency exchange gain, an increase of $1.0 million in interest income as a result of higher investment balances and yields, and a decrease of $0.6 million in amortization of premium on available-for-sale securities.

Interest and other income, net, was $5.5 million for the year ended December 31, 2017, compared with $2.8 million for the year ended December 31, 2016. The increase was primarily due to an increase of $2.9 million in interest income as a result of higher investment balances and higher yields, and an increase of $1.3 million in income related to changes in the value of the deferred compensation plan investments, which was partially offset by an increase of $1.0 million in amortization of premium on available-for-sale investments and an increase of $0.6 million in foreign currency exchange loss.

Income Tax Provision

The income tax provision for the year ended December 31, 2018 was $13.2 million, or 11.2% of pre-tax income. The effective tax rate differed from the federal statutory rate primarily because foreign income generated by our subsidiaries in Bermuda and China was taxed at lower rates. In addition, the effective tax rate was impacted by the inclusion of the global intangible low-taxed income (“GILTI”) provisions as a result of the 2017 Tax Act.

The income tax provision for the year ended December 31, 2017 was $17.7 million, or 21.4% of pre-tax income. The effective tax rate differed from the federal statutory rate primarily because foreign income generated by our subsidiaries in Bermuda and China was taxed at lower rates, and because of the stock-based compensation. In addition, the effective tax rate was impacted by the effects of the 2017 Tax Act, including the remeasurement of deferred taxes and the one-time deemed repatriation transition tax, and the release of the U.S. valuation allowance.

The income tax provision for the year ended December 31, 2016 was $4.5 million, or 7.9% of pre-tax income. The effective tax rate differed from the federal statutory rate primarily because foreign income generated by our subsidiaries in Bermuda and China was taxed at lower rates. In addition, the effective tax rate was impacted by changes in valuation allowance and the stock-based compensation.

2017 Tax Act:

Under Accounting Standards Codification ("ASC") No. 740, *Income Taxes*, the effects of a new legislation are recognized upon enactment. Accordingly, we were required to recognize the tax effects of the 2017 Tax Act beginning in the fourth quarter of 2017.

On December 22, 2017, the SEC issued SAB 118, which addressed the application of ASC No. 740 in situations when a registrant did not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the 2017 Tax Act. In accordance with SAB 118, for matters that have not been completed, we would recognize provisional amounts to the extent that they were reasonably estimable. Any subsequent adjustments to the provisional amounts would be recorded to the income tax provision in the period when the analysis was complete. We were permitted to finalize the analysis within a one-year measurement period.

As of December 31, 2017, we had not completed the accounting for the tax effects of the 2017 Tax Act and recorded certain provisional amounts based on reasonable estimates. In December 2018, we finalized the analysis of the 2017 Tax Act and recorded certain adjustments to the provisional amounts, as discussed further below.

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We expect further guidance may be forthcoming from the FASB and the SEC, as well as regulations, interpretations and rulings from federal and state tax agencies, which could result in additional impact and adjustments to our income tax provisions in future periods.

Corporate Tax Rate and Remeasurement of Deferred Taxes

The 2017 Tax Act reduces the corporate tax rate from 35% to 21%, effective January 1, 2018. Because ASC No. 740 requires the effect of a change in tax laws to be recognized as of the date of enactment, we remeasured our deferred tax balance as of December 22, 2017 and recorded a provisional amount of $9.8 million to the income tax provision as a result of the remeasurement for the year ended December 31, 2017. In December 2018, we finalized the analysis and did not make any adjustment to the provisional amount recorded for the year ended December 31, 2017.

Deemed Repatriation Transition Tax

The 2017 Tax Act mandates a one-time deemed repatriation transition tax of post-1986 undistributed foreign earnings and profits (“E&P”) on which U.S. income taxes were previously deferred. For the year ended December 31, 2017, we recorded a provisional amount of $41.9 million related to the transition tax expense. After the utilization of R&D tax credits of $18.0 million, the provisional transition tax liability was $23.9 million. In December 2018, we finalized the analysis of the transition tax, and recorded an increase of $1.3 million to the transition tax expense and a net increase of $0.7 million to the transition tax liability.

As permitted by the 2017 Tax Act, we have elected to pay the transition tax liability of $24.6 million in installments on an interest-free basis over eight years through 2025. For the year ended December 31, 2018, we paid $2.6 million of the transition tax. As of December 31, 2018, $1.3 million of the remaining transition tax was recorded in current accrued liabilities and $20.7 million was recorded in long-term income tax liabilities.

Undistributed Earnings of Subsidiaries

We previously considered the earnings in our non-U.S. subsidiaries to be indefinitely reinvested and, accordingly, recorded no deferred income taxes. Prior to the transition tax, we had an excess of the amount for financial reporting over the tax basis in our foreign subsidiaries including undistributed foreign earnings of $390.2 million. While the transition tax resulted in the reduction of the excess of the amount for financial reporting over the tax basis in our foreign subsidiaries and subjected $123.2 million of undistributed foreign earnings to tax, an actual repatriation from our non-U.S. subsidiaries could be subject to additional foreign withholding taxes and U.S. state taxes.

We have analyzed our global working capital and cash requirements, and have determined that we plan to repatriate cash from our Bermuda subsidiary on an ongoing basis to fund our future U.S. based expenditures and dividends. For the other foreign subsidiaries, we expect to indefinitely reinvest undistributed earnings to fund foreign operations and their research and development. As of December 31, 2018, we recorded deferred taxes liabilities of $1.1 million related to California state taxes, which were netted against deferred tax assets.

GILTI

The 2017 Tax Act subjects a U.S. parent shareholder to taxation of its GILTI, effective January 1, 2018. The GILTI inclusions impact companies that have foreign earnings generated without a large aggregate foreign fixed asset base and whose earnings are being taxed at a low tax rate. For the year ended December 31, 2018, we included $81.1 million related to the GILTI provisions as additional Subpart F income, which was accounted for as a period cost.

Executive Compensation Deduction

The 2017 Tax Act retains the $1 million limitation on deductible compensation to covered employees, which include the Chief Executive Officer and four other highest paid officers, under IRC Section 162(m). However, it eliminates the exception for performance-based cash or stock compensation and expands the definition of covered employees to include the Chief Financial Officer. Accordingly, beginning January 1, 2018, the deductible compensation to covered employees is generally subject to the $1 million limitation.

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Release of Valuation Allowance:

Management periodically evaluates the realizability of our deferred tax assets based on all available evidence. The realizability of our deferred tax assets is dependent on our ability to generate sufficient future taxable income during periods prior to the expiration of tax attributes to fully utilize these assets. We maintained a full valuation allowance on our U.S. deferred tax assets as of the third quarter of 2017. In the fourth quarter of 2017, we assessed the realizability of the deferred tax assets and concluded that it was more likely than not that our federal deferred tax assets would be realizable, due principally to the enactment of the 2017 Tax Act. In accordance with ASC No. 740, management considered all available evidence, both positive and negative, to determine whether, based on the weight of that evidence, a valuation allowance for deferred tax assets was needed. Our conclusion was primarily driven by the following positive evidence:

- We forecasted taxable income in the U.S. in future periods. The enactment of GILTI will result in additional Subpart F income each year.
- Executive performance-based equity awards are now subject to the Section 162(m) deduction limitation.
- We have a history of utilizing all federal tax attributes before expiration.

As a result, we released $21.6 million of valuation allowance on federal deferred tax assets, which was recorded as a benefit in the income tax provision in the fourth quarter of 2017. We continue to maintain a full valuation allowance on the deferred tax assets in California, primarily due to a low apportionment factor and the amount of R&D tax credits generated is greater than the amount utilized.

Liquidity and Capital Resources

	December 31,	
	2018	**2017**
	(in thousands, except percentages)	
Cash and cash equivalents	$172,704	$82,759
Short-term investments	204,577	216,331
Total cash, cash equivalents and short-term investments	$377,281	$299,090
Percentage of total assets	47.6 %	45.8 %
Total current assets	$580,810	$449,170
Total current liabilities	(80,439)	(65,917)
Working capital	$500,371	$383,253

As of December 31, 2018, we had cash and cash equivalents of $172.7 million and short-term investments of $204.6 million, compared with cash and cash equivalents of $82.8 million and short-term investments of $216.3 million as of December 31, 2017. As of December 31, 2018, $143.8 million of cash and cash equivalents and $101.0 million of short-term investments were held by our international subsidiaries. As a result of the enactment of the 2017 Tax Act, we currently plan to repatriate cash from our Bermuda subsidiary to fund our future expenditures in the U.S. Earnings from other foreign subsidiaries will continue to be indefinitely reinvested. See the "Income Tax Provision" section for further discussion.

The significant components of our working capital are cash and cash equivalents, short-term investments, accounts receivable, inventories and other current assets, reduced by accounts payable, accrued compensation and related benefits, and other accrued liabilities. As of December 31, 2018, we had working capital of $500.4 million, compared with working capital of $383.3 million as of December 31, 2017. The $117.1 million increase in working capital was due to a $131.6 million increase in current assets, which was partially offset by a $14.5 million increase in current liabilities. The increase in current assets was primarily due to an increase in cash and cash equivalents, accounts receivable and inventories. The increase in current liabilities was primarily due to an increase in accrued compensation and related benefits and other accrued liabilities.

Summary of Cash Flows

The following table summarizes our cash flow activities:

	Year Ended December 31,		
	2018	**2017**	**2016**
	(in thousands)		
Net cash provided by operating activities	$141,451	$133,821	$107,786
Net cash used in investing activities	(14,740)	(134,060)	(55,726)
Net cash used in financing activities	(34,559)	(31,325)	(28,127)
Effect of change in exchange rates	(2,208)	1,625	(2,093)
Net increase (decrease) in cash, cash equivalents and restricted cash	$89,944	$(29,939)	$21,840

For the year ended December 31, 2018, net cash provided by operating activities was $141.5 million, primarily due to our net income adjusted for certain non-cash items, including depreciation and amortization and stock-based compensation, and a net decrease of $37.5 million from the changes in our operating assets and liabilities. The increase in accounts receivable was primarily driven by increased sales. The increase in inventories was primarily driven by an increase in strategic wafer and die inventories as well as an increase in finished goods to meet current demand and future growth. The increase in accrued liabilities was primarily driven by an increase in employee contributions to the deferred compensation plan.

For the year ended December 31, 2017, net cash provided by operating activities was $133.8 million, primarily due to our net income adjusted for certain non-cash items, including depreciation and amortization, stock-based compensation and deferred taxes, and a net increase of $15.7 million from the changes in our operating assets and liabilities. The increase in deferred taxes was primarily due to the release of the U.S. valuation allowance, partially offset by the remeasurement of the deferred tax balance in the fourth quarter of 2017 as a result of the 2017 Tax Act. The increase in accounts receivable was primarily driven by higher sales. The increase in inventories was primarily driven by an increase in strategic wafer and die inventories as well as an increase in finished goods to meet current demand and future growth. The increase in accounts payable was primarily driven by increased inventory and capital asset purchases to meet future demand. The increase in accrued liabilities was primarily driven by an increase in employee contributions to the deferred compensation plan and warranty expenses. The increase in income tax liabilities was primarily driven by the one-time deemed repatriation transition tax liability recorded in the fourth quarter of 2017.

For the year ended December 31, 2016, net cash provided by operating activities was $107.8 million, primarily due to our net income adjusted for certain non-cash items, including depreciation and amortization and stock-based compensation, and a net decrease of $2.9 million from the changes in our operating assets and liabilities. The increase in other assets was primarily due to a prepaid wafer purchase agreement we funded during the year. The increase in inventories was primarily driven by increased purchases to meet current demand and future growth. The increase in accrued liabilities was primarily driven by an increase in employee contributions to the deferred compensation plan.

For the year ended December 31, 2018, net cash used in investing activities was $14.7 million, primarily due to purchases of property and equipment of $22.5 million and net contributions to the deferred compensation plan of $4.1 million, which was partially offset by net sales of investments of $11.9 million. For the year ended December 31, 2017, net cash used in investing activities was $134.1 million, primarily due to purchases of property and equipment of $65.8 million, net purchases of short-term investments of $63.0 million, and net contributions to the deferred compensation plan of $5.3 million. For the year ended December 31, 2016, net cash used in investing activities was $55.7 million, primarily due to purchases of property and equipment of $37.1 million, net purchases of investments of $13.6 million, and net contributions to the deferred compensation plan of $5.0 million.

We did not purchase any significant properties for the year ended December 31, 2018. For the year ended December 31, 2017, we funded the purchases of land in Kirkland, Washington, office space in Shanghai and Hangzhou, China, and land and office space in Taipei, Taiwan for $53.8 million. For the year ended December 31, 2016, we funded the

purchases of a previously leased manufacturing facility in Chengdu, China, office space in Shenzhen, China, and land and office space in Taipei, Taiwan for $17.5 million.

For the year ended December 31, 2018, net cash used in financing activities was $34.6 million, primarily reflecting $47.5 million used to pay dividends to our stockholders and dividend equivalents to our employees who hold RSUs, which was partially offset by $13.6 million of cash proceeds from vesting of RSUs and issuance of shares through our employee stock purchase plan. For the year ended December 31, 2017, net cash used in financing activities was $31.3 million, primarily reflecting $33.9 million used to pay dividends to our stockholders and dividend equivalents to our employees who hold RSUs, which was partially offset by $2.9 million of cash proceeds from stock option exercises and issuance of shares through our employee stock purchase plan. For the year ended December 31, 2016, net cash used in financing activities was $28.1 million, primarily reflecting $33.1 million used to pay dividends to our stockholders and dividend equivalents to our employees who hold RSUs, which was partially offset by $3.8 million of cash proceeds from stock option exercises and issuance of shares through our employee stock purchase plan.

We have a dividend program pursuant to which we intend to pay quarterly cash dividends on our common stock. In addition, outstanding RSU awards contain rights to receive dividend equivalents, which entitle employees who hold RSUs to the same dividend value per share as holders of common stock. The dividend equivalents are accumulated and paid to the employees when the underlying RSUs vest. Dividend equivalents accumulated on the underlying RSUs are forfeited if the employees do not fulfill their service requirement and the awards do not vest. For the year ended December 31, 2018, we paid dividends and dividend equivalents totaling $47.5 million. For the year ended December 31, 2017, we paid dividends and dividend equivalents totaling $33.9 million. For the year ended December 31, 2016, we paid dividends and dividend equivalents totaling $33.1 million.

In February 2019, our Board of Directors approved an increase in our quarterly cash dividends from $0.30 per share to $0.40 per share, effective for the dividends declared in the first quarter of 2019.

We anticipate that cash used for future dividends and dividend equivalent payments, as well as payments for the one-time deemed repatriation transition tax and other expenditures, will come from our current domestic cash, cash generated from ongoing U.S. operations, and cash to be repatriated from our Bermuda subsidiary. Earnings from other foreign subsidiaries will continue to be indefinitely reinvested.

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Although cash requirements will fluctuate based on the timing and extent of many factors such as those discussed above, we believe that cash generated from operations, together with the liquidity provided by existing cash balances and short-term investments, will be sufficient to satisfy our liquidity requirements for the next 12 months.

In the future, in order to strengthen our financial position, respond to changes in our circumstance or unforeseen events or conditions, or fund our growth, we may need to discontinue paying dividends and dividend equivalents, and may need to raise additional funds by any one or a combination of the following: issuing equity securities, issuing debt or convertible debt securities, incurring indebtedness secured by our assets, or selling certain product lines and/or portions of our business. Accordingly, we cannot ensure that we will continue to pay dividends and dividend equivalents in the future, and there can be no guarantee that we will be able to raise additional funds on terms acceptable to us, or at all.

From time to time, we have engaged in discussions with third parties concerning potential acquisitions of product lines, technologies, businesses and companies, and we continue to consider potential acquisition candidates. Any such transactions could involve the issuance of a significant number of new equity securities, assumptions of debt, and/or payment of cash consideration. We may also be required to raise additional funds to complete any such acquisitions, through either the issuance of equity and debt securities or incurring indebtedness secured by our assets. If we raise additional funds or acquire businesses or technologies through the issuance of equity securities or convertible debt securities, our existing stockholders may experience significant dilution.

Contractual Obligations

The following table summarizes our contractual obligations at December 31, 2018:

		Payment Due by Period			
	Total	**Less Than 1 Year**	**1 - 3 Years**	**3 - 5 Years**	**More Than 5 years**
	(in thousands)				
Operating leases	$2,877	$1,511	$1,145	$221	$-
Outstanding purchase commitments (1)	61,389	54,874	5,165	650	700
Transition tax liability (2)	22,058	1,353	3,944	5,669	11,092
Other long-term obligations (3)	38,525	-	5,698	7,517	25,310
Total	$124,849	$57,738	$15,952	$14,057	$37,102

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(1) Outstanding purchase commitments primarily consist of wafer and other inventory purchases, assembly services and license arrangements.

(2) The transition tax liability represents the one-time, mandatory deemed repatriation tax imposed on previously deferred foreign earnings under the 2017 Tax Act. As permitted by the 2017 Tax Act, we elected to pay the tax liability in installments on an interest-free basis through 2025. See the "Income Tax Provision" section for further discussion.

(3) Other long-term obligations include long-term liabilities reflected in our Consolidated Balance Sheets, which primarily consist of the deferred compensation plan liabilities and accrued dividend equivalents. Because of the uncertainty as to the timing of payments related to our liabilities for unrecognized tax benefits, we have excluded estimated obligations of $13.7 million from the table above.

In February 2019, we entered into an agreement to purchase an office building and land located in Kirkland, Washington, for $53.0 million in cash. We expect to close the transaction in the first quarter of 2019.

Off Balance Sheet Arrangements

As of December 31, 2018, we had no off-balance sheet arrangements as defined in Item 303(a)(4) of the Securities and Exchange Commission's Regulation S-K.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

Our cash equivalents and short-term investments are subject to market risk, primarily interest rate and credit risk. Our investments are managed by outside professional managers within investment guidelines set by management and approved by our Board of Directors. Such guidelines include security type, credit quality and maturity and are intended to limit market risk by restricting our investments to high quality debt instruments with relatively short-term maturities. Based on our investment positions as of December 31, 2018 and 2017, a 10% decline in interest rates would impact our results of operations by approximately $0.6 million and $0.5 million in interest income, respectively.

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We do not use derivative financial instruments in our investment portfolio. Investments in debt securities are classified as available-for-sale. No realized gains or losses are recognized in our results of operations due to changes in interest rates unless such securities are sold prior to maturity or are determined to be other-than-temporarily impaired. Available-for-sale investments are reported at fair value with the unrealized gains or losses being included in accumulated other comprehensive income (loss), a component of stockholders' equity.

Long-Term Investments

As of December 31, 2018 and 2017, our holdings in auction-rate securities had a face value of $3.6 million and $5.6 million, and a fair value of $3.2 million and $5.3 million, respectively. As of December 31, 2018 and 2017, a 10% decline in the fair value could impact our results of operations by approximately $0.4 million and $0.5 million, respectively, if we determined the decline in value to be other-than-temporary. To date, we have redeemed 92% of the original portfolio in these securities, or $39.7 million, at par without any realized losses.

Foreign Currency Exchange Risk

Our sales outside the United States are primarily transacted in U.S. dollars through our subsidiary in Bermuda. Accordingly, our sales are not generally impacted by foreign currency rate changes. The functional currency of the Company's offshore operations is generally the local currency, primarily including the Renminbi, the New Taiwan Dollar and the Euro. In addition, we incur foreign currency exchange gains or losses related to certain intercompany transactions between the U.S. and our foreign subsidiaries that are denominated in a currency other than the functional currency. Gains or losses from the settlement and remeasurement of the balances are reported in interest and other income, net. Fluctuations in foreign currency exchange rates have not had a material impact on our results of operations in any of the periods presented.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MONOLITHIC POWER SYSTEMS, INC.

CONSOLIDATED FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of

Monolithic Power Systems, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Monolithic Power Systems, Inc. and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 1, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in

the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ DELOITTE & TOUCHE LLP

San Jose, California

March 1, 2019

We have served as the Company's auditor since 1999.

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MONOLITHIC POWER SYSTEMS, INC.

CONSOLIDATED BALANCE SHEETS

(in thousands, except par value)

	December 31,	
	2018	**2017**
ASSETS		
Current assets:		
Cash and cash equivalents	$172,704	$82,759
Short-term investments	204,577	216,331
Accounts receivable, net	55,214	38,037
Inventories	136,384	99,281
Other current assets	11,931	12,762
Total current assets	580,810	449,170
Property and equipment, net	150,001	144,636
Long-term investments	3,241	5,256
Goodwill	6,571	6,571
Acquisition-related intangible assets, net	111	951
Deferred tax assets, net	16,830	15,917
Other long-term assets	35,868	30,068
Total assets	$793,432	$652,569
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$22,678	$22,813
Accrued compensation and related benefits	18,799	15,597
Accrued liabilities	38,962	27,507
Total current liabilities	80,439	65,917
Income tax liabilities	34,375	31,621
Other long-term liabilities	38,525	33,024
Total liabilities	153,339	130,562
Commitments and contingencies (notes 13 and 14)		
Stockholders' equity:		
Common stock and additional paid-in capital, $0.001 par value; shares authorized: 150,000; shares issued and outstanding: 42,505 and 41,614, respectively	450,908	376,586
Retained earnings	194,728	143,608
Accumulated other comprehensive income (loss)	(5,543)	1,813
Total stockholders' equity	640,093	522,007
Total liabilities and stockholders' equity	$793,432	$652,569

See accompanying notes to consolidated financial statements.

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MONOLITHIC POWER SYSTEMS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except per share amounts)

	Year Ended December 31,		
	2018	**2017**	**2016**
Revenue	$582,382	$470,929	$388,665
Cost of revenue	259,714	212,646	177,792
Gross profit	322,668	258,283	210,873
Operating expenses:			
Research and development	93,455	82,359	73,643
Selling, general and administrative	113,803	97,257	83,012
Litigation expense (benefit), net	1,922	1,243	(229)
Total operating expenses	209,180	180,859	156,426
Income from operations	113,488	77,424	54,447
Interest and other income, net	4,994	5,520	2,817
Income before income taxes	118,482	82,944	57,264
Income tax provision	13,214	17,741	4,544
Net income	$105,268	$65,203	$52,720
Net income per share:			
Basic	$2.49	$1.58	$1.30
Diluted	$2.36	$1.50	$1.26
Weighted-average shares outstanding:			
Basic	42,247	41,350	40,436
Diluted	44,602	43,578	41,915

See accompanying notes to consolidated financial statements.

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MONOLITHIC POWER SYSTEMS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)

	Year Ended December 31,		
	2018	**2017**	**2016**
Net income	$105,268	$65,203	$52,720
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(7,082)	6,369	(5,033)
Change in unrealized loss on available-for-sale securities, net of tax of $209, $0, and $0, respectively	(274)	(341)	(648)
Total other comprehensive income (loss), net of tax	(7,356)	6,028	(5,681)
Comprehensive income	$97,912	$71,231	$47,039

See accompanying notes to consolidated financial statements.

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MONOLITHIC POWER SYSTEMS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in thousands)

	Common Stock and Additional Paid-in Capital		Retained	Accumulated Other Comprehensive	Total Stockholders'
	Shares	**Amount**	**Earnings**	**Income (Loss)**	**Equity**
Balance as of January 1, 2016	39,689	$265,763	$101,287	$ 1,466	$ 368,516
Net income	-	-	52,720	-	52,720
Other comprehensive loss	-	-	-	(5,681)	(5,681)
Dividends and dividend equivalents declared ($0.80 per share)	-	-	(34,645)	-	(34,645)
Exercise of stock options	76	1,344	-	-	1,344
Vesting of restricted stock units	975	-	-	-	-
Shares issued under the employee stock purchase plan	53	2,463	-	-	2,463
Stock-based compensation expense	-	44,934	-	-	44,934
Tax benefits from equity awards	-	1,465	-	-	1,465
Balance as of December 31, 2016	40,793	315,969	119,362	(4,215)	431,116
Net income	-	-	65,203	-	65,203
Other comprehensive income	-	-	-	6,028	6,028
Dividends and dividend equivalents declared ($0.80 per share)	-	-	(35,816)	-	(35,816)
Exercise of stock options	9	150	-	-	150
Vesting of restricted stock units	772	-	-	-	-
Shares issued under the employee stock purchase plan	40	2,701	-	-	2,701
Stock-based compensation expense	-	52,625	-	-	52,625
Cumulative effect of a change in accounting principles	-	5,141	(5,141)	-	-
Balance as of December 31, 2017	41,614	376,586	143,608	1,813	522,007
Net income	-	-	105,268	-	105,268
Other comprehensive loss	-	-	-	(7,356)	(7,356)
Dividends and dividend equivalents declared ($1.20 per share)	-	-	(54,527)	-	(54,527)
Exercise of stock options	5	59	-	-	59
Vesting of restricted stock units	853	10,578	-	-	10,578
Shares issued under the employee stock purchase plan	33	3,028	-	-	3,028

Stock-based compensation expense	-	60,657	-	-	60,657
Cumulative effect of a change in accounting principles	-	-	379	-	379
Balance as of December 31, 2018	42,505	$450,908	$194,728	$ (5,543)	$ 640,093

See accompanying notes to consolidated financial statements.

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MONOLITHIC POWER SYSTEMS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Year Ended December 31,		
	2018	**2017**	**2016**
Cash flows from operating activities:			
Net income	$105,268	$65,203	$52,720
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization of intangible assets	12,311	16,101	14,674
(Gain) loss on sales or write-off of property and equipment	22	(3)	57
Amortization of premium on available-for-sale securities	1,353	1,976	1,019
(Gain) loss on deferred compensation plan investments	255	(2,531)	(1,257)
Deferred taxes, net	(843)	(15,238)	(5)
Excess tax benefits from equity awards	-	-	(1,465)
Stock-based compensation expense	60,607	52,617	44,989
Changes in operating assets and liabilities:			
Accounts receivable	(18,079)	(3,785)	(3,421)
Inventories	(37,060)	(27,795)	(8,323)
Other assets	(1,075)	1,603	(11,021)
Accounts payable	871	3,077	5,483
Accrued compensation and related benefits	3,806	2,397	3,136
Accrued liabilities	7,092	10,852	8,035
Income tax liabilities	6,923	29,347	3,165
Net cash provided by operating activities	141,451	133,821	107,786
Cash flows from investing activities:			
Property and equipment purchases	(22,526)	(65,770)	(37,112)
Purchases of short-term investments	(99,199)	(140,531)	(236,912)
Proceeds from maturities and sales of short-term investments	109,131	77,502	223,344
Proceeds from sales of long-term investments	2,000	-	-
Contributions to deferred compensation plan, net	(4,146)	(5,261)	(5,046)
Net cash used in investing activities	(14,740)	(134,060)	(55,726)
Cash flows from financing activities:			
Property and equipment purchased on extended payment terms	(749)	(250)	(300)
Proceeds from exercise of stock options	59	150	1,344
Proceeds from vesting of restricted stock units	10,578	-	-
Proceeds from shares issued under the employee stock purchase plan	3,028	2,701	2,463
Dividends and dividend equivalents paid	(47,475)	(33,926)	(33,099)
Excess tax benefits from equity awards	-	-	1,465
Net cash used in financing activities	(34,559)	(31,325)	(28,127)
Effect of change in exchange rates	(2,208)	1,625	(2,093)
Net increase (decrease) in cash, cash equivalents and restricted cash	89,944	(29,939)	21,840

Cash, cash equivalents and restricted cash, beginning of period	82,874	112,813	90,973
Cash, cash equivalents and restricted cash, end of period	$172,818	$82,874	$112,813
Supplemental disclosures for cash flow information:			
Cash paid for taxes and interest	$7,134	$3,619	$1,234
Non-cash investing and financing activities:			
Liability accrued for property and equipment purchases	$1,737	$3,061	$787
Liability accrued for dividends and dividend equivalents	$16,319	$10,686	$10,416

See accompanying notes to consolidated financial statements.

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MONOLITHIC POWER SYSTEMS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Business

Monolithic Power Systems, Inc. was incorporated in the State of California on August 22, 1997. On November 17, 2004, the Company was reincorporated in the State of Delaware. MPS designs, develops and markets integrated power semiconductor solutions and power delivery architectures. MPS's mission is to provide innovative power solutions in the computing and storage, automotive, industrial, communications and consumer markets.

Basis of Presentation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. Intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and reported amounts of revenue and expenses during the reporting period. Significant estimates and assumptions used in these consolidated financial statements primarily include those related to revenue recognition, inventory valuation, valuation of share-based awards, valuation of goodwill and acquisition-related intangible assets, contingencies and tax valuation allowances. Actual results could differ from those estimates.

Certain Significant Risks and Uncertainties

Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, short-term and long-term investments and accounts receivable. The Company's cash consists of checking and savings accounts. The Company's cash equivalents include short-term, highly liquid investments purchased with remaining maturities at the date of purchase of three months or less. The Company's short-term investments consist of corporate debt securities, certificates of deposit and government agency bonds and treasuries, and the long-term investments consist of government-backed student loan auction-rate securities. The Company generally does not require its customers to provide collateral or other security to support accounts receivable. To manage credit risk, management performs ongoing credit evaluations of its customers' financial condition. The Company requires cash in advance for certain customers in addition to ongoing credit evaluations. See Note 2 for further discussion.

The Company participates in the dynamic high technology industry and believes that changes in any of the following areas could have a material adverse effect on its future financial position, results of operations or cash flows: advances and trends in new technologies and industry standards; competitive pressures in the form of new products or price reductions on current products; changes in product mix; changes in the overall demand for products offered by the Company; changes in third-party manufacturers; changes in key suppliers; changes in certain strategic relationships or customer relationships; litigation or claims against the Company based on intellectual property, patent, product, regulatory or other factors; fluctuations in foreign currency exchange rates; risk associated with changes in government policies and regulations on trade restrictions and corporate taxes; availability of necessary components or sub-assemblies; availability of foundry capacity; ability to integrate acquired companies; and the Company's ability to attract and retain employees necessary to support its growth.

Foreign Currency

In general, the functional currency of the Company's international subsidiaries is the local currency. The primary subsidiaries are located in China, Taiwan and Europe, which utilize the Renminbi, the New Taiwan Dollar and the Euro as their currencies, respectively. Accordingly, assets and liabilities of the foreign subsidiaries are translated using exchange rates in effect at the end of the period. Revenue and costs are translated using average exchange rates for the period. The resulting translation adjustments are presented as a separate component of accumulated other comprehensive income (loss) in stockholders' equity in the Consolidated Balance Sheets. In addition, the Company incurs foreign currency exchange gain or loss related to certain intercompany transactions between the U.S. and its foreign subsidiaries that are denominated in a currency other than the functional currency. In connection with the settlement and remeasurement of the balances, the Company recorded foreign currency exchange gain (loss) of $1.0 million, $(0.6) million and $0.1 million for the years ended December 31, 2018, 2017 and 2016, respectively, which were reported in interest and other income, net, in the Consolidated Statements of Operations.

Cash and Cash Equivalents

The Company classifies all highly liquid investments with stated maturities of three months or less from date of purchase as cash equivalents.

Fair Value of Financial Instruments

Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

Level 1: Quoted prices (unadjusted) for identical assets or liabilities in active markets

Level 2: Inputs other than the quoted prices in active markets that are observable either directly or indirectly

Level 3: Significant unobservable inputs

The Company's financial instruments include cash and cash equivalents, and short-term and long-term investments. Cash equivalents are stated at cost, which approximates fair market value. The Company's short-term and long-term investments are classified as available-for-sale securities and are stated at their fair market value. Premiums and discounts are generally amortized or accreted over the life of the related available-for-sale securities. Interest income is recognized when earned.

The Company determines whether an impairment is temporary or other-than temporary. Unrealized gains or losses that are deemed to be temporary are recorded as a component of accumulated other comprehensive income (loss) in stockholders' equity in the Consolidated Balance Sheets, and changes in unrealized gains or losses are recorded in the Consolidated Statements of Comprehensive Income. The Company records an impairment charge in interest and other income, net, in the Consolidated Statements of Operations when an available-for-sale investment has experienced a decline in value that is deemed to be other-than-temporary. Other-than-temporary impairment exists when the Company either has the intent to sell the security, it will more likely than not be required to sell the security before anticipated recovery, or it does not expect to recover the entire amortized cost basis of the security.

As of December 31, 2018 and 2017, the fair value of the Company's holdings in auction-rate securities was $3.2 million and $5.3 million, respectively, all of which was classified as long-term available-for-sale investments. The

valuation of the auction-rate securities is subject to fluctuations in the future, which will depend on many factors, including the quality of the underlying collateral, estimated time to liquidity including potential to be called or restructured, underlying final maturity, insurance guaranty and market conditions, among others.

Inventories

Inventories are stated at the lower of standard cost (which approximates actual cost determined on a first-in first-out basis) and estimated net realizable value. The Company writes down excess and obsolete inventory based on its age and forecasted demand, which includes estimates taking into consideration the Company’s outlook on market and economic conditions, technology changes, new product introductions and changes in strategic direction. Actual demand may differ from forecasted demand, and such differences may have a material effect on recorded inventory values. When the Company records a write-down on inventory, it establishes a new, lower cost basis for that inventory, and subsequent changes in facts and circumstances will not result in the restoration or increase in that newly established cost basis.

Property and Equipment

Property and equipment are stated at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Buildings and building improvements have estimated useful lives of 20 to 40 years. Leasehold improvements are amortized over the shorter of the estimated useful lives or the lease period. Production equipment and software have estimated useful lives of three to eight years. Transportation equipment has estimated useful lives of 5 to 20 years. Furniture and fixtures have estimated useful lives of three to five years. Land is not depreciated.

Goodwill and Acquisition-Related Intangible Assets

Goodwill represents the excess of the fair value of purchase consideration over the fair value of net tangible and identified intangible assets as of the date of acquisition. Goodwill is not amortized. Acquisition-related intangible assets with finite lives consist of know-how and developed technologies. These assets are amortized on a straight-line basis over the estimated useful lives of three to five years and the amortization expense is recorded in cost of revenue in the Consolidated Statements of Operations.

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Impairment of Long-Lived Assets

The Company evaluates its long-lived assets other than goodwill for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. An impairment loss would be recognized when the sum of the undiscounted future net cash flows expected to result from the use of the asset and its eventual disposition is less than its carrying amount. Such impairment loss would be measured as the difference between the carrying amount of the asset and its fair value based on the present value of estimated future cash flows.

The Company tests goodwill for impairment at least annually in the fourth quarter of the year, or whenever events or changes in circumstances indicate that goodwill may be impaired. The Company has elected to first assess the qualitative factors to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. If the Company determines that it is more likely than not that its fair value is less than the carrying amount, then the two-step goodwill impairment test is performed. The first step compares the fair value of the reporting unit with its carrying amount. If the carrying amount exceeds its fair value, the second step measures the impairment loss by comparing the implied fair value of the goodwill with the carrying amount. No impairment of goodwill has been identified in any of the periods presented.

Deferred Compensation Plan

The Company has a non-qualified, unfunded deferred compensation plan, which provides certain key employees, including executive officers, with the ability to defer the receipt of compensation in order to accumulate funds for retirement on a tax deferred basis. The Company does not make contributions to the plan or guarantee returns on the investments. The Company is responsible for the plan’s administrative expenses. Participants’ deferrals and investment gains and losses remain as the Company’s liabilities and the underlying assets are subject to claims of general creditors.

The liabilities for compensation deferred under the plan are recorded at fair value in each reporting period. Changes in the fair value of the liabilities are included in operating expense in the Consolidated Statements of Operations. The Company manages the risk of changes in the fair value of the liabilities by electing to match the liabilities with investments in corporate-owned life insurance policies, mutual funds and money market funds that offset a substantial portion of the exposure. The investments are recorded at the cash surrender value of the corporate-owned life insurance policies, and at the fair value of the mutual funds and money market funds, which are classified as trading securities. Changes in the cash surrender value of the corporate-owned life insurance policies and the fair value of mutual fund and money market fund investments are included in interest and other income, net in the Consolidated Statements of Operations. The following table summarizes the deferred compensation plan balances in the Consolidated Balance Sheets (in thousands):

	December 31,	
	2018	2017
Deferred compensation plan asset components:		
Cash surrender value of corporate-owned life insurance policies	$13,103	$11,455
Fair value of mutual funds and money market funds	18,867	16,625
Total	$31,970	$28,080
Deferred compensation plan assets reported in:		
Other long-term assets	$31,970	$28,080
Deferred compensation plan liabilities reported in:		
Accrued compensation and related benefits (short-term)	$447	$356
Other long-term liabilities	32,283	28,087
Total	$32,730	$28,443

Revenue Recognition

The Company recognizes revenue when it transfers control of promised goods or services to its customers in an amount that reflects the consideration to which it expects to be entitled to in exchange for those goods or services. See Note 2 for further discussion.

Research and Development

Costs incurred in research and development are expensed as incurred.

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Warranty Reserve

The Company generally provides one to two-year warranties against defects in materials and workmanship and will either repair the products, provide replacements at no charge to customers or issue a refund. As they are considered assurance-type warranties, the Company does not account for them as separate performance obligations. Warranty reserve requirements are generally based on a specific assessment of the products sold with warranties when a customer asserts a claim for warranty or a product defect. See Note 13 for the changes in warranty reserves for the periods presented.

Stock-Based Compensation

The Company measures the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The fair value of restricted stock units (“RSUs”) with service conditions or performance conditions is based on the grant date share price. The fair value of shares issued under the employee stock purchase plan and RSUs with a purchase price feature is estimated using the Black-Scholes model. The fair value of RSUs with market conditions, as well as RSUs containing both market and performance conditions, is estimated using a Monte Carlo simulation model.

Compensation expense related to awards with service conditions is recorded on a straight-line basis over the requisite service period. Compensation expense related to awards subject to market or performance conditions is recognized over the requisite service period for each separately vesting tranche. For awards with only market conditions, compensation expense is not reversed if the market conditions are not satisfied. For awards with performance conditions, as well as awards containing both market and performance conditions, the Company recognizes compensation expense when the performance goals are achieved, or when it becomes probable that the performance goals will be achieved. Management performs the probability assessment on a quarterly basis by reviewing external factors, such as macroeconomic conditions and the analog industry revenue forecasts, and internal factors, such as the Company’s business and operational objectives and revenue forecasts. Changes in the probability assessment of achievement of the performance conditions are accounted for in the period of change by recording a cumulative catch-up adjustment as if the new estimate had been applied since the service inception date. Any previously recognized compensation expense is reversed if the performance conditions are not expected to be satisfied as a result of management’s assessment.

Prior to January 1, 2017, the Company recognized stock-based compensation expense less an estimate for forfeitures. Upon the adoption of Accounting Standards Update (“ASU”) No. 2016-09, *Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting,* on January 1, 2017, the Company elected to account for forfeitures when they occur.

Accounting for Income Taxes

The Company recognizes federal, state and foreign current tax liabilities or assets based on its estimate of taxes payable or refundable in the current fiscal year by tax jurisdiction. The Company also recognizes federal, state and foreign deferred tax assets or liabilities for its estimate of future tax effects attributable to temporary differences and carryforwards. The Company records a valuation allowance to reduce any deferred tax assets by the amount of any tax benefits that, based on available evidence and judgment, are not expected to be realized.

The Company's calculation of current and deferred tax assets and liabilities is based on certain estimates and judgments and involves dealing with uncertainties in the application of complex tax laws. The Company's estimates of current and deferred tax assets and liabilities may change based, in part, on added certainty, finality or uncertainty to an anticipated outcome, changes in accounting or tax laws in the U.S. or foreign jurisdictions where the Company operates, or changes in other facts or circumstances. In addition, the Company recognizes liabilities for potential U.S. and foreign income tax for uncertain income tax positions taken on its tax returns if it has less than a 50% likelihood of being sustained. If the Company determines that payment of these amounts is unnecessary or if the recorded tax liability is less than its current assessment, the Company may be required to recognize an income tax benefit or additional income tax expense in its financial statements in the period such determination is made. The Company has calculated its uncertain tax positions which were attributable to certain estimates and judgments primarily related to transfer pricing, cost sharing and its international tax structure exposure.

On December 22, 2017, the 2017 Tax Act was enacted, which significantly changed U.S. corporate income tax law. The 2017 Tax Act made the following material changes: (1) reduction of the corporate income tax rate effective January 1, 2018; (2) replacement of the worldwide tax system with a territorial tax regime, with a one-time mandatory tax on previously deferred foreign earnings; (3) amendment on the deductibility of executive performance-based compensation, and (4) creation of new taxes on certain foreign-sourced earnings. Income tax effects resulting from changes in tax laws are accounted for by the Company in the period in which the law is enacted. See Note 12 for further discussion.

Litigation and Contingencies

The Company is a party to actions and proceedings in the ordinary course of business, including potential litigation regarding its shareholders and its intellectual property, challenges to the enforceability or validity of its intellectual property, claims that the Company's products infringe on the intellectual property rights of others, and employment matters. The pending proceedings involve complex questions of fact and law and will require the expenditure of significant funds and the diversion of other resources to prosecute and defend. In addition, from time to time, the Company becomes aware that it is subject to other contingent liabilities. When this occurs, the Company will evaluate the appropriate accounting for the potential contingent liabilities to determine whether a contingent liability should be recorded. In making this determination, management may, depending on the nature of the matter, consult with internal and external legal counsel and technical experts. Based on the facts and circumstances in each matter, the Company uses its judgment to determine whether it is probable that a contingent loss has occurred and whether the amount of such loss can be estimated. If the Company determines a loss is probable and estimable, the Company records a

contingent loss. In determining the amount of a contingent loss, the Company takes into account advice received from experts for each specific matter regarding the status of legal proceedings, settlement negotiations, prior case history and other factors. Should the judgments and estimates made by management need to be adjusted as additional information becomes available, the Company may need to record additional contingent losses. Alternatively, if the judgments and estimates made by management are adjusted, for example, if a particular contingent loss does not occur, the contingent loss recorded would be reversed.

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Litigation expense (benefit), net recorded in the Consolidated Statements of Operations includes primarily patent infringement litigation and other business matters. The Company records litigation costs in the period in which they are incurred. Proceeds resulting from settlement of litigation or favorable judgments are recorded as a reduction against litigation expense.

Net Income per Share

Basic net income per share is computed by dividing net income by the weighted-average number of common shares outstanding for the period. Diluted net income per share reflects the potential dilution that would occur if outstanding securities or other contracts to issue common stock were exercised or converted into common shares, and calculated using the treasury stock method. Contingently issuable shares, including equity awards with performance conditions or market conditions, are considered outstanding common shares and included in the basic net income per share as of the date that all necessary conditions to earn the awards have been satisfied. Prior to the end of the contingency period, the number of contingently issuable shares included in the diluted net income per share is based on the number of shares, if any, that would be issuable under the terms of the arrangement at the end of the reporting period.

The Company's outstanding RSUs contain forfeitable rights to receive cash dividend equivalents, which are accumulated and paid to the employees when the underlying RSUs vest. Dividend equivalents accumulated on the underlying RSUs are forfeited if the employees do not fulfill their service requirement and the awards do not vest. Accordingly, these awards are not treated as participating securities in the net income per share calculation.

Comprehensive Income

Comprehensive income represents the change in the Company's net assets during the period from non-owner sources. Accumulated other comprehensive income (loss) presented in the Consolidated Balance Sheets primarily consists of unrealized gains or losses related to available-for-sale investments and foreign currency translation adjustments.

Recently Adopted Accounting Pronouncements

Revenue Recognition:

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606),* which outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers. The standard's core principle is that an entity will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Company adopted the standard on January 1, 2018 using the modified retrospective method applied to those contracts which were not completed as of December 31, 2017. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior-period amounts have not been retrospectively adjusted and continue to be reported in accordance with Topic 605, *Revenue Recognition*.

The Company recorded a net increase to the opening balance of retained earnings of $0.4 million, net of tax, as of January 1, 2018 due to the cumulative effect of initially applying Topic 606, primarily related to the change in revenue recognition for three U.S.-based distributors. Sales to these distributors are transacted under the terms of agreements providing price adjustment rights. Prior to the adoption of Topic 606, revenue and costs related to these sales were deferred until the Company received notification from the distributors that the products had been sold to the end customers and the amount of price adjustments was fixed and finalized. Upon adoption of Topic 606, the transaction price takes into consideration the effect of variable consideration such as price adjustments, which are estimated and recorded at the time the promised goods are transferred to the distributors. Accordingly, effective January 1, 2018, the Company recognizes revenue at the time of shipment to these distributors when all revenue recognition criteria have been met, adjusted for an estimate of the price adjustments based on management's review of historical data and other information available at the time. See Note 2 for further discussion.

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Other:

In August 2018, the SEC issued Final Rule Release No. 33-10532, *Disclosure Update and Simplification,* which amends certain disclosure requirements, including the presentation of changes in stockholders' equity and the dividend per share for interim periods, as well as the elimination of certain disclosures for annual periods. The Company adopted the provisions of the release on November 5, 2018.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows - Restricted Cash (Topic 230),* which requires entities to show the changes in the total of cash, cash equivalents and restricted cash in the Consolidated Statements of Cash Flows. The Company adopted the standard on January 1, 2018 and applied the guidance retrospectively to all periods presented. See Note 3 for further discussion.

Recent Accounting Pronouncements Not Yet Adopted as of December 31, 2018

Leases:

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842),* which requires entities to recognize right-of-use ("ROU") assets and lease liabilities on the balance sheets for leases with terms greater than 12 months. In addition, the standard applies to leases embedded in service or other arrangements. The Company will adopt the standard on January 1, 2019 using the modified retrospective method and will not restate comparative periods, as permitted by the standard. In addition, the Company will elect the transition practical expedients to not reassess whether its existing contracts contain or are leases, classification of its existing leases and lease terms.

Upon adoption, the Company will record ROU assets and lease liabilities of approximately $2.0 million to $3.0 million, which represent the present value of the remaining minimum rental payments for its outstanding leases as of January 1, 2019, primarily related to real estate. The adoption will not have a material impact on the Consolidated Statements of Operations, as the Company will continue to recognize lease expenses on a straight-line basis over the lease terms.

Other:

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement,* which changes certain disclosure requirements, including those related to Level 3 fair value measurements. The standard will be effective for annual reporting periods beginning after December 15, 2019. Early adoption is permitted. The Company is evaluating the impact of the adoption on its disclosures.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles – Goodwill and Other (Topic 350),* which simplifies the accounting for goodwill impairment. The guidance removes step two of the goodwill impairment test, which requires a hypothetical purchase price allocation. A goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. Entities will continue to have the option to perform a qualitative assessment to determine if a quantitative impairment test is necessary. The standard will be applied prospectively, and will be effective for annual reporting periods beginning after December 15, 2019. Early adoption is permitted. The Company is evaluating the impact of the adoption on its annual goodwill impairment test.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments – Credit Losses (Topic 326),* which introduces a model based on expected losses to estimate credit losses for most financial assets and certain other instruments. In addition, for available-for-sale debt securities with unrealized losses, the losses will be recognized as allowances rather than reductions in the amortized cost of the securities. The standard will be effective for annual reporting periods beginning after December 15, 2019, with early adoption permitted for annual reporting periods beginning after December 15, 2018. Entities will apply the standard by recording a cumulative-effect adjustment to retained earnings. The Company is evaluating the impact of the adoption on its consolidated financial position, results of operations, cash flows and disclosures.

2. REVENUE RECOGNITION

Revenue from Product Sales

The Company generates revenue primarily from product sales, which include assembled and tested integrated circuits, as well as dies in wafer form. These product sales were 98%, 98% and 99% of the Company's total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. The remaining revenue primarily includes royalty revenue from licensing arrangements and revenue from wafer testing services performed for third parties, which have not been significant in all periods presented. See Note 17 for the disaggregation of the Company's revenue by geographic regions and by product families.

The Company sells its products primarily through third-party distributors, value-added resellers, original equipment manufacturers, original design manufacturers and electronic manufacturing service providers. For the years ended December 31, 2018, 2017 and 2016, 87%, 88% and 88%, respectively, of the Company's sales were made through

distribution arrangements. These distribution arrangements contain enforceable rights and obligations specific to those distributors and not the end customers. Purchase orders, which are generally governed by sales agreements or the Company's standard terms of sale, set the final terms for unit price, quantity, shipping and payment agreed by both parties. The Company considers purchase orders to be the contracts with customers. The unit price as stated on the purchase orders is considered the observable, stand-alone selling price for the arrangements.

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The Company recognizes revenue when it satisfies a performance obligation by transferring control of the promised goods or services to its customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. The Company excludes taxes assessed by government authorities, such as sales taxes, from revenue.

Product sales consist of a single performance obligation that the Company satisfies at a point in time. The Company recognizes product revenue from distributors and direct end customers when the following events have occurred: (a) the Company has transferred physical possession of the products, (b) the Company has a present right to payment, (c) the customer has legal title to the products, and (d) the customer bears significant risks and rewards of ownership of the products. In accordance with the shipping terms specified in the contracts, these criteria are generally met when the products are shipped from the Company's facilities (such as the "Ex Works" shipping term) or delivered to the customers' locations (such as the "Delivered Duty Paid" shipping term).

Under certain consignment agreements, revenue is not recognized when the products are shipped and delivered to be held at customers' designated locations because the Company continues to control the products and retain ownership, and the customers do not have an unconditional obligation to pay. The Company recognizes revenue when the customers pull the products from the locations or, in some cases, after a 60-day period from the delivery date has passed, at which time control transfers to the customers and the Company invoices them for payment.

Variable Consideration

The Company accounts for price adjustment and stock rotation rights as variable consideration that reduces the transaction price, and recognizes that reduction in the same period the associated revenue is recognized. Three U.S.-based distributors have price adjustment rights when they sell the Company's products to their end customers at a price that is lower than the distribution price invoiced by the Company. When the Company receives claims from the distributors that products have been sold to the end customers at the lower price, the Company issues the distributors credit memos for the price adjustments. The Company estimates the price adjustments based on an analysis of historical claims, at both the distributor and product level, as well as an assessment of any known trends of product sales mix. Other U.S. distributors and non-U.S. distributors, which make up the majority of the Company's total sales to distributors, do not have price adjustment rights.

In addition, certain distributors have limited stock rotation rights that permit the return of a small percentage of the previous six months' purchases in accordance with the contract terms. The Company estimates the stock rotation returns based on an analysis of historical returns, and the current level of inventory in the distribution channel. The Company recognizes an asset for product returns which represents the right to recover products from the customers related to stock rotations, with a corresponding reduction to cost of revenue.

Contract Balances

The Company records a receivable when it has an unconditional right to receive consideration after the performance obligations are satisfied. As of December 31, 2018 and 2017, accounts receivable totaled $55.2 million and $38.0 million, respectively. The Company did not record any allowance for doubtful accounts as of December 31, 2018 and 2017.

For certain customers located in Asia, the Company requires cash payments two weeks before the products are scheduled to be shipped to the customers. The Company records these payments received in advance of performance as customer prepayments within current accrued liabilities. As of December 31, 2018 and 2017, customer prepayments totaled $2.5 million and $4.7 million, respectively. The decrease in the customer prepayment balance for the year ended December 31, 2018 resulted from a decrease in unfulfilled customer orders for which the Company has received payments. For the year ended December 31, 2018, the Company recognized $4.7 million of revenue that was included in the customer prepayment balance as of December 31, 2017.

Contract Costs

The Company pays sales commissions based on the achievement of pre-determined product sales targets. As the Company recognizes product sales at a point in time, sales commissions are expensed as incurred.

Practical Expedients

The Company’s standard payment terms generally require customers to pay 30 to 60 days after the Company satisfies the performance obligations. For those customers who are required to pay in advance, the Company satisfies the performance obligations typically within one quarter. The Company has elected not to determine whether contacts with customers contain significant financing components.

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As of December 31, 2018, the Company’s unsatisfied performance obligations primarily included products held in consignment arrangements and customer purchase orders for products that the Company has not yet shipped. Because the Company expects to fulfill these performance obligations within one year, the Company has elected not to disclose the amount of these remaining performance obligations or the timing of recognition.

Changes to Financial Statement Line Items

The following tables compare the impact on the financial statement line items between the application of Topic 606 and Topic 605, as of December 31, 2018, and for the year ended December 31, 2018. The significant changes between the two standards are primarily attributable to the following:

Under Topic 606, the Company recognizes revenue for three U.S.-based distributors upon shipment of the products to them, net of an estimated amount for price adjustments. Under Topic 605, the Company would have deferred the recognition of revenue and related costs for these U.S. distributors until the Company received notification from the distributors that the products had been sold to the end customers and the amount of price adjustments was fixed and finalized.

Under Topic 606, the Company records assets for product returns within other current assets, which primarily represent the carrying value of inventory it expects to recover from customers related to stock rotation returns. Under Topic 605, such amounts would have been netted against the stock rotation reserve within current accrued liabilities.

Under Topic 606, the Company recorded a cumulative effect of initially applying the standard to retained earnings. Under Topic 605, the Company would not have recorded this adjustment.

Consolidated Balance Sheet (in thousands):

	December 31, 2018		
Line Item	**Topic 606 (As Reported)**	**Topic 605**	**Change**
Assets:			
Accounts receivable, net	$55,214	$56,502	$(1,288)
Inventories	$136,384	$136,526	$(142)
Other current assets	$11,931	$10,329	$1,602
Total current assets	$580,810	$580,638	$172
Deferred tax assets, net	$16,830	$16,931	$(101)
Total assets	$793,432	$793,361	$71

Liabilities and Stockholders' Equity:			
Accrued liabilities	$38,962	$39,103	$(141)
Total current liabilities	$80,439	$80,580	$(141)
Total liabilities	$153,339	$153,480	$(141)
Retained earnings	$194,728	$194,516	$212
Total stockholders' equity	$640,093	$639,881	$212
Total liabilities and stockholders' equity	$793,432	$793,361	$71

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Consolidated Statement of Operations (in thousands, except per-share amounts):

Line Item	Year Ended December 31, 2018 Topic 606 (As Reported)	Topic 605	Change
Revenue	$582,382	$582,601	$ (219)
Cost of revenue	$259,714	$259,722	$ (8)
Gross profit	$322,668	$322,879	$ (211)
Income from operations	$113,488	$113,699	$ (211)
Income before income taxes	$118,482	$118,693	$ (211)
Income tax provision	$13,214	$13,258	$ (44)
Net income	$105,268	$105,435	$ (167)
Net income per share - basic	$2.49	$2.50	$ (0.01)

Consolidated Statement of Comprehensive Income (in thousands):

Line Item	Year Ended December 31, 2018 Topic 606 (As Reported)	Topic 605	Change
Net income	$105,268	$105,435	$ (167)
Comprehensive income	$97,912	$98,079	$ (167)

Consolidated Statement of Cash Flows (in thousands):

Line Item	Year Ended December 31, 2018 Topic 606 (As Reported)	Topic 605	Change
Cash flows from operating activities:			
Net income	$105,268	$105,435	$(167)
Changes in operating assets and liabilities:			
Accounts receivable	$(18,079)	$(18,465)	$386

Inventories	$(37,060)	$(37,202)	$142
Other assets	$(1,075)	$435	$(1,510)
Accrued liabilities	$7,092	$5,899	$1,193
Income tax liabilities	$6,923	$6,967	$(44)

3. CASH, CASH EQUIVALENTS, INVESTMENTS AND RESTRICTED CASH

The following is a summary of the Company's cash, cash equivalents and short-term and long-term investments (in thousands):

	December 31,	
	2018	2017
Cash, cash equivalents and investments:		
Cash	$131,569	$75,125
Money market funds	41,135	7,134
Corporate debt securities	170,909	203,807
U.S. treasuries and government agency bonds	32,068	13,024
Certificates of deposit	1,600	-
Auction-rate securities backed by student-loan notes	3,241	5,256
Total	$380,522	$304,346

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	December 31,	
	2018	2017
Reported as:		
Cash and cash equivalents	$172,704	$82,759
Short-term investments	204,577	216,331
Long-term investments	3,241	5,256
Total	$380,522	$304,346

The contractual maturities of the Company's short-term and long-term available-for-sale investments are as follows (in thousands):

	December 31,	
	2018	2017
Due in less than 1 year	$125,845	$89,399
Due in 1 - 5 years	78,732	126,932
Due in greater than 5 years	3,241	5,256
Total	$207,818	$221,587

The following tables summarize the unrealized gain and loss positions related to the Company's available-for sale investments (in thousands):

	December 31, 2018				
	Amortized Cost	Unrealized Gains	Unrealized Losses	Total Fair Value	Fair Value of Investments in Unrealized Loss Position
Money market funds	$41,135	$ -	$ -	$41,135	$ -
Corporate debt securities	172,288	7	(1,386)	170,909	166,204
U.S. treasuries and government agency bonds	32,207	2	(141)	32,068	28,507
Certificates of deposit	1,600	-	-	1,600	-
Auction-rate securities backed by student-loan notes	3,570	-	(329)	3,241	3,241
Total	$250,800	$ 9	$ (1,856)	$248,953	$ 197,952

	December 31, 2017				
	Amortized Cost	Unrealized Gains	Unrealized Losses	Total Fair Value	Fair Value of Investments in

					Unrealized Loss Position
Money market funds	$7,134	$ -	$ -	$7,134	$ -
Corporate debt securities	204,789	17	(999)	203,807	197,564
U.S. treasuries and government agency bonds	13,092	-	(68)	13,024	13,024
Auction-rate securities backed by student-loan notes	5,570	-	(314)	5,256	5,256
Total	$230,585	$ 17	$ (1,381)	$229,221	$ 215,844

The Company sold one auction-rate security of $2.0 million at par for the year ended December 31, 2018. There were no sales of auction-rate securities for the years ended December 31, 2017 and 2016. The underlying maturities of the remaining auction-rate securities are up to 28 years. As of both December 31, 2018 and 2017, the impairment of $0.3 million was determined to be temporary because management possesses both the intent and ability to hold these securities for a period of time sufficient to allow for any anticipated recovery in fair value. In addition, management believes that it is more likely than not that the Company will not have to sell these securities before recovery of its cost basis. To date, the Company has redeemed 92% of the original portfolio in these securities, or $39.7 million, at par without any realized losses.

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Restricted Cash

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported in the Consolidated Balance Sheets to the amounts reported in the Consolidated Statements of Cash Flows:

	December 31,	
	2018	**2017**
Cash and cash equivalents	$172,704	$82,759
Restricted cash included in other long-term assets	114	115
Total cash, cash equivalents and restricted cash reported in the Consolidated Statements of Cash Flows	$172,818	$82,874

Restricted cash includes a security deposit that is set aside in a bank account and cannot be withdrawn by the Company under the terms of a lease agreement. The restriction will end and any unused amount will be returned to the Company upon the expiration of the lease.

4. FAIR VALUE MEASUREMENT

The following table details the fair value measurement of the financial assets (in thousands):

	Fair Value Measurement at December 31, 2018			
	Total	**Level 1**	**Level 2**	**Level 3**
Money market funds	$41,135	$41,135	$-	$-
Corporate debt securities	170,909	-	170,909	-
U.S. treasuries and government agency bonds	32,068	-	32,068	-
Certificates of deposit	1,600		1,600	
Auction-rate securities backed by student-loan notes	3,241	-	-	3,241
Mutual funds and money market funds under deferred compensation plan	18,867	18,867	-	-
Total	$267,820	$60,002	$204,577	$3,241

	Fair Value Measurement at December 31, 2017		
	Total	**Level 1**	**Level 2**

				Level 3
Money market funds	$7,134	$7,134	$-	$-
Corporate debt securities	203,807	-	203,807	-
U.S. treasuries and government agency bonds	13,024	-	13,024	-
Auction-rate securities backed by student-loan notes	5,256	-	-	5,256
Mutual funds and money market funds under deferred compensation plan	16,625	16,625	-	-
Total	$245,846	$23,759	$216,831	$5,256

Level 1—includes instruments with quoted prices in active markets for identical assets.
Level 2—includes instruments for which the valuations are based upon quoted market prices in active markets involving similar assets or inputs other than quoted prices that are observable for the assets. The market inputs used to value these instruments generally consist of market yields, recently executed transactions, broker/dealer quotes or alternative pricing sources with reasonable levels of price transparency. Pricing sources may include industry standard data providers, security master files from large financial institutions, and other third-party sources used to determine a daily market value.
Level 3—includes instruments for which the valuations are based on inputs that are unobservable and significant to the overall fair value measurement.

The Company's level 3 assets consist of government-backed student loan auction-rate securities. The following table provides a rollforward of the fair value of the auction-rate securities (in thousands):

Balance at January 1, 2017	$5,354
Change in unrealized loss included in other comprehensive loss	(98)
Balance at December 31, 2017	5,256
Sale and settlement at par	(2,000)
Change in unrealized loss included in other comprehensive loss	(15)
Balance at December 31, 2018	$3,241

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The Company determined the fair value of the auction-rate securities using a discounted cash flow model with the following assumptions:

	December 31,	
	2018	**2017**
Time-to-liquidity (years)	2 - 3	2 - 3
Discount rate	4.9% - 10.1%	4.5% - 9.6%

5. BALANCE SHEET COMPONENTS

Inventories

Inventories consist of the following (in thousands):

	December 31,	
	2018	**2017**
Raw materials	$43,017	$20,573
Work in process	38,674	40,030
Finished goods	54,693	38,678
Total	$136,384	$99,281

Other Current Assets

Other current assets consist of the following (in thousands):

	December 31,	
	2018	**2017**
Prepaid wafer purchase (1)	$-	$6,217
Prepaid wafer refund receivable (1)	4,297	-
Other prepaid expense	3,425	2,742

Assets for product returns (2)	1,602	-
Interest receivable	1,441	1,352
Value-added tax receivable	423	1,235
Other	743	1,216
Total	$11,931	$12,762

(1) In December 2018, a supplier terminated a prepaid wafer purchase agreement with the Company and agreed to refund the Company the remaining wafer purchase prepayment of $4.3 million, which was recorded as a receivable as of December 31, 2018.

(2) Under Topic 606, “assets for product returns” primarily represent the carrying value of inventory the Company expects to recover from customers related to stock rotation returns. Prior to the adoption of Topic 606, such amounts were netted against the stock rotation reserve within current accrued liabilities.

Property and Equipment, Net

Property and equipment, net, consist of the following (in thousands):

	December 31,	
	2018	**2017**
Production equipment and software	$120,645	$110,971
Buildings and improvements	100,135	100,990
Land	16,724	16,883
Transportation equipment	12,948	11,443
Leasehold improvements	4,755	3,321
Furniture and fixtures	4,341	3,641
Property and equipment, gross	259,548	247,249
Less: accumulated depreciation and amortization	(109,547)	(102,613)
Total	$150,001	$144,636

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Depreciation and amortization expense was $11.4 million, $14.0 million and $12.6 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Other Long-Term Assets

Other long-term assets consist of the following (in thousands):

	December 31,	
	2018	**2017**
Deferred compensation plan assets	$31,970	$28,080
Prepaid expense	2,713	897
Other	1,185	1,091
Total	$35,868	$30,068

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	December 31,	
	2018	**2017**
Dividends and dividend equivalents	$15,044	$9,248
Income tax payable	7,018	2,861
Stock rotation and sales returns	5,363	2,647
Warranty	4,564	2,416
Customer prepayments	2,520	4,742
Commissions	1,369	938
Sales rebate	236	1,036
Deferred income	-	1,845
Other	2,848	1,774
Total	$38,962	$27,507

Other Long-Term Liabilities

Other long-term liabilities consist of the following (in thousands):

	December 31,	
	2018	2017
Deferred compensation plan liabilities	$32,283	$28,087
Dividend equivalents	6,145	4,881
Other	97	56
Total	$38,525	$33,024

6. GOODWILL AND ACQUISITION-RELATED INTANGIBLE ASSETS, NET

There have been no changes in the goodwill balance for the years ended December 31, 2018 and 2017.

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Acquisition-related intangible assets consist of the following (in thousands):

	December 31, 2018		
	Gross Amount	Accumulated Amortization	Net Amount
Know-how	$1,018	$ (907)	$ 111
Developed technologies	6,466	(6,466)	-
Total	$7,484	$ (7,373)	$ 111

	December 31, 2017		
	Gross Amount	Accumulated Amortization	Net Amount
Know-how	$1,018	$ (704)	$ 314
Developed technologies	6,466	(5,829)	637
Total	$7,484	$ (6,533)	$ 951

Amortization expense is recorded in cost of revenue in the Consolidated Statements of Operations and totaled $0.8 million, $2.1 million and $2.1 million for the years ended December 31, 2018, 2017 and 2016, respectively.

As of December 31, 2018, the remaining intangible asset balance of $0.1 million will be fully amortized in 2019.

7. STOCK-BASED COMPENSATION

2014 Equity Incentive Plan (the "2014 Plan")

The Board of Directors adopted the 2014 Plan in April 2013, and the stockholders approved it in June 2013. In October 2014, the Board of Directors approved certain amendments to the 2014 Plan. The 2014 Plan, as amended, became effective on November 13, 2014 and provides for the issuance of up to 5.5 million shares. The 2014 Plan will expire on November 13, 2024. As of December 31, 2018, 2.0 million shares remained available for future issuance under the 2014 Plan.

Stock-Based Compensation Expense

The Company recognized stock-based compensation expense as follows (in thousands):

	Year Ended December 31,		
	2018	**2017**	**2016**
Cost of revenue	$1,888	$1,654	$1,575
Research and development	15,990	14,816	14,041
Selling, general and administrative	42,729	36,147	29,373
Total stock-based compensation expense	$60,607	$52,617	$44,989
Tax benefit related to stock-based compensation	$4,383	$5,054	$-

In the first quarter of 2016, the Company's former Chief Financial Officer retired. As the service or performance conditions for her outstanding RSUs had not been satisfied at the time of her departure, the Company reversed previously accrued stock-based compensation expenses of $2.9 million associated with the unvested RSUs and this credit was reflected in selling, general and administrative expenses for the year ended December 31, 2016.

RSUs

The Company's RSUs include time-based RSUs, RSUs with performance conditions ("PSUs"), RSUs with market conditions ("MSUs"), and RSUs with both market and performance conditions ("MPSUs"). Vesting of awards with performance conditions or market conditions is subject to the achievement of pre-determined performance goals and the approval of such achievement by the Compensation Committee of the Board of Directors (the "Compensation Committee"). All awards include service conditions which require continued employment with the Company.

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A summary of RSU activity is presented in the table below (in thousands, except per-share amounts):

	Time-Based RSUs		PSUs and MPSUs		MSUs		Total	
	Number of Shares	Weighted-Average Grant Date Fair Value Per Share	Number of Shares	Weighted-Average Grant Date Fair Value Per Share	Number of Shares	Weighted-Average Grant Date Fair Value Per Share	Number of Shares	Weighted-Average Grant Date Fair Value Per Share
Outstanding at January 1, 2016	499	$ 40.75	1,933	$ 38.99	1,800	$ 23.57	4,232	$ 32.64
Granted	133	$ 63.00	1,216 (1)	$ 41.12	-	$ -	1,349	$ 43.28
Vested	(239)	$ 36.43	(736)	$ 29.71	-	$ -	(975)	$ 31.36
Forfeited	(27)	$ 45.35	(129)	$ 36.82	(180)	$ 23.57	(336)	$ 30.38
Outstanding at December 31, 2016	366	$ 51.35	2,284	$ 43.24	1,620	$ 23.57	4,270	$ 36.47
Granted	81	$ 94.25	585 (1)	$ 62.72	-	$ -	666	$ 66.56
Vested	(175)	$ 48.35	(597)	$ 41.94	-	$ -	(772)	$ 43.39
Forfeited	(14)	$ 61.80	(6)	$ 49.82	-	$ -	(20)	$ 58.46
Outstanding at December 31, 2017	258	$ 66.30	2,266	$ 48.59	1,620	$ 23.57	4,144	$ 39.91
Granted	133	$ 114.36	630 (1)	$ 85.06	600	$ 68.48	1,363	$ 80.62
Vested	(136)	$ 60.23	(717)	$ 41.08	-	$ -	(853)	$ 44.13
Forfeited	(15)	$ 82.20	(5)	$ 63.16	(1)	$ 68.48	(21)	$ 76.92
Outstanding at December 31, 2018	240	$ 95.38	2,174	$ 61.61	2,219	$ 35.69	4,633	$ 50.94

(1) Amount reflects the number of PSUs and MPSUs that may ultimately be earned based on management's probability assessment of the achievement of performance conditions at each reporting period. In addition, MPSUs are subject to the achievement of market conditions.

The intrinsic value related to vested RSUs was $90.0 million, $74.0 million and $62.9 million for the years ended December 31, 2018, 2017 and 2016, respectively. As of December 31, 2018, the total intrinsic value of all outstanding RSUs was $494.0 million, based on the closing stock price of $116.25. As of December 31, 2018, unamortized compensation expense related to all outstanding RSUs was $124.5 million with a weighted-average remaining recognition period of approximately 3.5 years.

Cash proceeds from vested PSUs with a purchase price totaled $10.6 million for the year ended December 31, 2018. There were no proceeds for the years ended December 31, 2017 and 2016.

Time-Based RSUs

For the years ended December 31, 2018, 2017 and 2016, the Compensation Committee granted 133,000, 81,000 and 133,000 RSUs, respectively, with service conditions to non-executive employees and non-employee directors. The RSUs vest over four years for employees and one year for directors, subject to continued service with the Company.

PSUs and MPSUs

2019 PSUs:

In October 2018, the Compensation Committee granted 53,000 PSUs to certain non-executive employees, which represent a target number of shares to be earned based on the Company's 2020 revenue goals for certain regions or product line divisions, or based on the Company's average two-year (2019 and 2020) revenue growth rate compared against the analog industry's average two-year revenue growth rate as published by the Semiconductor Industry Association ("2019 Non-Executive PSUs"). The maximum number of shares that an employee can earn is either 200% or 300% of the target number of the 2019 Non-Executive PSUs, depending on the job classification of the employee. 50% of the 2019 Non-Executive PSUs will vest in the first quarter of 2021 if the pre-determined performance goals are met during the performance period. The remaining 2019 Non-Executive PSUs will vest over the following two years on an annual or quarterly basis. Assuming the achievement of the highest level of performance goals, the total stock-based compensation cost for the 2019 Non-Executive PSUs is $10.9 million.

The 2019 Non-Executive PSUs contain a purchase price feature, which requires the employees to pay the Company $30 per share upon vesting of the shares. Shares that do not vest will not be subject to the purchase price payment. The Company determined the grant date fair value of the 2019 Non-Executive PSUs using the Black-Scholes model with the following assumptions: stock price of $108.43, expected term of 2.9 years, expected volatility of 28.7% and risk-free interest rate of 2.9%.

2018 PSUs:

In February 2018, the Compensation Committee granted 188,000 PSUs to the executive officers, which represent a target number of shares to be earned based on the Company's average two-year (2018 and 2019) revenue growth rate compared against the analog industry's average two-year revenue growth rate as published by the Semiconductor Industry Association ("2018 Executive PSUs"). The maximum number of shares that an executive officer can earn is 300% of the target number of the 2018 Executive PSUs. 50% of the 2018 Executive PSUs will vest in the first quarter of 2020 if the pre-determined performance goals are met during the performance period. The remaining 2018 Executive PSUs will vest over the following two years on a quarterly basis. Assuming the achievement of the highest level of performance goals, the total stock-based compensation cost for the 2018 Executive PSUs is $46.1 million.

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In February 2018, the Compensation Committee granted 44,000 PSUs to certain non-executive employees, which represent a target number of shares to be earned based on the Company's 2019 revenue goals for certain regions or product line divisions, or based on the Company's average two-year (2018 and 2019) revenue growth rate compared against the analog industry's average two-year revenue growth rate as published by the Semiconductor Industry Association ("2018 Non-Executive PSUs"). The maximum number of shares that an employee can earn is either 200% or 300% of the target number of the 2018 Non-Executive PSUs, depending on the job classification of the employee. 50% of the 2018 Non-Executive PSUs will vest in the first quarter of 2020 if the pre-determined performance goals are met during the performance period. The remaining 2018 Non-Executive PSUs will vest over the following two years on an annual or quarterly basis. Assuming the achievement of the highest level of performance goals, the total stock-based compensation cost for the 2018 Non-Executive PSUs, excluding cancelled shares for the terminated employees, is $8.8 million.

The 2018 Executive PSUs and the 2018 Non-Executive PSUs contain a purchase price feature, which requires the employees to pay the Company $30 per share upon vesting of the shares. Shares that do not vest will not be subject to the purchase price payment. The Company determined the grant date fair value of the 2018 Executive PSUs and the 2018 Non-Executive PSUs using the Black-Scholes model with the following assumptions: stock price of $110.00, expected term of 2.6 years, expected volatility of 27.5% and risk-free interest rate of 2.3%.

2017 PSUs:

In February 2017, the Compensation Committee granted 200,000 PSUs to the executive officers, which represented a target number of shares that would be earned based on the Company's average two-year (2017 and 2018) revenue growth rate compared against the analog industry's average two-year revenue growth rate as published by the Semiconductor Industry Association ("2017 Executive PSUs"). The maximum number of shares that an executive officer could earn was 300% of the target number of the 2017 Executive PSUs. In February 2019, the Compensation Committee approved the revenue achievement for the 2017 Executive PSUs and a total of 521,000 shares were earned by the executive officers. 50% of the 2017 Executive PSUs vested in the first quarter of 2019. The remaining 2017 Executive PSUs vest over the following two years on a quarterly basis. Based on the actual achievement of the performance goals, the total stock-based compensation cost for the 2017 Executive PSUs is $31.5 million.

In February 2017, the Compensation Committee granted 48,000 PSUs to certain non-executive employees, which represented a target number of shares that would be earned based on the Company's 2018 revenue goals for certain regions or product line divisions, or based on the Company's average two-year (2017 and 2018) revenue growth rate compared against the analog industry's average two-year revenue growth rate as published by the Semiconductor Industry Association ("2017 Non-Executive PSUs"). The maximum number of shares that an employee could earn was either 200% or 300% of the target number of the 2017 Non-Executive PSUs, depending on the job classification of the employee. In February 2019, the Compensation Committee approved the revenue achievement for the 2017 Non-Executive PSUs and a total of 101,000 shares were earned by the employees. 50% of the 2017 Non-Executive PSUs vested in the first quarter of 2019. The remaining 2017 Non-Executive PSUs vest over the following two years on an annual or quarterly basis. Based on the actual achievement of the performance goals, the

total stock-based compensation cost for the 2017 Non-Executive PSUs, excluding cancelled shares for the terminated employees, is $6.1 million.

The 2017 Executive PSUs and the 2017 Non-Executive PSUs contain a purchase price feature, which requires the employees to pay the Company $30 per share upon vesting of the shares. Shares that do not vest will not be subject to the purchase price payment. The Company determined the grant date fair value of the 2017 Executive PSUs and the 2017 Non-Executive PSUs using the Black-Scholes model with the following assumptions: stock price of $89.37, expected term of 2.6 years, expected volatility of 28.6% and risk-free interest rate of 1.3%.

2016 PSUs:

In February 2016, the Compensation Committee granted 285,000 PSUs to the executive officers, and in July 2016, the Compensation Committee granted 12,000 PSUs to the Company’s new Chief Financial Officer, which represented a target number of shares that would be earned based on the Company’s average two-year (2016 and 2017) revenue growth rate compared against the analog industry’s average two-year revenue growth rate as published by the Semiconductor Industry Association (“2016 Executive PSUs”). The maximum number of shares that an executive officer could earn was 300% of the target number of the 2016 Executive PSUs. In February 2018, the Compensation Committee approved the revenue achievement for the 2016 Executive PSUs and a total of 651,000 shares were earned by the executive officers. 50% of the 2016 Executive PSUs vested in the first quarter of 2018. The remaining 2016 Executive PSUs vest over the following two years on a quarterly basis. Based on the actual achievement of the performance goals, the total stock-based compensation cost for the 2016 Executive PSUs, excluding cancelled shares for the Company’s former Chief Financial Officer, is $26.1 million.

In February 2016, the Compensation Committee granted 64,000 PSUs to certain non-executive employees, which represented a target number of shares that would be earned based on the Company’s 2017 revenue goals for certain regions or product line divisions, or based on the Company’s average two-year (2016 and 2017) revenue growth rate compared against the analog industry’s average two-year revenue growth rate as published by the Semiconductor Industry Association (“2016 Non-Executive PSUs”). The maximum number of shares that an employee could earn was either 200% or 300% of the target number of the 2016 Non-Executive PSUs, depending on the job classification of the employee. In February 2018, the Compensation Committee approved the revenue achievement for the 2016 Non-Executive PSUs and a total of 128,000 shares were earned by the employees. 50% of the 2016 Non-Executive PSUs vested in the first quarter of 2018. The remaining 2016 Non-Executive PSUs vest over the following two years on an annual or quarterly basis. Based on the actual achievement of the performance goals, the total stock-based compensation cost for the 2016 Non-Executive PSUs, excluding cancelled shares for the terminated employees, is $5.1 million.

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The 2016 Executive PSUs and the 2016 Non-Executive PSUs contain a purchase price feature, which requires the employees to pay the Company $20 per share upon vesting of the shares. Shares that do not vest will not be subject to the purchase price payment. The Company determined the grant date fair value of the 2016 Executive PSUs and the 2016 Non-Executive PSUs granted in February 2016 using the Black-Scholes model with the following assumptions: stock price of $58.98, expected term of 2.6 years, expected volatility of 31.1% and risk-free interest rate of 0.9%. For the 2016 Executive PSUs granted in July 2016, the Company used the following assumptions: stock price of $70.98, expected term of 2.3 years, expected volatility of 29.6% and risk-free interest rate of 0.7%.

2015 PSUs:

In February 2015, the Compensation Committee granted 172,000 PSUs to the executive officers, which represented a target number of shares that would be earned based on the Company's average two-year (2015 and 2016) revenue growth rate compared against the analog industry's average two-year revenue growth rate as published by the Semiconductor Industry Association ("2015 Executive PSUs"). The maximum number of shares that an executive officer could earn was 300% of the target number of the 2015 Executive PSUs. In February 2017, the Compensation Committee approved the revenue achievement for the 2015 Executive PSUs and a total of 432,000 shares were earned by the executive officers. 50% of the 2015 Executive PSUs vested in the first quarter of 2017. The remaining 2015 Executive PSUs vest over the following two years on a quarterly basis. Based on the actual achievement of the performance goals, the total stock-based compensation cost for the 2015 Executive PSUs, excluding cancelled shares for the Company's former Chief Financial Officer, is $21.0 million.

In February 2015, the Compensation Committee granted 58,000 PSUs to certain non-executive employees, which represented a target number of shares that would be earned based on the Company's 2016 revenue goals for certain regions or product line divisions, or based on the Company's average two-year (2015 and 2016) revenue growth rate compared against the analog industry's average two-year revenue growth rate as published by the Semiconductor Industry Association ("2015 Non-Executive PSUs"). The maximum number of shares that an employee could earn was either 200% or 300% of the target number of the 2015 Non-Executive PSUs, depending on the job classification of the employee. In February 2017, the Compensation Committee approved the revenue achievement for the 2015 Non-Executive PSUs and a total of 118,000 shares were earned by the employees. 50% of the 2015 Non-Executive PSUs vested in the first quarter of 2017. The remaining 2015 Non-Executive PSUs vest over the following two years on an annual or quarterly basis. Based on the actual achievement of the performance goals, the total stock-based compensation cost for the 2015 Non-Executive PSUs, excluding cancelled shares for the terminated employees, is $5.7 million.

2015 MPSUs:

In December 2015, the Compensation Committee granted 86,000 MPSUs to the executive officers and 41,000 MPSUs to certain non-executive employees, which represent a target number of shares to be earned upon achievement of both

market conditions and performance conditions (“2015 MPSUs”). The maximum number of shares that an employee can earn is 500% of the target number of the 2015 MPSUs. The 2015 MPSUs consist of four separate tranches with various performance periods all ending on December 31, 2019. The first tranche contains market conditions only, which require the achievement of five stock price targets ranging from $71.36 to $95.57 with a performance period from January 1, 2016 to December 31, 2019.

The second, third and fourth tranches contain both market and performance conditions. The five stock price targets for the second tranche range from $89.56 to $106.81 with a performance period from January 1, 2017 to December 31, 2019. The five stock price targets for the third tranche range from $120.80 to $135.48 with a performance period from January 1, 2018 to December 31, 2019. The five stock price targets for the fourth tranche range from $126.08 to $136.79 with a performance period from January 1, 2019 to December 31, 2019.

In addition, each of the second, third and fourth tranches requires the achievement of one of following six operating metrics:

1. Successful implementation of full digital solutions for certain power products.
2. Successful implementation, and adoption by a key customer, of an integrated, software-based field-oriented control with sensors to motor drivers.
3. Successful implementation of certain advanced power analog processes.
4. Successful design wins and achievement of a specific level of revenue with a global networking customer.
5. Achievement of a specific level of revenue with a global electronics manufacturer.
6. Achievement of a specific level of market share with certain core power products.

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The following table summarize the status of the market and performance conditions:

Tranche	Market Conditions	Performance Conditions
One	All stock price targets have been achieved as of September 30, 2017.	Not required.
Two	All stock price targets have been achieved as of December 31, 2017.	Operating metric #1 has been achieved as of December 31, 2018.
Three	All stock price targets have been achieved as of September 30, 2018.	Operating metric #2 has been achieved as of December 31, 2018.
Four	No stock price targets have been achieved as of December 31, 2018.	No operating metric has been achieved as of December 31, 2018.

A total of 394,000 shares have been earned by the employees as of December 31, 2018. The 2015 MPSUs will vest on January 1, 2020, with post-vesting sales restrictions on the vested shares for up to an additional two years.

The Company determined the grant date fair value of the 2015 MPSUs using a Monte Carlo simulation model with the following weighted-average assumptions: stock price of $61.35, expected volatility of 33.2%, risk-free interest rate of 1.3%, and an illiquidity discount of 7.8% to account for the post-vesting sales restrictions. Assuming the achievement of all of the required market and performance goals, the total stock-based compensation cost for the 2015 MPSUs, excluding cancelled shares for the terminated employees, is $24.6 million ($8.3 million for the first tranche, $4.5 million for the second tranche, $5.2 million for the third tranche, and $6.6 million for the fourth tranche).

For the first tranche which contains market conditions only, stock-based compensation expense is being recognized over the requisite service period. For the second, third and fourth tranches, stock-based compensation expense for each tranche is recognized if an operating metric has been achieved, or if management believes it is probable that an operating metric will be achieved during the performance periods. As of December 31, 2018, two operating metrics have been achieved, and based on management's quarterly assessment, one additional operating metric was considered probable of being achieved during the performance period. Accordingly, stock-based compensation expense is being recognized for the second, third and fourth tranches over the requisite service period.

MSUs

2018 MSUs:

In October 2018, the Compensation Committee granted 60,000 MSUs to the executive officers and 60,000 MSUs to certain non-executive employees, which represent a target number of shares to be earned upon achievement of stock price targets ("2018 MSUs"). The maximum number of shares that an employee can earn is 500% of the target number of the 2018 MSUs if the Company achieves five stock price targets ranging from $140 to $172. The performance period for the first two stock price targets is from October 26, 2018 to December 31, 2021, and the performance period for the last three price targets is from October 26, 2018 to December 31, 2023. As of December 31, 2018, none of the stock price targets has been met. If the stock price targets are achieved during the performance periods, the 2018 MSUs will vest on January 1, 2024, with post-vesting sales restrictions on the vested shares for up to an additional two years. The total stock-based compensation cost for the 2018 MSUs is $41.1 million.

The Company determined the grant date fair value of the 2018 MSUs using a Monte Carlo simulation model with the following assumptions: stock price of $108.43, expected volatility of 31.6%, a risk-free interest rate of 3.0%, and an illiquidity discount of 8.7% to account for the post-vesting sales restrictions.

2013 MSUs:

In December 2013, the Compensation Committee granted 276,000 MSUs to the executive officers and 84,000 MSUs to certain non-executive employees, which represented a target number of shares that would be earned upon achievement of stock price targets ("2013 MSUs"). The maximum number of shares that an employee could earn was 500% of the target number of the 2013 MSUs if the Company achieved five price targets ranging from $40 to $56 during a performance period from January 1, 2014 to December 31, 2018. As of December 31, 2015, all stock price targets have been met and the employees earned a total of 1.8 million shares. The 2013 MSUs will vest quarterly from January 1, 2019 to December 31, 2023. The total stock-based compensation cost for the 2013 MSUs, excluding cancelled shares for the terminated employees, is $38.2 million.

The Company determined the grant date fair value of the 2013 MSUs using a Monte Carlo simulation model with the following assumptions: stock price of $31.73, expected volatility of 38.7% and a risk-free interest rate of 1.6%. There was no illiquidity discount because the awards do not contain any post-vesting sales restrictions.

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Stock Options

A summary of stock option activity is presented in the table below:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in thousands)		(in years)	(in thousands)
Outstanding at January 1, 2016	90	$ 17.50	1.3	$ 4,134
Exercised	(76)	$ 17.80		
Outstanding at December 31, 2016	14	$ 15.88	1.0	$ 921
Exercised	(9)	$ 16.79		
Outstanding at December 31, 2017	5	$ 13.89	0.4	$ 465
Exercised	(5)	$ 13.89		
Outstanding at December 31, 2018	-	$ -	-	$ -

Total intrinsic value of options exercised was $0.5 million, $0.7 million and $3.7 million for the years ended December 31, 2018, 2017 and 2016, respectively. Cash proceeds from stock option exercises were $0.1 million, $0.1 million and $1.3 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Employee Stock Purchase Plan ("ESPP")

Under the ESPP, eligible employees may purchase common stock through payroll deductions. Participants may not purchase more than 2,000 shares in a six-month offering period, or purchase shares having a value greater than $25,000 in any calendar year as measured at the beginning of the offering period in accordance with the Internal Revenue Code and applicable Treasury Regulations. The ESPP provides for an annual increase by an amount equal to the least of 1.0 million shares, 2% of the outstanding shares of common stock on the first day of the year, or a number of shares as determined by the Board of Directors. As of December 31, 2018, 4.6 million shares were available for future issuance. The ESPP will expire in November 2024.

For the years ended December 31, 2018, 2017 and 2016, 33,000, 40,000 and 53,000 shares, respectively, were issued under the ESPP. The intrinsic value of the shares issued was $1.1 million, $1.0 million and $1.0 million for the years ended December 31, 2018, 2017 and 2016, respectively. The unamortized expense as of December 31, 2018 was $0.1 million, which will be recognized through the first quarter of 2019. The Black-Scholes model was used to value the employee stock purchase rights with the following weighted-average assumptions:

	Year Ended December 31,		
	2018	2017	2016
Expected term (years)	0.5	0.5	0.5
Expected volatility	29.5%	23.5%	28.6%
Risk-free interest rate	2.0 %	0.9 %	0.4 %
Dividend yield	1.0 %	0.9 %	1.2 %

Cash proceeds from the shares issued under the ESPP were $3.0 million, $2.7 million and $2.5 million for the years ended December 31, 2018, 2017 and 2016, respectively.

8. STOCK REPURCHASE PROGRAM

In February 2016, the Board of Directors approved a stock repurchase program (the "2016 Program") that authorized the Company to repurchase up to $50 million in the aggregate of its common stock through December 31, 2016. In December 2016, the Board of Directors approved an extension of the 2016 Program through December 31, 2017. The 2016 Program expired on December 31, 2017 with a remaining unused balance of $50 million. No shares were repurchased under the 2016 Program.

9. DIVIDENDS AND DIVIDEND EQUIVALENTS

Cash Dividend Program

In June 2014, the Board of Directors approved a dividend program pursuant to which the Company intends to pay quarterly cash dividends on its common stock. Based on the Company's historical practice, stockholders of record as of the last business day of the quarter are entitled to receive the quarterly cash dividends when and if declared by the Board of Directors, which are payable to the stockholders in the following month. The Board of Directors declared the following cash dividends (in thousands, except per-share amounts):

	Year Ended December 31,		
	2018	2017	2016
Dividend declared per share	$1.20	$0.80	$0.80
Total amount	$50,803	$33,145	$32,434

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As of December 31, 2018 and 2017, accrued dividends totaled $12.8 million and $8.3 million, respectively.

The declaration of any future cash dividends is at the discretion of the Board of Directors and will depend on, among other things, the Company's financial condition, results of operations, capital requirements, business conditions, and other factors that the Board of Directors may deem relevant, as well as a determination that cash dividends are in the best interests of the stockholders.

The Company anticipates that cash used for future dividend payments will come from its current domestic cash, cash generated from ongoing U.S. operations, and cash to be repatriated from its Bermuda subsidiary. Earnings from other foreign subsidiaries will continue to be indefinitely reinvested. See Note 12 for further discussion.

Cash Dividend Equivalent Rights

Under the Company's stock plans, outstanding RSUs contain rights to receive cash dividend equivalents, which entitle employees who hold RSUs to the same dividend value per share as holders of common stock. The dividend equivalents are accumulated and paid to the employees when the underlying RSUs vest. Dividend equivalents accumulated on the underlying RSUs are forfeited if the employees do not fulfill their service requirement and the awards do not vest. As of December 31, 2018 and 2017, accrued dividend equivalents totaled $8.4 million and $5.8 million, respectively.

10. INTEREST AND OTHER INCOME, NET

The components of interest and other income, net are as follows (in thousands):

	Year Ended December 31,		
	2018	**2017**	**2016**
Interest income	$6,321	$5,353	$2,488
Amortization of premium on available-for-sale securities	(1,353)	(1,976)	(1,019)
Gain (loss) on deferred compensation plan investments	(1,022)	2,531	1,257
Foreign currency exchange gain (loss)	953	(550)	65
Other	95	162	26
Total	$4,994	$5,520	$2,817

11. NET INCOME PER SHARE

The following table sets forth the computation of basic and diluted net income per share (in thousands, except per share amounts):

	Year Ended December 31,		
	2018	2017	2016
Numerator:			
Net income	$105,268	$65,203	$52,720
Denominator:			
Weighted-average outstanding shares used to compute basic net income per share	42,247	41,350	40,436
Effect of dilutive securities	2,355	2,228	1,479
Weighted-average outstanding shares used to compute diluted net income per share	44,602	43,578	41,915
Net income per share:			
Basic	$2.49	$1.58	$1.30
Diluted	$2.36	$1.50	$1.26

Anti-dilutive common stock equivalents were not material in any of the periods presented.

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12. INCOME TAXES

The components of income before income taxes are as follows (in thousands):

	Year Ended December 31,		
	2018	**2017**	**2016**
United States	$(13,151)	$(19,115)	$(14,431)
Foreign	131,633	102,059	71,695
Income before income taxes	$118,482	$82,944	$57,264

The components of the income tax provision are as follows (in thousands):

	Year Ended December 31,		
	2018	**2017**	**2016**
Current:			
Federal	$11,023	$31,025	$2,527
State	4	2	-
Foreign	2,992	1,967	2,013
Deferred:			
Federal	(797)	(15,426)	-
Foreign	(8)	173	4
Income tax provision	$13,214	$17,741	$4,544

The effective tax rate differs from the applicable U.S. statutory federal income tax rate as follows:

	Year Ended December 31,		
	2018	**2017**	**2016**
U.S. statutory federal tax rate	21.0 %	35.0 %	34.0 %
Foreign income at lower rates	(22.0)	(41.2)	(41.1)
Impact of the 2017 Tax Act:			
Remeasurement of deferred taxes	-	11.8	-
One-time deemed repatriation transition tax	0.6	50.5	-
Global intangible low-taxed income ("GILTI")	14.4	-	-
Changes in valuation allowance	-	(36.2)	11.0
Stock-based compensation	(1.1)	2.2	2.2
Other adjustments	(1.7)	(0.7)	1.8

Effective tax rate	11.2 %	21.4 %	7.9 %

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The components of net deferred tax assets consist of the following (in thousands):

	December 31,	
	2018	**2017**
Deferred tax assets:		
R&D tax credits	$11,833	$10,331
Stock-based compensation	10,040	9,157
Deferred compensation	6,829	5,505
Depreciation and amortization	-	191
Net operating losses	1,133	1,377
Other expenses not currently deductible	1,852	1,924
Deferred tax assets, gross	31,687	28,485
Valuation allowance	(13,041)	(12,568)
Deferred tax assets, net of valuation allowance	18,646	15,917
Deferred tax liabilities:		
Depreciation and amortization	(711)	-
Undistributed foreign earnings	(1,105)	-
Deferred tax liabilities	(1,816)	-
Net deferred tax assets	$16,830	$15,917

2017 Tax Act

Under ASC No. 740, the effects of a new legislation are recognized upon enactment. Accordingly, the Company was required to recognize the tax effects of the 2017 Tax Act beginning in the fourth quarter of 2017.

On December 22, 2017, the SEC issued SAB 118, which addressed the application of ASC No. 740 in situations when a registrant did not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the 2017 Tax Act. In accordance with SAB 118, for matters that have not been completed, the Company would recognize provisional amounts to the extent that they were reasonably estimable. Any subsequent adjustments to the provisional amounts would be recorded to the income tax provision in the period when the analysis was complete. The Company was permitted to finalize the analysis within a one-year measurement period.

As of December 31, 2017, the Company had not completed the accounting for the tax effects of the 2017 Tax Act and recorded certain provisional amounts based on reasonable estimates. In December 2018, the Company finalized the analysis of the 2017 Tax Act and recorded certain adjustments to the provisional amounts, as discussed further below.

The Company expects further guidance may be forthcoming from the FASB and the SEC, as well as regulations, interpretations and rulings from federal and state tax agencies, which could result in additional impact and adjustments to the Company's income tax provisions in future periods.

Corporate Tax Rate and Remeasurement of Deferred Taxes:

The 2017 Tax Act reduces the corporate tax rate from 35% to 21%, effective January 1, 2018. Because ASC No. 740 requires the effect of a change in tax laws to be recognized as of the date of enactment, the Company remeasured its deferred tax balance as of December 22, 2017 and recorded a provisional amount of $9.8 million to the income tax provision as a result of the remeasurement for the year ended December 31, 2017. In December 2018, the Company finalized the analysis and did not make any adjustment to the provisional amount recorded for the year ended December 31, 2017.

Deemed Repatriation Transition Tax:

The 2017 Tax Act mandates a one-time deemed repatriation transition tax of post-1986 undistributed foreign earnings and profits ("E&P") on which U.S. income taxes were previously deferred. For the year ended December 31, 2017, the Company recorded a provisional amount of $41.9 million related to the transition tax expense. After the utilization of R&D tax credits of $18.0 million, the provisional transition tax liability was $23.9 million. In December 2018, the Company finalized the analysis of the transition tax, and recorded an increase of $1.3 million to the transition tax expense and a net increase of $0.7 million to the transition tax liability.

As permitted by the 2017 Tax Act, the Company has elected to pay the transition tax liability of $24.6 million in installments on an interest-free basis over eight years through 2025. For the year ended December 31, 2018, the Company paid $2.6 million of the transition tax. As of December 31, 2018, $1.3 million of the remaining transition tax was recorded in current accrued liabilities and $20.7 million was recorded in long-term income tax liabilities.

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Undistributed Earnings of Subsidiaries:

The Company previously considered the earnings in its non-U.S. subsidiaries to be indefinitely reinvested and, accordingly, recorded no deferred income taxes. Prior to the transition tax, the Company had an excess of the amount for financial reporting over the tax basis in its foreign subsidiaries including undistributed foreign earnings of $390.2 million. While the transition tax resulted in the reduction of the excess of the amount for financial reporting over the tax basis in its foreign subsidiaries and subjected $123.2 million of undistributed foreign earnings to tax, an actual repatriation from its non-U.S. subsidiaries could be subject to additional foreign withholding taxes and U.S. state taxes.

The Company has analyzed its global working capital and cash requirements, and has determined that it plans to repatriate cash from its Bermuda subsidiary on an ongoing basis to fund its future U.S. based expenditures and dividends. For the other foreign subsidiaries, the Company expects to indefinitely reinvest undistributed earnings to fund foreign operations and their research and development. As of December 31, 2018, the Company recorded deferred taxes liabilities of $1.1 million related to California state taxes, which were netted against deferred tax assets.

GILTI:

The 2017 Tax Act subjects a U.S. parent shareholder to taxation of its GILTI, effective January 1, 2018. The GILTI inclusions impact companies that have foreign earnings generated without a large aggregate foreign fixed asset base and whose earnings are being taxed at a low tax rate. For the year ended December 31, 2018, the Company included $81.1 million related to the GILTI provisions as additional Subpart F income, which was accounted for as a period cost.

Executive Compensation Deductions:

The 2017 Tax Act retains the $1 million limitation on deductible compensation to covered employees, which include the Chief Executive Officer and four other highest paid officers, under IRC Section 162(m). However, it eliminates the exception for performance-based cash or stock compensation and expands the definition of covered employees to include the Chief Financial Officer. Accordingly, beginning January 1, 2018, the deductible compensation to covered employees is generally subject to the $1 million limitation.

Release of Valuation Allowance

Management periodically evaluates the realizability of the Company's deferred tax assets based on all available evidence. The realizability of the Company's net deferred tax assets is dependent on its ability to generate sufficient future taxable income during periods prior to the expiration of tax attributes to fully utilize these assets. The Company maintained a full valuation allowance on its U.S. deferred tax assets as of the third quarter of 2017. In the fourth quarter of 2017, the Company assessed the realizability of the deferred tax assets and concluded that it was more likely than not that its federal deferred tax assets would be realizable, due principally to the enactment of the 2017 Tax Act.

In accordance with ASC No. 740, management considered all available evidence, both positive and negative, to determine whether, based on the weight of that evidence, a valuation allowance for deferred tax assets was needed. The Company's conclusion was primarily driven by the following positive evidence:

- The Company forecasted taxable income in the U.S. in future periods. The enactment of GILTI will result in additional Subpart F income each year.
- Executive performance-based equity awards are now subject to the Section 162(m) deduction limitation.
- The Company has a history of utilizing all federal tax attributes before expiration.

As a result, the Company released $21.6 million of valuation allowance on federal deferred tax assets, which was recorded as a benefit in the income tax provision in the fourth quarter of 2017. The Company continues to maintain a full valuation allowance on the deferred tax assets in California, primarily due to a low apportionment factor and the amount of R&D tax credits generated is greater than the amount utilized.

Other Income Tax Provision Matters

As of December 31, 2018, the Company did not have federal net operating loss carryforwards. As of December 31, 2018, the state net operating loss carryforwards for income tax purposes were $16.2 million, which will expire beginning in 2027.

As of December 31, 2018, the Company had no R&D tax credit carryforwards for federal income tax purposes, and $24.1 million for state income tax purposes, which can be carried forward indefinitely.

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In the event of a change in ownership, as defined under federal and state tax laws, the Company's net operating loss and tax credit carryforwards could be subject to annual limitations. The annual limitations could result in the expiration of the net operating loss and tax credit carryforwards prior to utilization.

In July 2018, the U.S. Ninth Circuit Court of Appeals overturned the U.S. Tax Court's unanimous 2015 decision in *Altera v. Commissioner*, holding that the Internal Revenue Service ("IRS") did not violate the rule-making procedures required by the Administrative Procedures Act. In the case, the taxpayer challenged IRS regulations that required participants in qualified cost sharing arrangements to share stock based compensation costs. The Tax Court had invalidated those regulations, in part because the Treasury Department failed to adequately consider significant taxpayer comments when adopting them. In August 2018, the U.S. Ninth Circuit Court of Appeals withdrew its July 2018 opinion. At this time, the Treasury Department has not withdrawn the requirement from its regulations to include stock-based compensation in the cost pool to be shared under a cost-sharing arrangement. Due to the uncertainty surrounding the status of the current regulations, questions related to the scope of potential benefits, and the risk of the Tax Court's decision being overturned upon appeal, the Company has not recorded any adjustments as of December 31, 2018. The Company will continue to monitor developments related to this case and the potential impact on its financial statements.

At December 31, 2018, the Company had $20.5 million of unrecognized tax benefits, $12.8 million of which would affect its effective tax rate if recognized after considering the valuation allowance. At December 31, 2017, the Company had $16.3 million of unrecognized tax benefits, $9.1 million of which would affect its effective tax rate if recognized after considering the valuation allowance.

A reconciliation of the gross unrecognized tax benefits is as follows (in thousands):

Balance as of January 1, 2016	$	12,093
Increase for tax position of prior year		243
Increase for tax position of current year		2,095
Balance as of December 31, 2016		14,431
Increase for tax position of prior year		169
Increase for tax position of current year		2,360
Decrease due to lapse of statute of limitation		(688)
Balance as of December 31, 2017		16,272
Increase for tax position of prior year		1,474
Increase for tax position of current year		2,957
Decrease due to lapse of statute of limitation		(212)
Balance as of December 31, 2018	$	20,491

The Company recognizes interest and penalties, if any, related to uncertain tax positions in its income tax provision. As of December 31, 2018 and 2017, the Company has $0.9 million and $0.5 million, respectively, of accrued interest

related to uncertain tax positions, which were recorded in long-term income tax liabilities in the Consolidated Balance Sheets.

Uncertain tax positions relate to the allocation of income and deductions among the Company's global entities and to the determination of the research and development tax credit. It is reasonably possible that over the next twelve-month period, the Company may experience increases or decreases in its unrecognized tax benefits. However, it is not possible to determine either the magnitude or the range of increases or decreases at this time.

The Company currently has reduced tax rates in its subsidiaries in Chengdu and Hangzhou, China for performing research and development activities through 2020 and 2019, respectively. In addition, the Company had a tax holiday in Switzerland, which expired on December 31, 2018 The tax holiday and tax incentives had an insignificant impact on earnings per share for the periods presented.

Income Tax Examination

The Company is subject to examination of its income tax returns by the IRS and other tax authorities. The Company's U.S. federal income tax return for the year ended December 31, 2014 was under examination by the IRS in 2016. In January 2017, the IRS completed its examination with no adjustments.

13. COMMITMENTS AND CONTINGENCIES

Lease Obligations

As of December 31, 2018, future minimum rental payments under the non-cancelable operating leases are as follows (in thousands):

2019	$1,511
2020	872
2021	273
2022	195
2023	26
Total	$2,877

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The Company leases manufacturing and inventory warehouse facilities, sales and marketing, and research and development offices in Asia, Europe and the United States. Certain of the Company's facility leases provide for periodic rent increases. Rent expense for the years ended December 31, 2018, 2017 and 2016 was $1.8 million, $1.5 million and $1.7 million, respectively.

Warranty and Indemnification Provisions

The changes in warranty reserves are as follows (in thousands):

	Year Ended December 31,		
	2018	**2017**	**2016**
Balance at beginning of period	$2,416	$1,030	$289
Warranty provision for product sales	6,586	1,912	1,102
Settlements made	(1,402)	(40)	(68)
Unused warranty provision	(3,036)	(486)	(293)
Balance at end of period	$4,564	$2,416	$1,030

The Company provides indemnification agreements to certain direct or indirect customers. The Company agrees to reimburse these parties for any damages, costs and expenses incurred by them as a result of legal actions taken against them by third parties for infringing upon their intellectual property rights as a result of using the Company's products and technologies. These indemnification provisions are varied in their scope and are subject to certain terms, conditions, limitations and exclusions. In addition, the Company has entered into indemnification agreements with its directors and officers.

It is not possible to predict the maximum potential amount of future payments under these agreements due to the limited history of indemnification claims and the unique facts and circumstances involved in each particular agreement. There were no indemnification liabilities incurred in any of the periods presented. However, there can be no assurances that the Company will not incur any financial liabilities in the future as a result of these obligations.

14. LITIGATION

The Company is a party to actions and proceedings in the ordinary course of business, including potential litigation initiated by its shareholders, challenges to the enforceability or validity of its intellectual property, claims that the

Company’s products infringe on the intellectual property rights of others, and employment matters. These proceedings often involve complex questions of fact and law and may require the expenditure of significant funds and the diversion of other resources to prosecute and defend. The Company defends itself vigorously against any such claims. As of December 31, 2018, there were no material pending legal proceedings to which the Company was a party.

15. EMPLOYEE 401(k) PLAN

The Company sponsors a 401(k) retirement savings plan for all employees in the U.S. who meet certain eligibility requirements. Participants may contribute up to the amount allowable as a deduction for federal income tax purposes. The Company is not required to contribute and did not contribute to the plan for the years ended December 31, 2018, 2017 and 2016.

16. SIGNIFICANT CUSTOMERS

The Company sells its products primarily through third-party distributors and value-added resellers, and directly to original equipment manufacturers, original design manufacturers and electronic manufacturing service providers. The following table summarizes those customers with sales equal to or greater than 10% of the Company's total revenue, or with accounts receivable balances greater than 10% of the Company’s total accounts receivable:

	Revenue			**Accounts Receivable**	
	Year Ended December 31,			**December 31,**	
Customer	**2018**	**2017**	**2016**	**2018**	**2017**
A (distributor)	22%	17 %	22 %	25 %	16 %
B (distributor)	10%	*	*	16 %	*
C (distributor)	*	10 %	*	*	*
D (value-added reseller)	*	*	*	*	15 %

* Represents less than 10%.

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The Company's agreements with these third-party distributors and value-added reseller were made in the ordinary course of business and may be terminated with or without cause by these customers with advance notice. Although the Company may experience a short-term disruption in the distribution of its products and a short-term decline in revenue if its agreement with any of these customers was terminated, the Company believes that such termination would not have a material adverse effect on its financial statements because it would be able to engage alternative distributors, resellers and other distribution channels to deliver its products to end customers within a short period following the termination of the agreement with the customer.

17. SEGMENT AND GEOGRAPHIC INFORMATION

The Company operates in one reportable segment that includes the design, development, marketing and sale of high-performance analog solutions for the consumer, computing and storage, industrial, automotive and communications markets. The Company's chief operating decision maker is its Chief Executive Officer, who reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. The Company derives a majority of its revenue from sales to customers located outside North America, with geographic revenue based on the customers' ship-to locations.

The following is a summary of revenue by geographic regions (in thousands):

	Year Ended December 31,		
Country or Region	**2018**	**2017**	**2016**
China	$334,726	$257,787	$245,169
Taiwan	75,307	83,357	45,414
Europe	49,484	38,140	27,554
Korea	41,238	34,155	27,710
Southeast Asia	36,495	25,755	19,645
Japan	26,853	20,187	14,318
United States	17,621	11,113	8,567
Other	658	435	288
Total	$582,382	$470,929	$388,665

The following is a summary of revenue by major product families (in thousands):

	Year Ended December 31,		
Product Family	**2018**	**2017**	**2016**
DC to DC	$537,512	$431,861	$350,930

Lighting Control	44,870	39,068	37,735
Total	$582,382	$470,929	$388,665

The following is a summary of long-lived assets by geographic regions (in thousands):

	December 31,		
Country	**2018**	**2017**	**2016**
China	$93,096	$89,472	$45,728
United States	71,025	65,618	50,242
Taiwan	16,972	17,238	8,919
Bermuda	6,682	7,522	9,573
Other	878	388	571
Total	$188,653	$180,238	$115,033

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18. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The following table summarizes the changes in accumulated other comprehensive income (loss) (in thousands):

	Unrealized Losses on Available-for-Sale Securities	Foreign Currency Translation Adjustments	Total
Balance as of January 1, 2017	$ (1,023)	$ (3,192)	$(4,215)
Other comprehensive income (loss) before reclassifications	(343)	6,369	6,026
Amounts reclassified from accumulated other comprehensive income (loss)	2	-	2
Net current period other comprehensive income (loss)	(341)	6,369	6,028
Balance as of December 31, 2017	(1,364)	3,177	1,813
Other comprehensive loss before reclassifications	(549)	(7,082)	(7,631)
Amounts reclassified from accumulated other comprehensive income (loss)	66	-	66
Tax effect	209	-	209
Net current period other comprehensive loss	(274)	(7,082)	(7,356)
Balance as of December 31, 2018	$ (1,638)	$ (3,905)	$(5,543)

The amounts reclassified from accumulated other comprehensive income (loss) were recorded in interest and other income, net, in the Consolidated Statements of Operations.

19. SUBSEQUENT EVENTS

Cash Dividend Increase

In February 2019, the Company’s Board of Directors approved an increase in quarterly cash dividends from $0.30 per share to $0.40 per share, effective for the dividends declared in the first quarter of 2019.

Real Estate Purchase

In February 2019, the Company entered into an agreement to purchase an office building and land located in Kirkland, Washington, for $53.0 million in cash. The Company expects to close the transaction in the first quarter of 2019.

20. QUARTERLY FINANCIAL DATA (UNAUDITED)

	Three Months Ended			
	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
	(in thousands, except per share amounts)			
Revenue	$153,497	$159,975	$139,761	$129,150
Cost of revenue	68,904	70,957	62,197	57,655
Gross profit	84,593	89,018	77,564	71,495
Operating expenses:				
Research and development	22,735	25,630	23,481	21,609
Selling, general and administrative	28,372	29,552	28,561	27,318
Litigation expense, net	409	343	640	531
Total operating expenses	51,516	55,525	52,682	49,458
Income from operations	33,077	33,493	24,882	22,037
Interest and other income (expense), net	(393)	2,714	2,232	440
Income before income taxes	32,684	36,207	27,114	22,477
Income tax provision	5,046	4,639	2,908	621
Net income	$27,638	$31,568	$24,206	$21,856
Net income per share:				
Basic	$0.65	$0.75	$0.57	$0.52
Diluted	$0.61	$0.71	$0.55	$0.49
Weighted-average shares outstanding:				
Basic	42,467	42,362	42,237	41,922
Diluted	45,058	44,669	44,400	44,282

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	Three Months Ended			
	December 31, 2017	**September 30, 2017**	**June 30, 2017**	**March 31, 2017**
	(in thousands, except per share amounts)			
Revenue	$129,430	$128,939	$112,198	$100,362
Cost of revenue	58,269	58,083	50,773	45,520
Gross profit	71,161	70,856	61,425	54,842
Operating expenses:				
Research and development	21,730	21,442	20,292	18,894
Selling, general and administrative	24,038	25,255	25,873	22,092
Litigation expense, net	340	327	290	286
Total operating expenses	46,108	47,024	46,455	41,272
Income from operations	25,053	23,832	14,970	13,570
Interest and other income, net	1,647	1,255	1,237	1,381
Income before income taxes	26,700	25,087	16,207	14,951
Income tax provision	14,629	1,445	1,193	474
Net income	$12,071	$23,642	$15,014	$14,477
Net income per share:				
Basic	$0.29	$0.57	$0.36	$0.35
Diluted	$0.27	$0.54	$0.35	$0.33
Weighted-average shares outstanding:				
Basic	41,574	41,458	41,323	41,047
Diluted	44,610	43,486	43,397	43,268

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ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15(e) and Rule 15d-15(e) under the Securities Exchange Act of 1934 as of the end of the period covered by this Annual Report on Form 10-K.

Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2018, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* (*2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2018. Management reviewed the results of its assessment with our Audit Committee.

Our independent registered public accounting firm, Deloitte & Touche LLP, which audited the consolidated financial statements included in this Annual Report on Form 10-K, has issued an attestation report on the effectiveness of our

internal control over financial reporting.

Changes in Internal Control over Financial Reporting

Effective January 1, 2018, we adopted Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. We have implemented additional business processes and control activities, primarily related to variable consideration estimates and presentation and disclosure, in order to monitor and maintain appropriate controls over financial reporting. There were no other changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2018, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of

Monolithic Power Systems, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Monolithic Power Systems, Inc. and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018, of the Company and our report dated March 1, 2019, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

San Jose, California

March 1, 2019

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Reference is made to the information regarding directors and nominees, code of ethics, corporate governance matters and disclosure relating to compliance with Section 16(a) of the Securities Exchange Act of 1934 appearing under the captions “Election of Directors” and “Compliance with Section 16(a) Beneficial Ownership Reporting Compliance” in the Company’s Proxy Statement for its 2019 Annual Meeting of Stockholders (the “2019 Annual Meeting”), which information is incorporated in this Annual Report on Form 10-K by reference. Information regarding executive officers is set forth under the caption “Executive Officers of the Registrant” in Part I of this Annual Report on Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be set forth under the caption “Executive Officer Compensation” in the Company’s Proxy Statement for the 2019 Annual Meeting, and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item will be set forth under the captions “Security Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in the Company’s Proxy Statement for the 2019 Annual Meeting, and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be set forth under the captions “Certain Relationships and Related Transactions” and “Election of Directors” in the Company’s Proxy Statement for the 2019 Annual Meeting, and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item will be set forth under the caption “Audit and Other Fees” in the Company’s Proxy Statement for the 2019 Annual Meeting, and is incorporated herein by reference.

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PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES.

(a) Documents filed as part of this report

(1) All financial statements

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets

Consolidated Statements of Operations

Consolidated Statements of Comprehensive Income

Consolidated Statements of Stockholders’ Equity

Consolidated Statements of Cash Flows

Notes to Consolidated Financial Statements

(2) Financial Statement Schedules

All schedules have been omitted because the required information is not present or not present in amounts sufficient to require submission of the schedules, or because the information required is included in the consolidated financial statements or notes thereto.

(3) Exhibits

Exhibit **Description**

Number

3.1 (1) Amended and Restated Certificate of Incorporation.

3.2 (2) Amended and Restated Bylaws.

10.1+ (3) Registrant's 2004 Employee Stock Purchase Plan and form of subscription agreement.

10.2+ (4) Form of Directors' and Officers' Indemnification Agreement.

10.3+ (5) Employment Agreement with Michael Hsing, and Amendment thereof.

10.4+ (6) Employment Agreement with Maurice Sciammas, and Amendment thereof.

10.5+ (7) Employment Agreement with Jim Moyer.

10.6+(8) Employment Agreement with Deming Xiao, and Amendment thereof.

10.7+(9) Letter Agreement with Victor Lee.

10.8+(10) Letter Agreement with Jeff Zhou.

10.9+(11) Employment Agreements with Meera P. Rao and Saria Tseng and Amendments thereof.

10.10+(12) Monolithic Power Systems, Inc. Master Cash Performance Bonus Plan.

10.11+(13) Letter Agreement with Eugen Elmiger.

10.12+(14) Monolithic Power Systems, Inc. 2004 Equity Incentive Plan, as Amended, and Form of Grant Agreement.

10.13+(15) Monolithic Power Systems, Inc. 2014 Equity Incentive Plan, as Amended, and Form of Grant Agreement.

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10.14+(16)	Employment Agreement with Bernie Blegen.
21.1	Subsidiaries of Monolithic Power Systems, Inc.
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney (included on Signature page to this Form 10-K).
31.1	Certification of Chief Executive Officer pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation
101.DEF	XBRL Taxonomy Extension Definition
101.LAB	XBRL Taxonomy Extension Labels
101.PRE	XBRL Taxonomy Extension Presentation

+ Management contract or compensatory plan or arrangement.

* This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that Section, nor shall it be deemed incorporated by reference in any filings under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof and irrespective of any general incorporation language in any filings.

(1) Incorporated by reference to Exhibit 3.2 of the Registrant’s Registration Statement on Form S-1/A (Registration No. 333-117327), filed with the Securities and Exchange Commission on November 15, 2004.

(2) Incorporated by reference to Exhibit 3.4 of the Registrant’s Registration Statement on Form S-1/A (Registration No. 333-117327), filed with the Securities and Exchange Commission on November 15, 2004.

(3) Incorporated by reference to Exhibit 10.3 of the Registrant’s Registration Statement on Form S-1/A (Registration No. 333-117327), filed with the Securities and Exchange Commission on November 15, 2004.

(4) Incorporated by reference to Exhibit 10.4 of the Registrant’s Registration Statement on Form S-1/A (Registration No. 333-117327), filed with the Securities and Exchange Commission on November 15, 2004.

(5) Incorporated by reference to Exhibit 10.7 of the Registrant’s annual report on Form 10-K (File No. 000-51026), filed with the Securities and Exchange Commission on March 11, 2008 and Exhibit 10.1 of the Registrant’s current report on Form 8-K (File No. 000-51026), filed with the Securities and Exchange Commission on December 19, 2008.

(6)

Incorporated by reference to Exhibit 10.8 of the Registrant's annual report on Form 10-K (File No. 000-51026), filed with the Securities and Exchange Commission on March 11, 2008 and Exhibit 10.3 of the Registrant's current report on Form 8-K (File No. 000-51026), filed with the Securities and Exchange Commission on December 19, 2008.

(7) Incorporated by reference to Exhibit 10.9 of the Registrant's Registration Statement on Form S-1 (Registration No. 333-117327), filed with the Securities and Exchange Commission on July 13, 2004.

(8) Incorporated by reference to Exhibit 10.10 of the Registrant's annual report on Form 10-K (File No. 000-51026), filed with the Securities and Exchange Commission on March 11, 2008 and Exhibit 10.4 of the Registrant's current report on Form 8-K (File No. 000-51026), filed with the Securities and Exchange Commission on December 19, 2008.

(9) Incorporated by reference to Exhibit 10.1 of the Registrant's current report on Form 8-K (File No. 000-51026), filed with the Securities and Exchange Commission on September 14, 2006.

(10) Incorporated by reference to Exhibit 10.1 of the Registrant's current report on Form 8-K (File No. 000-51026), filed with the Securities and Exchange Commission on February 3, 2010.

(11) Incorporated by reference to Exhibit 10.33 of the Registrant's annual report on Form 10-K (File No. 000-51026), filed with the Securities and Exchange Commission on March 4, 2011.

(12) Incorporated by reference to Annexure C of the Registrant's Proxy Statement on Schedule 14A (File No. 000-51026), filed with the Securities and Exchange Commission on April 30, 2013.

(13) Incorporated by reference to Exhibit 10.36 of the Registrant's annual report on Form 10-K (File No. 000-51026), filed with the Securities and Exchange Commission on March 10, 2014.

(14) Incorporated by reference to Exhibit 4.4 of the Registrant's Registration Statement on Form S-8 (Registration No. 333-199782), filed with the Securities and Exchange Commission on November 3, 2014.

(15) Incorporated by reference to Exhibit 4.6 of the Registrant's Registration Statement on Form S-8 (Registration No. 333-199782), filed with the Securities and Exchange Commission on November 3, 2014.

(16) Incorporated by reference to Exhibit 10.1 of the Registrant's current report on Form 8-K (File No. 000-51026), filed with the Securities and Exchange Commission on July 22, 2016.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

	MONOLITHIC POWER SYSTEMS, INC.
Date: March 1, 2019	By: /s/ Michael Hsing Michael Hsing President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael Hsing and T. Bernie Blegen, jointly and severally, his attorneys-in-fact, each with the power of substitution, for him in any and all capacities, to sign any amendments to this report, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below on March 1, 2019 by the following persons on behalf of the registrant and in the capacities indicated:

/s/ Michael Hsing Michael Hsing	President, Chief Executive Officer, and Director (Principal Executive Officer)
/s/ T. Bernie Blegen T. Bernie Blegen	Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ HERBERT CHANG Herbert Chang	Director
/s/ EUGEN ELMIGER Eugen Elmiger	Director
/s/ VICTOR K. LEE	Director

Victor K. Lee

/s/ JAMES C. MOYER James C. Moyer	Director
/s/ JEFF ZHOU Jeff Zhou	Director

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