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

Note Regarding Forward-looking Statements

This report, including "Item 1 – Business," "Item 1A – Risk Factors," and "Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations," contains certain forward-looking statements that involve risks and uncertainties, including statements regarding our strategy, financial performance and revenue sources. We use words such as "anticipate," "believe," "plan," "expect," "future," "continue," "intend" and similar expressions to identify forward-looking statements. Our actual results could differ materially from the results anticipated in these forward-looking statements as a result of certain factors including those set forth under "Risk Factors," beginning at page 12 and elsewhere in this Form 10-K. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. You should not place undue reliance on these forward-looking statements. We disclaim any obligation to update information contained in any forward-looking statement. These forward-looking statements include, without limitation, statements regarding the following:

- The effects that adverse global economic conditions and fluctuations in the global credit and equity markets may have on our financial condition and results of operations;
- The effects and amount of competitive pricing pressure on our product lines;
- Our ability to moderate future average selling price declines;
- The effect of product mix, capacity utilization, yields, fixed cost absorption, competition and economic conditions on gross margin;
- The amount of, and changes in, demand for our products and those of our customers;
- Our expectation that in the future we will acquire additional businesses that we believe will complement our existing businesses;
- Our expectation that in the future we will enter into joint development agreements or other business or strategic relationships with other companies;
- The level of orders that will be received and shipped within a quarter;
- Our expectation that our days of inventory levels in the June 2017 quarter will be 97 days to 106 days. Our belief that our existing level of inventory will allow us to maintain competitive lead times and provide strong delivery performance to our customers;
- The effect that distributor and customer inventory holding patterns will have on us;
- Our belief that customers recognize our products and brand name and use distributors as an effective supply channel;
- Anticipating increased customer requirements to meet voluntary criteria related to the reduction or elimination of substances in our products;
- Our belief that deferred cost of sales are recorded at their approximate carrying value and will have low risk of material impairment;
- Our belief that our direct sales personnel combined with our distributors provide an effective means of reaching our customer base;
- Our ability to increase the proprietary portion of our analog and interface product lines and the effect of such an increase;
- Our belief that our processes afford us both cost-effective designs in existing and derivative products and greater functionality in new product designs;
- The impact of any supply disruption we may experience;
- Our ability to effectively utilize our facilities at appropriate capacity levels and anticipated costs;
- That we adjust capacity utilization to respond to actual and anticipated business and industry-related conditions;
- That our existing facilities will provide sufficient capacity to respond to increases in demand with modest incremental capital expenditures;
- That manufacturing costs will be reduced by transition to advanced process technologies;
- Our ability to maintain manufacturing yields;
- Continuing our investments in new and enhanced products;
- The cost effectiveness of using our own assembly and test operations;
- Our anticipated level of capital expenditures;
- Continuation and amount of quarterly cash dividends;
- The sufficiency of our existing sources of liquidity to finance anticipated capital expenditures and otherwise meet our anticipated cash requirements, and the effects that our contractual obligations are expected to have on them;

- That our U.S. operations and capital requirements are funded primarily by cash generated from U.S. operating activities, which has been and is expected to be sufficient to meet our business needs in the U.S. for the foreseeable future;
- The impact of seasonality on our business;
- The accuracy of our estimates used in valuing employee equity awards;
- That the resolution of legal actions will not have a material effect on our business, and the accuracy of our assessment of the probability of loss and range of potential loss;
- The recoverability of our deferred tax assets;
- The adequacy of our tax reserves to offset any potential tax liabilities, having the appropriate support for our income tax positions and the accuracy of our estimated tax rate;
- Our belief that our determinations with respect to the tax consequences of the Atmel acquisition are reasonable;
- Our belief that the expiration of any tax holidays will not have a material impact on our overall tax expense or effective tax rate;
- Our belief that the estimates used in preparing our consolidated financial statements are reasonable;
- Our belief that some of the recently issued accounting pronouncements listed in this document will not have a material impact on our consolidated financial statements;
- The accuracy of our estimates of the useful life and values of our property, assets and other liabilities;
- The adequacy of our patent strategy, and our belief that the impact of the expiration of any particular patent will not have a material effect on our business;
- Our actions to vigorously and aggressively defend and protect our intellectual property on a worldwide basis;
- Our ability to obtain patents and intellectual property licenses and minimize the effects of litigation;
- The level of risk we are exposed to for product liability claims or indemnification claims;
- The effect of fluctuations in market interest rates on our income and/or cash flows;
- The effect of fluctuations in currency rates;
- That our offshore earnings are considered to be permanently reinvested offshore and that we could determine to repatriate some of our offshore earnings in future periods to fund stockholder dividends, share repurchases, acquisitions or other corporate activities;
- That a significant portion of our future cash generation will be in our foreign subsidiaries;
- Our intention to satisfy the lesser of the principal amount or the conversion value of our debentures in cash;
- Our intention to indefinitely reinvest undistributed earnings of certain non-US subsidiaries in those subsidiaries;
- Our intent to maintain a high-quality investment portfolio that preserves principal, meets liquidity needs, avoids inappropriate concentrations and delivers an appropriate yield; and
- Our ability to collect accounts receivable.

Our actual results could differ materially from the results anticipated in these forward-looking statements as a result of certain factors including those set forth in "Item 1A – Risk Factors," and elsewhere in this Form 10-K. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. You should not place undue reliance on these forward-looking statements. We disclaim any obligation to update the information contained in any forward-looking statement.

Introduction

The following discussion should be read in conjunction with the consolidated financial statements and the related notes that appear elsewhere in this document, as well as with other sections of this Annual Report on Form 10-K, including "Item 1 – Business;" "Item 6 – Selected Financial Data;" and "Item 8 – Financial Statements and Supplementary Data."

We begin our Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) with a summary of our overall business strategy to give the reader an overview of the goals of our business and the overall direction of our business and products. This is followed by a discussion of the Critical Accounting Policies and Estimates that we believe are important to understanding the assumptions and judgments incorporated in our reported financial results. In the next section, beginning at page 39, we discuss our Results of Operations for fiscal 2017 compared to fiscal 2016, and for fiscal 2016 compared to fiscal 2015. We then provide an analysis of changes in our balance sheet and cash flows, and discuss our financial commitments in the sections titled "Liquidity and Capital Resources," "Contractual Obligations" and "Off-Balance Sheet Arrangements."

Strategy

Our goal is to be a worldwide leader in providing specialized semiconductor products for a wide variety of embedded control applications. Our strategic focus is on embedded control solutions, including general purpose and specialized microcontrollers, development tools and related software, analog, interface, mixed signal and timing products, wired and wireless connectivity products, memory products and technology licensing. We provide highly cost-effective embedded control solutions that also offer the advantages of small size, high performance, extreme low power usage, wide voltage range operation, mixed signal integration and ease of development, thus enabling timely and cost-effective integration of our solutions by our customers in their end products. We license our SuperFlash technology and other technologies to wafer foundries, integrated device manufacturers and design partners throughout the world for use in the manufacture of advanced microcontroller products, gate array, radio frequency (RF) and analog products that require embedded non-volatile memory.

We sell our products to a broad base of domestic and international customers across a variety of industries. The principal markets that we serve include consumer, automotive, industrial, office communication, computing and aerospace. Our business is subject to fluctuations based on economic conditions within these markets.

Our manufacturing operations include wafer fabrication, wafer probe and assembly and test. The ownership of a substantial portion of our manufacturing resources is an important component of our business strategy, enabling us to maintain a high level of manufacturing control resulting in us being one of the lowest cost producers in the embedded control industry. By owning wafer fabrication facilities and our assembly and test operations, and by employing statistical process control techniques, we have been able to achieve and maintain high production yields. Direct control over manufacturing resources allows us to shorten our design and production cycles. This control also allows us to capture a portion of the wafer manufacturing and the assembly and test profit margin. We do outsource a significant portion of our manufacturing requirements to third parties.

We employ proprietary design and manufacturing processes in developing our embedded control products. We believe our processes afford us both cost-effective designs in existing and derivative products and greater functionality in new product designs. While many of our competitors develop and optimize separate processes for their logic and memory product lines, we use a common process technology for both microcontroller and non-volatile memory products. This allows us to more fully leverage our process research and development costs and to deliver new products to market more rapidly. Our engineers utilize advanced computer-aided design tools and software to perform circuit design, simulation and layout, and our in-house photomask and wafer fabrication facilities enable us to rapidly verify design techniques by processing test wafers quickly and efficiently.

We are committed to continuing our investment in new and enhanced products, including development systems, and in our design and manufacturing process technologies. We believe these investments are significant factors in maintaining our competitive position. Our current research and development activities focus on the design of new microcontrollers, digital signal controllers, memory, analog and mixed-signal products, Flash-IP systems, development systems, software and application-specific software libraries. We are also developing new design and process technologies to achieve further cost reductions and performance improvements in our products.

We market and sell our products worldwide primarily through a network of direct sales personnel and distributors. Our distributors focus primarily on servicing the product and technical support requirements of a broad base of diverse customers. We believe that our direct sales personnel combined with our distributors provide an effective means of reaching this broad and diverse customer base. Our direct sales force focuses primarily on major strategic accounts in three geographical markets: the Americas, Europe and Asia. We currently maintain sales and support centers in major metropolitan areas in North America, Europe and Asia. We believe that a strong technical service presence is essential to the continued development of the embedded control market. Many of our client engagement manager (CEMs), embedded system engineer (ESEs), and sales management personnel have technical degrees and have been previously employed in an engineering environment. We believe that the technical knowledge of our sales force is a key competitive advantage in the sale of our products. The primary mission of our ESE team is to provide technical assistance to strategic accounts and to conduct periodic training sessions for CEMs and distributor sales teams. ESEs also frequently conduct technical seminars for our customers in major cities around the world, and work closely with our distributors to provide technical assistance and end-user support.

See "Our operating results are impacted by both seasonality and the wide fluctuation of supply and demand in the semiconductor industry," on page 15 for discussion of the impact of seasonality on our business.

Critical Accounting Policies and Estimates

General

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. We review the accounting policies we use in reporting our financial results on a regular basis. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, business combinations, share-based compensation, inventories, income taxes, senior and junior subordinated convertible debt 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 judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Our results may differ from these estimates due to actual outcomes being different from those on which we based our assumptions. We review these estimates and judgments on an ongoing basis. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements. We also have other policies that we consider key accounting policies, such as our policy regarding revenue recognition to original equipment manufacturers (OEMs); however, we do not believe these policies require us to make estimates or judgments that are as difficult or subjective as our policies described below.

Revenue Recognition – Distributors

Our distributors worldwide generally have broad price protection and product return rights which prevent the sales pricing from being fixed or determinable at the time of shipment to our distributors. Therefore, revenue recognition is deferred until the pricing uncertainty is resolved, which generally occurs when the distributor sells the product to their customer. At the time of shipment to these distributors, we record a trade receivable for the selling price as there is a legally enforceable right to payment, relieve inventory for the carrying value of goods shipped since legal title has passed to the distributor, and record the gross margin in deferred income on shipments to distributors on our consolidated balance sheets.

In connection with our acquisitions of Atmel and Micrel, we acquired certain distributor relationships where revenue was recognized upon shipment to the distributors based on certain contractual terms or prevailing business practices that result in the price not being fixed and determinable at such time. Following an acquisition, we undertake efforts to align the contract terms and business practices of the acquired entity with our own. Once these efforts are complete, revenue recognition is changed. With respect to such distributor relationships acquired in the Atmel acquisition, as of October 1, 2016, these business practices were conformed to those of our other distributors resulting in the deferral of revenue recognition until the distributor sells the product to their customers. With respect to such distributor relationships acquired in the Micrel acquisition, in the December 2015 quarter, these distributor contracts were changed to be consistent with those of our other distributors which resulted in the deferral of revenue recognition under such contracts until the distributor sells the product to their customers.

Deferred income on shipments to distributors effectively represents the gross margin on the sale to the distributor; however, the amount of gross margin that we recognize in future periods could be less than the deferred margin as a result of credits granted to distributors on specifically identified products and customers to allow the distributors to earn a competitive gross margin on the sale of our products to their end customers and price protection concessions related to market pricing conditions.

We sell the majority of the items in our product catalog to our distributors worldwide at a uniform list price. However, distributors resell our products to end customers at a very broad range of individually negotiated price points. The majority of our distributors' resales require a reduction from the original list price paid. Often, under these circumstances, we remit back to the distributor a portion of their original purchase price after the resale transaction is completed in the form of a credit against the distributors' outstanding accounts receivable balance. The credits are on a per unit basis and are not given to the distributor until they provide information to us regarding the sale to their end customer. The price reductions vary significantly based on the customer, product, quantity ordered, geographic location and other factors. Discounts to a price less than our cost have historically been rare. The effect of granting these credits establishes the net selling price to our distributors for the product and results in the net revenue recognized by us when the product is sold by the distributors to their end customers. Thus, a portion of the "deferred income on shipments to distributors" balance represents the amount of distributors' original purchase price that will be credited back to the distributors in the future. The wide range and variability of negotiated price concessions granted to distributors does not allow us to accurately estimate the portion of the balance in the deferred income on shipments to distributors account that will be credited back to the distributors. Therefore, we do not reduce deferred income on shipments to distributors or accounts receivable by anticipated future concessions; rather, price concessions are typically recorded against deferred income on shipments to distributors and accounts receivable when incurred, which is generally at the time the distributor sells the product. At March 31, 2017, we had approximately $418.0 million of deferred revenue and $125.2 million in deferred cost of sales recognized as $292.8 million of deferred income on shipments to distributors. At March 31, 2016, we had approximately $267.2 million of deferred revenue and $83.8 million in deferred cost of sales recognized as $183.4 million of deferred income on shipments to distributors. The increase in deferred income on shipments to distributors in fiscal 2017 compared to fiscal 2016 resulted primarily from our acquisition of Atmel. The deferred income on shipments to distributors that will ultimately be recognized in our income statement will be lower than the amount reflected on the balance sheet due to additional price credits to be granted to the distributors when the product is sold to their customers. These additional price credits historically have resulted in the deferred income approximating the overall gross margins that we recognize in the distribution channel of our business.

Distributor advances, reflected as a reduction of deferred income on shipments to distributors on our consolidated balance sheets, totaled $203.9 million at March 31, 2017 and $102.9 million at March 31, 2016. The increase in distributor advances in fiscal 2017 compared to fiscal 2016 resulted primarily from our acquisition of Atmel. On sales to distributors, our payment terms generally require the distributor to settle amounts owed to us for an amount in excess of their ultimate cost. The sales price to our distributors may be higher than the amount that the distributors will ultimately owe us because distributors often negotiate price reductions after purchasing products from us and such reductions are often significant. It is our practice to apply these negotiated price discounts to future purchases, requiring the distributor to settle receivable balances, on a current basis, generally within 30 days, for amounts originally invoiced. This practice has an adverse impact on the working capital of our distributors. As such, we have entered into agreements with certain distributors whereby we advance cash to the distributors to reduce the distributors' working capital requirements. These advances are reconciled at least on a quarterly basis and are estimated based on the amount of ending inventory as reported by the distributor multiplied by a negotiated percentage. Such advances have no impact on our revenue recognition or our consolidated statements of operations. We process discounts taken by distributors against our deferred income on shipments to distributors' balance and true-up the advanced amounts generally after the end of each completed fiscal quarter. The terms of these advances are set forth in binding legal agreements and are unsecured, bear no interest on unsettled balances and are due upon demand. The agreements governing these advances can be canceled by us at any time.

We reduce product pricing through price protection based on market conditions, competitive considerations and other factors. Price protection is granted to distributors on the inventory they have on hand at the date the price protection is offered. When we reduce the price of our products, it allows the distributor to claim a credit against its outstanding accounts receivable balances based on the new price of the inventory it has on hand as of the date of the price reduction. There is no immediate revenue impact from the price protection, as it is reflected as a reduction of the deferred income on shipments to distributors' balance.

Products returned by distributors and subsequently scrapped have historically been immaterial to our consolidated results of operations. We routinely evaluate the risk of impairment of the deferred cost of sales component of the deferred income on shipments to distributors account. Because of the historically immaterial amounts of inventory that have been scrapped, and historically rare instances where discounts given to a distributor result in a price less than our cost, we believe the deferred costs are recorded at their approximate carrying value.

Recent Updates to Revenue Recognition

In May 2014, the FASB issued ASU 2014-09 *Revenue from Contracts with Customers (Topic 606)* and in August 2015, the FASB subsequently issued ASU 2015-14 “Deferral of the Effective Date,” which supersedes existing revenue guidance pursuant to US GAAP and will no longer permit us to defer revenue on sales to distributors until the products are sold to the end customer. Upon adoption of ASU 2014-09 and 2015-14, a portion of this deferred revenue will be required to be estimated and recognized upon sale to the distributor rather than upon the sale by the distributor to the end customer. See “Recently Issued Accounting Pronouncements Not Yet Adopted” for additional information on the new guidance.

Business Combinations

All of our business combinations are accounted for at fair value under the acquisition method of accounting. Under the acquisition method of accounting, (i) acquisition-related costs, except for those costs incurred to issue debt or equity securities, will be expensed in the period incurred; (ii) non-controlling interests will be valued at fair value at the acquisition date; (iii) in-process research and development will be recorded at fair value as an intangible asset at the acquisition date and amortized once the technology reaches technological feasibility; (iv) restructuring costs associated with a business combination will be expensed subsequent to the acquisition date; and (v) changes in deferred tax asset valuation allowances and income tax uncertainties after the acquisition date will be recognized through income tax expense or directly in contributed capital. The measurement of the fair value of assets acquired and liabilities assumed requires significant judgment. The valuation of intangible assets, in particular, requires that we use valuation techniques such as the income approach. The income approach includes the use of a discounted cash flow model, which includes discounted cash flow scenarios and requires the following significant estimates: revenue, expenses, capital spending and other costs, and discount rates based on the respective risks of the cash flows. Under the acquisition method of accounting, the aggregate amount of consideration we pay for a company is allocated to net tangible assets and intangible assets based on their estimated fair values as of the acquisition date. The excess of the purchase price over the value of the net tangible assets and intangible assets is recorded to goodwill. On an annual basis, we test goodwill for impairment and through March 31, 2017, we have never recorded an impairment charge against our goodwill balance.

Share-based Compensation

We measure at fair value and recognize compensation expense for all share-based payment awards, including grants of employee stock options, restricted stock units (RSUs) and employee stock purchase rights, to be recognized in our financial statements based on their respective grant date fair values. For the past several years, we have utilized RSUs as our primary equity incentive compensation instrument for employees. Share-based compensation cost is measured on the grant date based on the fair market value of our common stock discounted for expected future dividends and is recognized as expense straight-line over the requisite service periods. Total share-based compensation expense recognized in fiscal 2017 was $128.2 million, of which $109.5 million was reflected in operating expenses and$18.7 million was reflected in cost of sales. Total share-based compensation included in our inventory balance was $8.2 million at March 31, 2017.

During the year ended March 31, 2017, we elected to early adopt ASU 2016-09, *Compensation - Stock Compensation, Improvements to Employee Share-Based Payment Accounting (Topic 718)*. Under this standard, entities are permitted to make an accounting policy election to either estimate forfeitures on share-based payment awards, as previously required, or to recognize forfeitures as they occur. We have elected to recognize forfeitures as they occur. Prior to the adoption of ASU 2016-09, we estimated the number of share-based awards to be forfeited due to employee turnover. The effect of forfeiture adjustments in the years ended March 31, 2016 and 2015 was immaterial.

If there are any modifications or cancellations of the underlying unvested securities, we may be required to accelerate, increase or cancel any remaining unearned share-based compensation expense. Future share-based compensation expense and unearned share-based compensation will increase to the extent that we grant additional equity awards to employees or we assume unvested equity awards in connection with acquisitions.

Inventories

Inventories are valued at the lower of cost or market using the first-in, first-out method. We write down our inventory for estimated obsolescence or unmarketable inventory in an amount equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand and market conditions. If actual market conditions are less favorable than those we projected, additional inventory write-downs may be required. Inventory impairment charges establish a new cost basis for inventory and charges are not subsequently reversed to income even if circumstances later suggest that increased carrying amounts are recoverable. In estimating our inventory obsolescence, we primarily evaluate estimates of demand over a 12-month period and record impairment charges for inventory on hand in excess of the estimated 12-month demand. Estimates for projected 12-month demand are generally based on the average shipments of the prior three-month period, which are then annualized to adjust for any potential seasonality in our business. The estimated 12-month demand is compared to our most recently developed sales forecast to further reconcile the 12-month demand estimate. Management reviews and adjusts the estimates as appropriate based on specific situations. For example, demand can be adjusted up for new products for which historic sales are not representative of future demand. Alternatively, demand can be adjusted down to the extent any existing products are being replaced or discontinued.

In periods where our production levels are substantially below our normal operating capacity, the reduced production levels of our manufacturing facilities are charged directly to cost of sales. As a result of production below normal operating levels in our wafer fabrication facilities, approximately $1.9 million and $0.8 million was charged directly to cost of sales in fiscal 2016 and fiscal 2015, respectively. There was no charge to cost of sales for reduced production levels in fiscal 2017.

Income Taxes

As part of the process of preparing our consolidated financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. This process involves estimating our actual current tax exposure together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheets. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income within the relevant jurisdiction and to the extent we believe that recovery is not likely, we must establish a valuation allowance. We have provided valuation allowances for certain of our deferred tax assets, including state net operating loss carryforwards, foreign tax credits and state tax credits, where it is more likely than not that some portion, or all of such assets, will not be realized. At March 31, 2017, the valuation allowances totaled $210.1 million. Should we determine that we would not be able to realize all or part of our net deferred tax asset in the future, an adjustment to the deferred tax asset would be charged to income in the period such determination was made.

Various taxing authorities in the U.S. and other countries in which we do business scrutinize the tax structures employed by businesses. Companies of our size and complexity are regularly audited by the taxing authorities in the jurisdictions in which they conduct significant operations. During the year ended March 31, 2017, the U.S. Internal Revenue Service (IRS) finalized the audit of our 2011 and 2012 income tax years. The close of this audit did not have an adverse impact on our financial statements. Also, during the year ended March 31, 2017, the German and French tax authorities finalized the audit of our 2010 through 2013 and our 2012 through 2014 income tax years, respectively. The close of these audits did not have an adverse impact on our financial statements. We are currently being audited by the tax authorities in France. We recognize liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and the extent to which, additional tax payments are probable. We believe that we maintain adequate tax reserves to offset any potential tax liabilities that may arise upon these and other pending audits in the U.S. and other countries in which we do business. If such amounts ultimately prove to be unnecessary, the resulting reversal of such reserves would result in tax benefits being recorded in the period the reserves are no longer deemed necessary. If such amounts ultimately prove to be less than an ultimate assessment, a future charge to expense would be recorded in the period in which the assessment is determined.

The accounting model as defined in ASC 740 related to the valuation of uncertain tax positions requires us to presume that the tax position will be examined by the relevant taxing authority that has full knowledge of all relevant information and that each tax position will be evaluated without consideration of the possibility of offset or aggregation with other positions. The recognition requirement for the liability exists even if we believe the possibility of examination by a taxing authority or discovery of the related risk matters is remote or where we have a long history of the taxing authority not performing an exam or overlooking an issue. We will record an adjustment to a previously recorded position if new information or facts related to the position are identified in a subsequent period. All adjustments to the positions are recorded through the income statement. Generally, adjustments will be recorded in periods subsequent to the initial recognition if the taxing authority has completed an audit of the period or if the statute of limitation expires. Due to the inherent uncertainty in the estimation process and in consideration of the criteria of the accounting model, amounts recognized in the financial statements in periods subsequent to the initial recognition may significantly differ from the estimated exposure of the position under the accounting model.

Senior and Junior Subordinated Convertible Debt

We separately account for the liability and equity components of our senior and junior subordinated convertible debt in a manner that reflects our nonconvertible debt (unsecured debt) borrowing rate when interest cost is recognized. This results in a bifurcation of a component of the debt, classification of that component in equity and the accretion of the resulting discount on the debt to be recognized as part of interest expense in our consolidated statements of operations. Lastly, we include the dilutive effect of the shares of our common stock issuable upon conversion of the outstanding senior and junior subordinated convertible debt in our diluted income per share calculation regardless of whether the market price triggers or other contingent conversion features have been met. We apply the treasury stock method as we have the intent and have adopted an accounting policy to settle the principal amount of the senior and junior subordinated convertible debentures in cash. This method results in incremental dilutive shares when the average fair value of our common stock for a reporting period exceeds the conversion prices per share and adjusts as dividends are recorded in the future.

Contingencies

In the ordinary course of our business, we are exposed to various liabilities as a result of contracts, product liability, customer claims and other matters. Additionally, we are involved in a limited number of legal actions, both as plaintiff and defendant. Consequently, we could incur uninsured liability in any of those actions. We also periodically receive notifications from various third parties alleging infringement of patents or other intellectual property rights, or from customers requesting reimbursement for various costs. With respect to pending legal actions to which we are a party and other claims, although the outcomes are generally not determinable, we believe that the ultimate resolution of these matters will not have a material adverse effect on our financial position, cash flows or results of operations. Litigation and disputes relating to the semiconductor industry are not uncommon, and we are, from time to time, subject to such litigation and disputes. As a result, no assurances can be given with respect to the extent or outcome of any such litigation or disputes in the future.

We accrue for claims and contingencies when losses become probable and reasonably estimable. As of the end of each applicable reporting period, we review each of our matters and, where it is probable that a liability has been or will be incurred, we accrue for all probable and reasonably estimable losses. Where we can reasonably estimate a range of losses we may incur regarding such a matter, we record an accrual for the amount within the range that constitutes our best estimate. If we can reasonably estimate a range but no amount within the range appears to be a better estimate than any other, we use the amount that is the low end of such range. Contingencies of an acquired company that exist as of the date of the acquisition are measured at fair value if determinable, which generally is based on a probability weighted model. If fair value is not determinable, contingencies of an acquired company are recognized when they become probable and reasonably estimable.

Results of Continuing Operations

The following table sets forth certain operational data as a percentage of net sales for the years indicated:

	Year Ended March 31,		
	2017	2016	2015
Net sales	100.0%	100.0%	100.0%
Cost of sales	48.4	44.5	42.7
Gross profit	51.6	55.5	57.3
Research and development	16.0	17.1	16.3
Selling, general and administrative	14.7	13.9	12.8
Amortization of acquired intangible assets	9.9	8.1	8.3
Special charges and other, net	2.9	0.2	0.1
Operating income	8.1%	16.2%	19.8%

Net Sales

We operate in two segments and engage primarily in the design, development, manufacture and sale of semiconductor products as well as the licensing of our SuperFlash and other technologies. We sell our products to distributors and OEMs, in a broad range of markets, perform ongoing credit evaluations of our customers and generally require no collateral. In certain circumstances, a customer's financial condition may require collateral, and, in such cases, the collateral would be typically provided by letters of credit.

Our net sales of $3,407.8 million in fiscal 2017 increased by $1,234.5 million, or 56.8%, compared to fiscal 2016, and our net sales of $2,173.3 million in fiscal 2016 increased by $26.3 million, or 1.2%, compared to fiscal 2015. The increase in net sales in fiscal 2017 compared to fiscal 2016 was due primarily to our acquisition of Atmel and also by growth in our historical business driven by general economic and semiconductor industry conditions. The increase in net sales in fiscal 2016 compared to fiscal 2015 was due primarily to our acquisition of Micrel, offset in part by weaker general economic and semiconductor industry conditions. Average selling prices for our semiconductor products were flat in fiscal 2017 compared to fiscal 2016 and down approximately 3% in fiscal 2016 compared to fiscal 2015. The number of units of our semiconductor products sold was up approximately 58% in fiscal 2017 compared to fiscal 2016 and up approximately 6% in fiscal 2016 compared to fiscal 2015.

The average selling prices and the unit volumes of our sales are impacted by the mix of our products sold and overall semiconductor market conditions. Key factors impacting the amount of net sales during the last three fiscal years include:

- our acquisition of Atmel, which closed on April 4, 2016;
- our acquisition of Micrel, which closed on August 3, 2015;
- global economic conditions in the markets we serve;
- semiconductor industry conditions;
- our acquisition of ISSC on July 17, 2014;
- our acquisition of Supertex on April 1, 2014;
- our new product offerings that have increased our served available market;
- customers' increasing needs for the flexibility offered by our programmable solutions;
- inventory holding patterns of our customers;
- increasing semiconductor content in our customers' products; and
- continued market share gains in the segments of the markets we address.

Net sales by product line for fiscal 2017, 2016 and 2015 were as follows (dollars in thousands):

	Year Ended March 31,					
	2017	%	2016	%	2015	%
Microcontrollers	$ 2,147,338	63.0	$ 1,345,499	61.9	$ 1,393,607	64.9
Analog, interface, mixed signal and timing products	888,878	26.1	595,455	27.4	501,048	23.3
Memory products	184,107	5.4	116,945	5.4	132,258	6.2
Technology licensing	91,156	2.7	89,124	4.1	89,593	4.2
Multi-market and other	96,328	2.8	26,311	1.2	30,530	1.4
Total net sales	$ 3,407,807	100.0	$ 2,173,334	100.0	$ 2,147,036	100.0

Microcontrollers

Our microcontroller product line represents the largest component of our total net sales. Microcontrollers and associated application development systems accounted for approximately 63.0% of our net sales in fiscal 2017, approximately 61.9% of our net sales in fiscal 2016 and approximately 64.9% of our net sales in fiscal 2015.

Net sales of our microcontroller products increased approximately 59.6% in fiscal 2017 compared to fiscal 2016, and decreased approximately 3.5% in fiscal 2016 compared to fiscal 2015. The increase in net sales in fiscal 2017 compared to fiscal 2016 resulted primarily from our acquisition of Atmel and also by growth in our historical business driven by general economic and semiconductor industry conditions. The decrease in net sales in fiscal 2016 compared to fiscal 2015 resulted primarily from weaker general economic and semiconductor industry conditions in the end markets we serve including the consumer, automotive, industrial control, communications and computing markets.

Historically, average selling prices in the semiconductor industry decrease over the life of any particular product. The overall average selling prices of our microcontroller products have remained relatively constant over time due to the proprietary nature of these products. We have experienced, and expect to continue to experience, moderate pricing pressure in certain microcontroller product lines, primarily due to competitive conditions. We have in the past been able to, and expect in the future to be able to, moderate average selling price declines in our microcontroller product lines by introducing new products with more features and higher prices. We may be unable to maintain average selling prices for our microcontroller products as a result of increased pricing pressure in the future, which could adversely affect our operating results.

Analog, Interface, Mixed Signal and Timing Products

Sales of our analog, interface, mixed signal and timing products accounted for approximately 26.1% of our net sales in fiscal 2017, approximately 27.4% of our net sales in fiscal 2016 and approximately 23.3% of our net sales in fiscal 2015.

Net sales of our analog, interface, mixed signal and timing products increased approximately 49.3% in fiscal 2017 compared to fiscal 2016 and increased approximately 18.8% in fiscal 2016 compared to fiscal 2015. The increase in net sales in fiscal 2017 compared to fiscal 2016 was driven primarily by our acquisition of Atmel and also by growth in our historical business driven by general economic and semiconductor industry conditions. The increase in net sales in fiscal 2016 compared to fiscal 2015 was driven primarily by our acquisition of Micrel in the second quarter of fiscal 2016 and market share gains achieved within the analog, interface, mixed signal and timing market.

Analog, interface, mixed signal and timing products can be proprietary or non-proprietary in nature. Currently, we consider the majority of our analog, interface, mixed signal and timing product mix to be proprietary in nature, where prices are relatively stable, similar to the pricing stability experienced in our microcontroller products. The non-proprietary portion of our analog, interface, mixed signal and timing business will experience price fluctuations, driven primarily by the current supply and demand for those products. We may be unable to maintain the average selling prices of our analog, interface, mixed signal and timing products as a result of increased pricing pressure in the future, which could adversely affect our operating results. We anticipate the proprietary portion of our analog, interface, mixed signal and timing products will increase over time.

Memory Products

Sales of our memory products accounted for approximately 5.4% of our net sales in fiscal 2017, approximately 5.4% of our net sales in fiscal 2016 and approximately 6.2% of our net sales in fiscal 2015.

Net sales of our memory products increased approximately 57.4% in fiscal 2017 compared to fiscal 2016, and decreased approximately 11.6% in fiscal 2016 compared to fiscal 2015. The increase in memory product net sales in fiscal 2017 compared to fiscal 2016 was driven primarily by our acquisition of Atmel. The decrease in memory product net sales in fiscal 2016 compared to fiscal 2015 was driven primarily by adverse customer demand conditions within the Serial EEPROM and Flash memory markets.

Memory product pricing has historically been cyclical in nature, with steep price declines followed by periods of relative price stability, driven by changes in industry capacity at different stages of the business cycle. We have experienced, and expect to continue to experience, varying degrees of competitive pricing pressures in our memory products. We may be unable to maintain the average selling prices of our memory products as a result of increased pricing pressure in the future, which could adversely affect our operating results.

Technology Licensing

Technology licensing revenue includes a combination of royalties associated with licenses for the use of our SuperFlash and other technologies and fees for engineering services. Technology licensing accounted for approximately 2.7% of our net sales in fiscal 2017, approximately 4.1% of our net sales in fiscal 2016 and approximately 4.2% of our net sales in fiscal 2015.

Net sales related to our technology licensing increased approximately 2.3% in fiscal 2017 compared to fiscal 2016 and decreased approximately 0.5% in fiscal 2016 compared to fiscal 2015. Revenue from technology licensing can fluctuate over time based on the production activities of our licensees as well as general economic and semiconductor industry conditions.

Multi-Market and Other

Multi-market and other (MMO) consists of manufacturing services (wafer foundry and assembly and test subcontracting), legacy application specific integrated circuits, complex programmable logic devices, and aerospace products. Revenue from these services and products accounted for approximately 2.8% of our net sales in fiscal 2017, approximately 1.2% of our net sales in fiscal 2016, and approximately 1.4% of our net sales in fiscal 2015.

Net sales related to these services and products increased approximately $70.0 million in fiscal 2017 compared to fiscal 2016 and decreased approximately $4.2 million in fiscal 2016 compared to fiscal 2015. The increase in MMO net sales in fiscal 2017 compared to fiscal 2016 was driven primarily by our acquisition of Atmel. The decrease in MMO net sales in fiscal 2016 compared to fiscal 2015 was driven primarily by general economic and semiconductor industry conditions.

Distribution

Distributors accounted for approximately 55% of our net sales in fiscal 2017, approximately 53% of our net sales in fiscal 2016 and approximately 51% of our net sales in fiscal 2015. Our distributors focus primarily on servicing the product requirements of a broad base of diverse customers. We believe that distributors provide an effective means of reaching this broad and diverse customer base. We believe that customers recognize Microchip for its products and brand name and use distributors as an effective supply channel.

Our two largest distributors together accounted for approximately 14% of our net sales in fiscal 2017, and approximately, 12% of our net sales in each of fiscal 2016 and fiscal 2015. No single distributor accounted for more than 10% of our net sales in fiscal 2017, 2016 or 2015.

Generally, we do not have long-term agreements with our distributors and we, or our distributors, may terminate our relationship with each other with little or no advanced notice. The loss of, or the disruption in the operations of, one or more of our distributors could reduce our future net sales in a given quarter and could result in an increase in inventory returns.

At March 31, 2017, our distributors maintained 33 days of inventory of our products compared to 32 days at March 31, 2016 and 37 days at March 31, 2015. Over the past five fiscal years, the days of inventory maintained by our distributors have fluctuated between approximately 27 days and 37 days. We do not believe that inventory holding patterns at our distributors will materially impact our net sales, due to the fact that we recognize revenue based on when the distributor sells the product to their customer.

Sales by Geography

Sales by geography for fiscal 2017, 2016 and 2015 were as follows (dollars in thousands):

	Year Ended March 31,					
	2017	%	2016	%	2015	%
Americas	$ 641,849	18.8	$ 417,579	19.2	$ 421,947	19.7
Europe	808,583	23.7	474,629	21.8	452,165	21.0
Asia	1,957,375	57.5	1,281,126	59.0	1,272,924	59.3
Total net sales	$ 3,407,807	100.0	$ 2,173,334	100.0	$ 2,147,036	100.0

Americas sales include sales to customers in the U.S., Canada, Central America and South America. Sales to foreign customers accounted for approximately 84% of our total net sales in each of fiscal 2017, 2016 and 2015. Substantially all of our foreign sales are U.S. dollar denominated. Sales to customers in Asia have generally increased over time due to many of our customers transitioning their manufacturing operations to Asia and growth in demand from the emerging Asian market. Our sales force in the Americas and Europe supports a significant portion of the design activity for products which are ultimately shipped to Asia.

Sales to customers in China, including Hong Kong, accounted for approximately 32%, 30% and 28% of our net sales in fiscal 2017, 2016 and 2015, respectively. The increases in sales to customers in China, including Hong Kong, in fiscal 2017 compared to fiscal 2016 and in fiscal 2016 compared to fiscal 2015 were due primarily to our continued focus on the Chinese market as a key component to our global growth strategy and our acquisition of Atmel, which had a slightly higher percentage of its net sales from China, including Hong Kong. Sales to customers in Taiwan accounted for approximately 9%, 12% and 14% of our net sales in fiscal 2017, 2016 and 2015, respectively. The decreases in sales to customers in Taiwan in fiscal 2017 compared to fiscal 2016 and in fiscal 2016 compared to fiscal 2015 were due primarily to our acquisitions of Atmel and Micrel, which had lower percentages of their net sales from Taiwan. We did not have sales into any other foreign countries that exceeded 10% of our net sales during fiscal 2017, 2016 or 2015.

Gross Profit

Our gross profit was $1,757.2 million in fiscal 2017, $1,205.5 million in fiscal 2016 and $1,229.6 million in fiscal 2015. Gross profit as a percentage of sales was 51.6% in fiscal 2017, 55.5% in fiscal 2016 and 57.3% in fiscal 2015.

The most significant factors affecting our gross profit percentage in the periods covered by this report were:

- charges of approximately $186.7 million in fiscal 2017, approximately $44.9 million in fiscal 2016, and approximately $24.4 million in fiscal 2015 related to the recognition of acquired inventory at fair value as a result of our acquisitions which increased the value of our acquired inventory and subsequently increased our cost of sales and reduced our gross margins when the related revenue was recognized;
- for each of fiscal 2017, fiscal 2016 and fiscal 2015, inventory write-downs being higher than the gross margin impact of sales of inventory that was previously written down; and
- fluctuations in the product mix of microcontrollers, analog, interface, mixed signal and timing products, memory products and technology licensing.

Other factors that impacted our gross profit percentage in the periods covered by this report include:

- continual cost reductions in wafer fabrication and assembly and test manufacturing, such as new manufacturing technologies and more efficient manufacturing techniques; and
- lower depreciation as a percentage of cost of sales.

We adjust our wafer fabrication and assembly and test capacity utilization as required to respond to actual and anticipated business and industry-related conditions. When production levels are below normal capacity, we charge cost of sales for the unabsorbed capacity. In fiscal 2017, our wafer fabrication facilities and assembly and test facilities operated at normal capacity levels, which we measure as a percentage of the capacity of the installed equipment. In fiscal 2016 and fiscal 2015, our wafer fabrication facilities operated below normal capacity levels during the third quarter of fiscal 2016 and the first quarter of fiscal 2015 in response to uncertain global economic conditions and our inventory position. As a result of production being below normal operating levels in our wafer fabs, approximately $1.9 million and $0.8 million was charged to cost of sales in fiscal 2016 and fiscal 2015, respectively. We operated at slightly below normal capacity levels in our Thailand assembly and test facilities during the third quarter of fiscal 2016. As a result, we charged cost of sales approximately $1.0 million during fiscal 2016. During fiscal 2015, we operated at normal levels of capacity at our Thailand assembly and test facilities.

The process technologies utilized in our wafer fabrication facilities impact our gross margins. Our wafer fabrication facility located in Tempe, Arizona (Fab 2) currently utilizes various manufacturing process technologies, but predominantly utilizes our 0.5 microns to 1.0 microns processes. Our wafer fabrication facility located in Gresham, Oregon (Fab 4) predominantly utilizes our 0.13 microns to 0.5 microns processes. We continue to transition products to more advanced process technologies to reduce future manufacturing costs. Substantially all of our production in Fab 2 and Fab 4 has been on 8-inch wafers during the periods covered by this report. We consider normal capacity at Fab 2 and Fab 4 to be 90% to 95%. As a result of our acquisition of Atmel, we acquired a 6-inch wafer fabrication facility in Colorado Springs, Colorado (Fab 5) that currently utilizes processes between 0.25 microns and 1.0 microns. We consider normal capacity at Fab 5 to be 70% to 75%. As a result of our acquisition of Micrel in August 2015, we acquired a 6-inch wafer fabrication facility in San Jose, California and have since transitioned products previously manufactured at this facility to our Fab 2, Fab 4 and Fab 5 facilities. During the quarter ended December 31, 2016, we decommissioned this San Jose facility and, subsequent to March 31, 2017, we completed the sale of these assets for proceeds of $10.0 million. As of March 31, 2017, these assets consisting of property, plant and equipment were presented as held for sale in our consolidated financial statements.

Our overall inventory levels were $417.2 million at March 31, 2017, compared to $306.8 million at March 31, 2016 and $279.5 million at March 31, 2015. The increases in inventory levels at March 31, 2017 compared to March 31, 2016 and the inventory levels at March 31, 2016 compared to March 31, 2015 were due primarily to the acquisitions of Atmel and Micrel. We maintained 103 days of inventory on our balance sheet at March 31, 2017 compared to 110 days of inventory at March 31, 2016 and 111 days at March 31, 2015. We expect our inventory levels in the June 2017 quarter to be between 97 days and 106 days. We believe our existing level of inventory will allow us to maintain competitive lead times and provide strong delivery performance to our customers.

We anticipate that our gross margins will fluctuate over time, driven primarily by capacity utilization levels, the overall product mix of microcontroller, analog, interface, mixed signal and timing products, memory products and technology licensing revenue and the percentage of net sales of each of these products in a particular quarter, as well as manufacturing yields, fixed cost absorption, and competitive and economic conditions in the markets we serve.

We operate assembly and test facilities in Thailand and, as a result of our acquisition of Atmel, we acquired a test facility in Calamba, Philippines. During fiscal 2017, approximately 36% of our assembly requirements were performed in our Thailand facilities, compared to approximately 53% during fiscal 2016 and approximately 57% during fiscal 2015. The percentage of our assembly work that is performed internally fluctuates over time based on supply and demand conditions in the semiconductor industry, our internal capacity capabilities and our acquisition activities. Third-party contractors located primarily in Asia perform the balance of our assembly operations. During fiscal 2017, approximately 60% of our test requirements were performed in our Thailand and Philippines facilities compared to approximately 81% of our test requirements performed in our Thailand facilities during fiscal 2016 and approximately88% during fiscal 2015. The primary reasons for the percentage reductions in the assembly and test operations performed internally in fiscal 2017 compared to fiscal 2016 and in fiscal 2016 compared to fiscal 2015 are our acquisitions of Atmel and Micrel, which outsourced most of these activities. Over time, we intend to migrate a portion of the outsourced assembly and test activities to our Thailand and Philippines facilities. We believe that the assembly and test operations performed at our internal facilities provide us with significant cost savings compared to contractor assembly and test costs, as well as increased control over these portions of the manufacturing process.

We rely on outside wafer foundries for a significant portion of our wafer fabrication requirements. During fiscal 2017, approximately 41% of our total net sales came from products that were produced at outside wafer foundries compared to approximately 39% during each of fiscal 2016 and fiscal 2015.

Our use of third parties involves some reduction in our level of control over the portions of our business that we subcontract. While we review the quality, delivery and cost performance of our third-party contractors, our future operating results could suffer if any third-party contractor is unable to maintain manufacturing yields, assembly and test yields and costs at approximately their current levels.

Research and Development (R&D)

R&D expenses for fiscal 2017 were $545.3 million, or 16.0% of sales, compared to $372.6 million, or 17.1% of sales, for fiscal 2016 and $349.5 million, or 16.3% of sales, for fiscal 2015. We are committed to investing in new and enhanced products, including development systems software, and in our design and manufacturing process technologies. We believe these investments are significant factors in maintaining our competitive position. R&D costs are expensed as incurred. Assets purchased to support our ongoing research and development activities are capitalized when related to products which have achieved technological feasibility or that have alternative future uses and are amortized over their expected useful lives. R&D expenses include labor, depreciation, masks, prototype wafers, and expenses for the development of process technologies, new packages, and software to support new products and design environments.

R&D expenses increased $172.7 million, or 46.3%, for fiscal 2017 compared to fiscal 2016 primarily due to additional compensation and other costs from our acquisition of Atmel. R&D as a percentage of revenue decreased in fiscal 2017 compared to fiscal 2016 due to our restructuring activities and synergies realized following the acquisitions of Atmel and Micrel. R&D expenses increased $23.1 million, or 6.6%, for fiscal 2016 compared to fiscal 2015 primarily due to additional costs from our acquisition of Micrel as well as higher headcount costs.

R&D expenses fluctuate over time, primarily due to revenue and operating expense investment levels.

Selling, General and Administrative

Selling, general and administrative expenses for fiscal 2017 were $499.8 million, or 14.7% of sales, compared to $301.7 million, or 13.9% of sales, for fiscal 2016, and $274.8 million, or 12.8% of sales, for fiscal 2015. Selling, general and administrative expenses include salary expenses related to field sales, marketing and administrative personnel, advertising and promotional expenditures and legal expenses. Selling, general and administrative expenses also include costs related to our direct sales force, CEMs and ESEs who work in sales offices worldwide to stimulate demand by assisting customers in the selection and use of our products.

Selling, general and administrative expenses increased $198.1 million, or 65.7%, for fiscal 2017 compared to fiscal 2016 due primarily to additional costs from our acquisition of Atmel. Selling, general and administrative expenses as a percentage of revenue increased in fiscal 2017 compared to fiscal 2016 due to costs associated with accelerated vesting of outstanding equity awards upon termination of certain Atmel employees. Excluding these costs, selling, general and administrative expenses as a percentage of revenue would have been 13.9% of sales, which is flat compared to fiscal 2016. Selling, general and administrative expenses increased $26.9 million, or 9.8%, for fiscal 2016 compared to fiscal 2015 due primarily to additional costs from our acquisition of Micrel.

Selling, general and administrative expenses fluctuate over time, primarily due to revenue and operating expense investment levels.

Amortization of Acquired Intangible Assets

Amortization of acquired intangible assets in fiscal 2017 was $337.7 million compared to $174.9 million in fiscal 2016 and $176.7 million in fiscal 2015. The primary reasons for the increase in acquired intangible asset amortization for fiscal 2017 compared to fiscal 2016 were increased amortization from our acquisitions of Atmel and Micrel partially offset by decreased amortization from our customer-related intangible assets from our acquisitions of Standard Microsystems Corporation (SMSC) and ISSC Technologies Corporation (ISSC). The primary reasons for the decrease in acquired intangible asset amortization for fiscal 2016 compared to fiscal 2015 were decreased amortization from our customer-related intangible assets from our acquisition of SMSC partially offset by increased amortization from our acquisitions of Micrel and ISSC.

Special Charges and Other, Net

During fiscal 2017, we incurred special charges and other, net of $98.6 million comprised primarily of restructuring charges. Our restructuring activities include workforce, property and other operating expense rationalizations as well as combining product roadmaps and manufacturing operations. In connection with these activities we incurred employee separation costs, contract exit costs, other operating expenses and intangible asset impairment losses. The impairment losses were recognized as a result of changes in the combined product roadmaps after the acquisition of Atmel that affected the use and life of these assets. During fiscal 2016, we incurred special charges and other, net of $4.0 million comprised of $11.2 million restructuring charges associated with our acquisition activity and legal settlement costs of approximately $4.3 million partially offset by special income and other, net of $11.5 million related to an insurance settlement for reimbursement of funds we previously paid to settle a lawsuit in the second quarter of fiscal 2013. During fiscal 2015, we incurred special charges and other, net of $2.8 million related to severance, office closing and other costs associated with our acquisition activity.

Other Income (Expense)

Interest income in fiscal 2017 was $3.1 million compared to $24.4 million in fiscal 2016 and $19.5 million in fiscal 2015. The primary reason for the decrease in interest income in fiscal 2017 compared to fiscal 2016 relates to lower invested cash balances as we used cash to finance a significant portion of the purchase price of our acquisition of Atmel. The primary reason for the increase in interest income in fiscal 2016 compared to fiscal 2015 relates to higher yields on short-term cash investments and higher invested cash balances.

Interest expense in fiscal 2017 was $146.3 million compared to $104.0 million in fiscal 2016 and $62.0 million in fiscal 2015. The primary reasons for the increase in interest expense in fiscal 2017 compared to fiscal 2016 relate to higher interest expense on amounts borrowed under our credit facility to partially finance our acquisition of Atmel, as well as the issuance of our 2017 senior and junior debt. In February 2017, we paid off the remaining $1,682.5 million balance on our credit facility. The primary reasons for the increase in interest expense in fiscal 2016 compared to fiscal 2015 relate to the issuance of our 2015 senior debt, partially offset by lower interest expense due to the settlement of $575.0 million in principal of our 2007 junior debt in February 2015.

Loss on settlement of convertible debt in fiscal 2017 and fiscal 2015 was $43.9 million and $50.6 million, respectively. In February 2017 and 2015, we settled $431.3 million and $575.0 million, respectively, in principal of our 2007 junior debt. In the case of the 2017 settlement, the principal value of $431.3 million was settled in cash and we issued shares of our common stock in respect of the conversion value in excess of the principal amount plus a cash inducement fee of $5.0 million. In the case of the 2015 settlement, the entire purchase price was settled in cash for $1,134.6 million.

Other loss, net in fiscal 2017 was $1.3 million compared to other income, net of $8.9 million in fiscal 2016 and other income, net of $13.7 million in fiscal 2015. The primary reason for the change in other income (loss) during fiscal 2017 compared to fiscal 2016 relates to the lower realized gains on the sale of marketable equity and debt securities. The primary reason for the change in other income (loss) during fiscal 2016 compared to fiscal 2015 relates to lower realized gains on the sale of marketable equity and debt securities and losses resulting from derivative activity.

Provision for Income Taxes

Our provision for income taxes reflects tax on our foreign earnings and federal and state tax on U.S. earnings. We had an effective tax rate benefit of 90.0% in fiscal 2017, 15.2% in fiscal 2016 and 5.6% in fiscal 2015. Excluding certain tax events described below, our effective tax rates were lower than statutory rates in the U.S. primarily due to our mix of earnings in foreign jurisdictions with lower tax rates and the R&D tax credit. Our effective tax rate in fiscal 2017 includes $36.3 million of benefits related to audit closures and expirations of the statute of limitations on various tax reserves and $7.9 million of expense related to intercompany prepaid tax amortization, which reduces our effective tax rate by 40.3% and increased our effective tax rate by 8.8%, respectively. Our effective tax rate in fiscal 2017 includes a $12.9 million benefit received from current year generated R&D credits, which reduces our effective tax rate by 14.3%. Our effective tax rate in fiscal 2017 also includes a $25.0 million benefit for share-based compensation deductions, which reduces our effective tax rate by 27.8%.

Our effective tax rate in fiscal 2016 included $12.1 million of benefits related to audit closures and expirations of the statute of limitations on various tax reserves and $15.5 million of benefits related to intercompany prepaid tax amortization, which reduced our effective rate by 4.3% and 5.5%, respectively. Our effective tax rate in fiscal 2016 also included a $2.5 million benefit received from the reinstatement of the R&D credit and a $13.5 million benefit received from current year generated R&D credits, which reduced our effective tax rate by 0.9% and 4.8%, respectively. Our effective tax rate in fiscal 2015 included $33.1 million of benefits related to audit closures and expirations of the statute of limitations on various tax reserves, which reduced our effective tax rate by 9.6%. Our effective tax rate in fiscal 2015 also included a $1.8 million benefit received from the reinstatement of the R&D credit, which reduced our effective tax rate by 0.5%.

Various taxing authorities in the U.S. and other countries in which we do business are increasing their scrutiny of the tax structures employed by businesses. Companies of our size and complexity are regularly audited by the taxing authorities in the jurisdictions in which they conduct significant operations. For U.S. federal, and in general for U.S. state tax returns, we are effectively subject to examination of our income tax returns by the IRS and other tax authorities for fiscal 2005 and later. We recognize liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and the extent to which, additional tax payments are probable. We believe that we maintain adequate tax reserves to offset any potential tax liabilities that may arise upon these and other pending audits in the U.S. and other countries in which we do business. If such amounts ultimately prove to be unnecessary, the resulting reversal of such reserves would result in tax benefits being recorded in the period the reserves are no longer deemed necessary. If such amounts ultimately prove to be less than any final assessment, a future charge to expense would be recorded in the period in which the assessment is determined.

Our Thailand manufacturing operations currently benefit from numerous tax holidays that have been granted to us by the Thailand government based on our investments in property, plant and equipment in Thailand. Our tax holiday periods in Thailand expire at various times in the future. Any expiration of our tax holidays are expected to have a minimal impact on our overall tax expense due to other tax holidays and an increase in income in other taxing jurisdictions with lower statutory rates.

Results of Discontinued Operations

Discontinued operations represent the mobile touch operations that we acquired as part of our acquisition of Atmel. The mobile touch assets had been marketed for sale since our acquisition of Atmel closed on April 4, 2016 based on our management's decision that such business was not a strategic fit for our product portfolio. On November 10, 2016, we completed the sale of the mobile touch assets to Solomon Systech (Limited) International, a Hong Kong based semiconductor company. The transaction included the sale of certain semiconductor products, equipment, customer list, backlog, and a license to certain other intellectual property and patents related to Atmel's mobile touch product line. We also agreed to provide certain transition services to Solomon Systech, which were substantially complete as of March 31, 2017. For financial statement purposes, the results of operations for this discontinued business have been segregated from those of the continuing operations and are presented in our consolidated financial statements as discontinued operations. Net loss from discontinued operations for the year ended March 31, 2017 was $6.0 million and consists of a pre-tax loss from operations of $8.2 million and a pre-tax gain on sale of $0.6 million.

Liquidity and Capital Resources

We had $1,410.2 million in cash, cash equivalents and short-term and long-term investments atMarch 31, 2017, a decrease of $1,154.4 million from the March 31, 2016 balance. The decrease in cash, cash equivalents and short-term and long-term investments over this time period is primarily attributable to $2,036.2 million of cash and $941.6 million from additional amounts borrowed under our credit facility for our acquisition of Atmel, net payments of $1,244.0 million on amounts borrowed under our credit facility, payments of $436.2 million on the settlement of a portion of our 2007 junior debt, and dividend payments of $315.4 million, partially offset primarily by proceeds from our new senior and junior debt issuances of $2,645.0 million and cash generated by operating activities.

Net cash provided from operating activities was$1,059.5 million for fiscal 2017, $744.5 million for fiscal 2016 and $721.2 million for fiscal 2015. The increase in net cash provided from operating activities in fiscal 2017 compared to fiscal 2016 was primarily due to operating cash flows resulting from our acquisitions of Atmel and Micrel and operating synergies realized from our process efficiency and restructuring efforts. The increase in net cash provided by operating activities in fiscal 2016 compared to fiscal 2015 was primarily due to higher net sales and an increase in cash from changes in our operating assets and liabilities.

Net cash used in investing activities was $2,838.0 million for fiscal 2017 compared to net cash provided by investing activities of $800.4 million for fiscal 2016 and net cash used in investing activities of $678.3 million in fiscal 2015. Fiscal 2017, 2016 and 2015 investing cash flows include net cash and cash equivalents used to finance acquisitions of $2,747.5 million, $362.0 million and $659.9 million, respectively. Excluding investing cash flows used for acquisitions, net investing activities resulted in a use of cash of $90.5 million in fiscal 2017, provided net cash flow of $1,162.4 million in fiscal 2016 and resulted in a use of cash of $18.4 million in fiscal 2015 and represented primarily the net change in our investments, capital purchases and sale of assets.

Our level of capital expenditures varies from time to time as a result of actual and anticipated business conditions. Capital expenditures were $75.3 million in fiscal 2017, $97.9 million in fiscal 2016 and $149.5 million in fiscal 2015. Capital expenditures are primarily for the expansion of production capacity and the addition of research and development equipment. Capital expenditures in fiscal 2017 were relatively less than we have experienced in recent years as we delayed certain purchases until we had finalized and developed plans following the acquisition of Atmel regarding process technology platforms and other manufacturing activities. We currently intend to spend approximately $170.0 million during the next twelve months to invest in equipment and facilities. We believe that the capital expenditures anticipated to be incurred over the next twelve months will provide sufficient manufacturing capacity to support the growth of our production capabilities for our new products and technologies and to bring in-house more of the assembly and test operations that are currently outsourced. We expect to finance our capital expenditures through our existing cash balances and cash flows from operations.

Net cash provided by financing activities was $595.5 million for fiscal 2017 compared to net cash used in financing activities of $59.9 million for fiscal 2016 and net cash provided by financing activities of $98.5 million for fiscal 2015. We utilize our credit facility to fund operations, pay dividends and finance acquisitions. Fiscal 2017 cash flows were favorably impacted by the net proceeds of debt issued that year. Significant transactions affecting our net financing cash flows include:

- In fiscal 2017, we issued $2,645.0 million of debt, of which $2,118.7 million was used to settle debt and reduce borrowings on our credit facility.
- In fiscal 2016, we repurchased shares of our common stock for $363.8 million, which was primarily funded with borrowings on our credit facility.
- In fiscal 2015, we entered into several debt transactions with a net cash inflow of $557.5 million. This included the issuance of $1,725.0 million principal amount of senior debt. The proceeds from the debt issuance were used to repay other debt and reduce borrowings on our credit facility.
- In fiscal 2017, 2016 and 2015, we paid cash dividends to our stockholders of $315.4 million, $291.1 million, and $286.5 million respectively. The amount of dividends paid has increased due to an increase in the amount of dividends declared per share and in the number of shares outstanding.

In February 2017, we amended our existing $2,774.0 million credit agreement to, among other things, increase certain covenant compliance ratios. The February 2017 amendment included a new collateral agreement that secures our borrowings with all assets of our guarantor subsidiaries with the exception of real property. Proceeds of loans made under the credit agreement may be used for working capital and general corporate purposes. At March 31, 2017, we had no borrowings outstanding under the credit facility compared to $1,052.0 million at March 31, 2016. See Note 11 of the notes to consolidated financial statements for more information regarding our credit agreement.

Our total cash, cash equivalents, short-term investments and long-term investments held by our foreign subsidiaries was $909.2 million at March 31, 2017 and $2,559.3 million at March 31, 2016. The decrease is primarily due to cash used in our acquisition of Atmel. Under current tax laws and regulations, if accumulated earnings and profits held by our foreign subsidiaries that U.S. taxes had not previously been provided for were to be distributed to the U.S. in the form of dividends or otherwise, we would be subject to additional U.S. income taxes and foreign withholding taxes. The balance of cash, cash equivalents, short-term investments and long-term investments available for our U.S. operations as of March 31, 2017 and March 31, 2016 was approximately $501.0 million and $5.3 million, respectively. The increase is primarily due to net cash flow resulting from the issuances of the new senior and junior debt net of payments on amounts borrowed under our credit facility. Our U.S. operations and capital requirements are funded primarily by cash generated from U.S. operating activities, which has been and is expected to be sufficient to meet our business needs in the U.S. for the foreseeable future. We utilize a variety of tax planning and financing strategies (including amounts borrowed under our credit agreement) with the objective of having our worldwide cash available in the locations in which it is needed. Should our U.S. cash needs exceed funds generated by U.S. operations for any reason, including acquisitions of large capital assets or acquisitions of U.S. businesses, we may require additional funds in the U.S. and would expect to borrow such additional funds under our existing credit facility, pursue other U.S. borrowing alternatives, issue equity securities or utilize a combination of these sources. We consider our offshore earnings to be permanently reinvested offshore. However, we could determine to repatriate some of our offshore earnings in future periods to fund stockholder dividends, share repurchases, acquisitions or other corporate activities. We expect that a significant portion of our future cash generation will be in our foreign subsidiaries.

In February 2016, we terminated our ten-year fixed-to-floating interest rate swap agreements which were related to a portion of our fixed-rate 1.625% 2015 senior subordinated convertible debt. The interest rate swap agreements were designated as fair value hedges. We paid variable interest equal to the three-month LIBOR minus 53.6 basis points and we received a fixed interest rate of 1.625%. Upon termination, the contracts were in an asset position, resulting in cash receipts of approximately $25.7 million, which included $3.7 million of accrued interest. The cash flows from the termination of these interest rate swap agreements have been reported as operating activities in the consolidated statement of cash flows.

We enter into derivative transactions from time to time in an attempt to reduce our exposure to currency rate fluctuations. Although none of the countries in which we conduct significant foreign operations have had a highly inflationary economy in the last five years, there is no assurance that inflation rates or fluctuations in foreign currency rates in countries where we conduct operations will not adversely affect our operating results in the future. At March 31, 2017, we had no foreign currency forward contracts outstanding.

On April 4, 2016, we completed our acquisition of Atmel. Under the terms of the merger agreement executed on January 19, 2016, Atmel stockholders received $8.15 per share consisting of $7.00 per share in cash and $1.15 per share in shares of Microchip common stock. We financed the purchase price of our Atmel acquisition using approximately $2.04 billion of cash held by certain of our foreign subsidiaries, approximately $0.94 billion from additional amounts borrowed under our credit agreement and approximately $486.1 million through the issuance of an aggregate of 10.1 million shares of our common stock. The acquisition price represents a total equity value of approximately $3.47 billion, and a total enterprise value of approximately $3.43 billion, after excluding Atmel's cash and investments net of debt on its balance sheet of approximately $39.3 million. The acquisition was structured in a manner that enabled us to utilize a substantial portion of the cash, cash equivalents, short-term investments and long-term investments held by certain of our foreign subsidiaries in a tax efficient manner. Although we believe our determinations with respect to the tax consequences of the acquisition are reasonable, we are regularly audited by the IRS and may be audited by other taxing authorities, and there can be no assurance as to the outcome of any such audit.

On August 3, 2015, we acquired Micrel for $14.00 per share and paid an aggregate of approximately $430.0 million in cash and issued an aggregate of 8.6million shares of our common stock to Micrel shareholders. We financed the cash portion of the purchase price with amounts borrowed under our credit agreement.

In May 2015, our Board of Directors authorized the repurchase of up to 20.0 million shares of our common stock in the open market or in privately negotiated transactions. In January 2016, our Board of Directors authorized an increase in the existing share repurchase program to 15.0 million shares of common stock from the approximately 11.4 million shares remaining under the current authorization. As of March 31, 2016, we had repurchased 8.6 million shares under this authorization for approximately $363.8 million. There were no repurchases of common stock during fiscal 2017. There is no expiration date associated with this repurchase program.

As of March 31, 2017, we held approximately 20.4 million shares as treasury shares.

On October 28, 2002, we announced that our Board of Directors had approved and instituted a quarterly cash dividend on our common stock. The initial quarterly dividend of $0.02 per share was paid on December 6, 2003 in the amount of $4.1 million. To date, our cumulative dividend payments have totaled approximately $3.13 billion. During fiscal 2017, we paid dividends in the amount of$1.441 per share for a total dividend payment of$315.4 million. During fiscal 2016, we paid dividends in the amount of $1.433 per share for a total dividend payment of$291.1 million. During fiscal 2015, we paid dividends in the amount of$1.425 per share for a total dividend payment of $286.5 million. On May 9, 2017, we declared a quarterly cash dividend of $0.3615 per share, which will be paid on June 6, 2017, to stockholders of record on May 23, 2017 and the total amount of such dividend is expected to be approximately $83.0 million. Our Board is free to change our dividend practices at any time and to increase or decrease the dividend paid, or not to pay a dividend, on our common stock on the basis of our results of operations, financial condition, cash requirements and future prospects, and other factors deemed relevant by our Board. Our current intent is to provide for ongoing quarterly cash dividends depending upon market conditions, our results of operations and potential changes in tax laws.

We believe that our existing sources of liquidity combined with cash generated from operations and borrowings under our credit agreement will be sufficient to meet our currently anticipated cash requirements for at least the next 12 months. However, the semiconductor industry is capital intensive. In order to remain competitive, we must constantly evaluate the need to make significant investments in capital equipment for both production and research and development. We may increase our borrowings under our credit agreement or seek additional equity or debt financing from time to time to maintain or expand our wafer fabrication and product assembly and test facilities, for cash dividends, for share repurchases or for acquisitions or other purposes. The timing and amount of any such financing requirements will depend on a number of factors, including our level of dividend payments, changes in tax laws and regulations regarding the repatriation of offshore cash, demand for our products, changes in industry conditions, product mix, competitive factors and our ability to identify suitable acquisition candidates. There can be no assurance that such financing will be available on acceptable terms, and any additional equity financing would result in incremental ownership dilution to our existing stockholders.

Contractual Obligations

The following table summarizes our significant contractual obligations at March 31,2017, and the effect such obligations are expected to have on our liquidity and cash flows in future periods. This table excludes amounts already recorded on our balance sheet as current liabilities at March 31, 2017 (dollars in thousands):

	Payments Due by Period				
	Total	Less than 1 year	1 – 3 years	3 – 5 years	More than 5 years
Operating lease obligations (1)	$ 87,399	$ 26,259	$ 36,034	$ 22,683	$ 2,423
Capital purchase obligations (2)	45,549	45,549	—	—	—
Other purchase obligations and commitments (3)	107,393	105,455	1,575	242	121
2017 senior debt (4)	2,406,376	33,638	67,275	67,275	2,238,188
2015 senior debt (5)	1,945,435	28,031	56,063	56,063	1,805,278
2017 junior debt (6)	833,751	12,938	25,875	25,875	769,063
2007 junior debt (7)	207,008	3,055	6,109	6,109	191,735
Pension obligations (8)	13,677	700	1,731	2,582	8,664
Total contractual obligations (9)	$ 5,646,588	$ 255,625	$ 194,662	$ 180,829	$ 5,015,472

(1) Operating lease obligations include $33.0 million which is recorded as a liability on the balance sheet as of March 31, 2017. This obligation is due under an operating lease from the acquisition of Atmel for a building in San Jose, California.

(2) Capital purchase obligations represent commitments for construction or purchases of property, plant and equipment. These obligations were not recorded as liabilities on our balance sheet as of March 31, 2017, as we have not yet received the related goods or taken title to the property.

(3) Other purchase obligations and commitments include payments due under various types of licenses and outstanding purchase commitments with our wafer foundries of approximately $98.3 million for delivery of wafers in fiscal 2018.

(4) For purposes of this table we have assumed that the principal of our 2017 senior convertible debt will be paid on February 15, 2027, which is the maturity date of such debt.

(5) For purposes of this table we have assumed that the principal of our 2015 senior convertible debt will be paid on February 15, 2025, which is the maturity date of such debt.

(6) For purposes of this table we have assumed that the principal of our 2017 junior convertible debt will be paid on February 15, 2037, which is the maturity date of such debt.

(7) For purposes of this table we have assumed that the principal of our 2007 junior convertible debt will be paid on December 15, 2037, which is the maturity date of such debt.

(8) For purposes of this table pension obligations due in more than 5 years represent the expected pension payments from 2023 through 2027. It excludes pension obligations subsequent to 2027.

(9) Total contractual obligations do not include contractual obligations recorded on our balance sheet as current liabilities, or certain purchase obligations as discussed below. The contractual obligations also do not include amounts related to uncertain tax positions because reasonable estimates cannot be made.

Purchase orders or contracts for the purchase of raw materials and other goods and services, with the exception of commitments to our wafer foundries, are not included in the table above. We are not able to determine the aggregate amount of such purchase orders that represent contractual obligations, as purchase orders may represent authorizations to purchase rather than binding agreements. For the purpose of this table, contractual obligations for the purchase of goods or services are defined as agreements that are enforceable and legally binding on us and that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Our purchase orders are based on our current manufacturing needs and are fulfilled by our vendors with short time horizons. We do not have significant agreements for the purchase of raw materials or other goods specifying minimum quantities or set prices that exceed our expected requirements for three months. We also enter into contracts for outsourced services; however, the obligations under these contracts were not significant and the contracts generally contain clauses allowing for cancellation without significant penalty.

The expected timing of payment of the obligations discussed above is estimated based on current information. Timing of payments and actual amounts paid may be different depending on the time of receipt of goods or services or changes to agreed-upon amounts for some obligations.

Off-Balance Sheet Arrangements

As of March 31, 2017, we are not involved in any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K. In the ordinary course of business, we may provide standby letters of credit or other guarantee instruments to certain parties as required for certain transactions initiated by us or our subsidiaries. We have not recorded any liability in connection with these guarantee arrangements. Based on historical experience and information currently available, we believe we will not be required to make any payments under these guarantee arrangements.

Recently Issued Accounting Pronouncements

Refer to Note 1 to our consolidated financial statements regarding recently issued accounting pronouncements.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our investments are intended to establish a high-quality portfolio that preserves principal, meets liquidity needs, avoids inappropriate concentrations, and delivers an appropriate yield in relationship to our investment guidelines and market conditions. Our investment portfolio, consisting of fixed income securities, money market funds, cash deposits, and marketable securities that we hold on an available-for-sale basis, was $1,410.2 million as of March 31, 2017 compared to $2,564.6 million as of March 31, 2016. We sold a significant portion of our available-for-sale investments during the first quarter of fiscal 2017 and the fourth quarter of fiscal 2016 to partially finance the purchase price of our Atmel acquisition which closed on April 4, 2016. Our available-for-sale debt securities, like all fixed income instruments, are subject to interest rate risk and will decline in value if market interest rates increase. We have the ability to hold our fixed income investments until maturity and, therefore, we would not expect to recognize any material adverse impact in income or cash flows if market interest rates increase. The following table provides information about our available-for-sale securities that are sensitive to changes in interest rates as of March 31, 2017. We have aggregated our available-for-sale securities for presentation purposes since they are all very similar in nature (dollars in thousands):

	Financial instruments maturing during the fiscal year ended March 31,					
	2018	2019	2020	2021	2022	Thereafter
Available-for-sale securities	$ 342,500	$ 10,024	$ 147,435	$ —	$ —	$ —
Weighted-average yield rate	1.05%	1.72%	1.73%	—%	—%	—%

See Note 1 to our Consolidated Financial Statements for additional information on our investments.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The consolidated financial statements listed in the index appearing under Item 15(a)(1) hereof are filed as part of this Form 10-K. See also Index to Financial Statements below.