

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 30, 2019

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

For the transition period from _____ to _____

Commission File Number 1-7416

VISHAY INTERTECHNOLOGY, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or Other Jurisdiction of Incorporation)

38-1686453

(I.R.S. Employer Identification Number)

63 Lancaster Avenue
Malvern, PA 19355-2143

(Address of Principal Executive Offices)

610-644-1300

(Registrant's Area Code and Telephone Number)

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files.)

Yes No

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if smaller reporting company) Smaller reporting company

Emerging growth company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

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

Title of each class	Trading symbol	Name of exchange on which registered
Common stock, par value \$0.10 per share	VSH	New York Stock Exchange

As of May 7, 2019, the registrant had 132,338,451 shares of its common stock and 12,097,409 shares of its Class B common stock outstanding.

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VISHAY INTERTECHNOLOGY, INC.
FORM 10-Q
March 30, 2019
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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

VISHAY INTERTECHNOLOGY, INC.

Consolidated Condensed Balance Sheets

(In thousands)

	<u>March 30,</u> <u>2019</u>	<u>December</u> <u>31, 2018</u>
	(Unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	\$ 749,426	\$ 686,032
Short-term investments	8,411	78,286
Accounts receivable, net	391,960	397,020
Inventories:		
Finished goods	137,317	138,112
Work in process	194,617	190,982
Raw materials	148,293	150,566
Total inventories	<u>480,227</u>	<u>479,660</u>
Prepaid expenses and other current assets	<u>141,555</u>	<u>142,888</u>
Total current assets	<u>1,771,579</u>	<u>1,783,886</u>
Property and equipment, at cost:		
Land	74,499	87,622
Buildings and improvements	569,395	619,445
Machinery and equipment	2,525,394	2,510,001
Construction in progress	119,470	125,109
Allowance for depreciation	<u>(2,339,944)</u>	<u>(2,373,176)</u>
Property and equipment, net	<u>948,814</u>	<u>969,001</u>
Right of use assets	96,281	-
Goodwill	150,628	147,480
Other intangible assets, net	67,524	65,688
Other assets	<u>146,224</u>	<u>140,143</u>
Total assets	<u>\$ 3,181,050</u>	<u>\$ 3,106,198</u>

Continues on following page.

VISHAY INTERTECHNOLOGY, INC.
Consolidated Condensed Balance Sheets (continued)
(In thousands)

	March 30, 2019	December 31, 2018
	(Unaudited)	
Liabilities and equity		
Current liabilities:		
Notes payable to banks	\$ 18	\$ 18
Trade accounts payable	192,221	218,322
Payroll and related expenses	135,821	141,670
Lease liabilities	14,760	-
Other accrued expenses	160,756	229,660
Income taxes	70,653	54,436
Total current liabilities	574,229	644,106
Long-term debt less current portion	492,830	494,509
U.S. transition tax payable	154,953	154,953
Deferred income taxes	86,209	85,471
Long-term lease liabilities	86,684	-
Other liabilities	79,492	79,489
Accrued pension and other postretirement costs	254,835	260,984
Total liabilities	1,729,232	1,719,512
Redeemable convertible debentures	206	2,016
Stockholders' equity:		
Vishay stockholders' equity		
Common stock	13,234	13,212
Class B convertible common stock	1,210	1,210
Capital in excess of par value	1,425,101	1,436,011
Retained earnings (accumulated deficit)	24,922	(61,258)
Accumulated other comprehensive income (loss)	(15,323)	(6,791)
Total Vishay stockholders' equity	1,449,144	1,382,384
Noncontrolling interests	2,468	2,286
Total equity	1,451,612	1,384,670
Total liabilities, temporary equity, and equity	\$ 3,181,050	\$ 3,106,198

See accompanying notes.

VISHAY INTERTECHNOLOGY, INC.
Consolidated Condensed Statements of Operations
(Unaudited - In thousands, except per share amounts)

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Net revenues	\$ 745,159	\$ 716,795
Costs of products sold	<u>534,000</u>	<u>511,495</u>
Gross profit	211,159	205,300
Selling, general, and administrative expenses	<u>103,424</u>	<u>101,238</u>
Operating income	107,735	104,062
Other income (expense):		
Interest expense	(8,392)	(7,677)
Other components of net periodic pension cost	(3,396)	(3,519)
Loss on early extinguishment of debt	(1,307)	-
Other	<u>5,308</u>	<u>(847)</u>
Total other income (expense)	<u>(7,787)</u>	<u>(12,043)</u>
Income before taxes	99,948	92,019
Income tax expense	<u>24,307</u>	<u>29,474</u>
Net earnings	75,641	62,545
Less: net earnings attributable to noncontrolling interests	182	179
Net earnings attributable to Vishay stockholders	<u>\$ 75,459</u>	<u>\$ 62,366</u>
Basic earnings per share attributable to Vishay stockholders	\$ 0.52	\$ 0.43
Diluted earnings per share attributable to Vishay stockholders	\$ 0.52	\$ 0.39
Weighted average shares outstanding - basic	144,554	144,327
Weighted average shares outstanding - diluted	145,289	159,502
Cash dividends per share	\$ 0.0850	\$ 0.0675

See accompanying notes.

VISHAY INTERTECHNOLOGY, INC.

Consolidated Condensed Statements of Comprehensive Income

(Unaudited - In thousands)

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Net earnings	\$ 75,641	\$ 62,545
Other comprehensive income (loss), net of tax		
Pension and other post-retirement actuarial items	1,457	1,607
Foreign currency translation adjustment	<u>(9,989)</u>	<u>27,024</u>
Other comprehensive income (loss)	<u>(8,532)</u>	<u>28,631</u>
Comprehensive income	<u>67,109</u>	<u>91,176</u>
Less: comprehensive income attributable to noncontrolling interests	182	179
Comprehensive income attributable to Vishay stockholders	<u>\$ 66,927</u>	<u>\$ 90,997</u>

See accompanying notes.

VISHAY INTERTECHNOLOGY, INC.
Consolidated Condensed Statements of Cash Flows
(Unaudited - In thousands)

	Three fiscal months ended	
	March 30, 2019	March 31, 2018
Operating activities		
Net earnings	\$ 75,641	\$ 62,545
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation and amortization	40,428	40,558
(Gain) loss on disposal of property and equipment	(173)	(176)
Accretion of interest on convertible debt instruments	3,490	1,309
Inventory write-offs for obsolescence	6,967	5,457
Deferred income taxes	(2,614)	7,014
Loss on extinguishment of debt	1,307	-
Other	(1,744)	2,908
Net change in operating assets and liabilities, net of effects of businesses acquired	(43,784)	(72,756)
Net cash provided by operating activities	<u>79,518</u>	<u>46,859</u>
Investing activities		
Capital expenditures	(36,367)	(28,273)
Proceeds from sale of property and equipment	395	184
Purchase of businesses, net of cash received	(11,862)	(12,072)
Purchase of short-term investments	(1,920)	(39,243)
Maturity of short-term investments	71,455	93,194
Other investing activities	2,893	(935)
Net cash provided by investing activities	<u>24,594</u>	<u>12,855</u>
Financing activities		
Repurchase of convertible debentures	(22,695)	-
Net proceeds (payments) on revolving credit lines	-	34,000
Net changes in short-term borrowings	-	52
Dividends paid to common stockholders	(11,249)	(8,918)
Dividends paid to Class B common stockholders	(1,028)	(817)
Cash withholding taxes paid when shares withheld for vested equity awards	(2,659)	(2,297)
Net cash provided by (used in) financing activities	<u>(37,631)</u>	<u>22,020</u>
Effect of exchange rate changes on cash and cash equivalents	<u>(3,087)</u>	<u>9,825</u>
Net increase in cash and cash equivalents	63,394	91,559
Cash and cash equivalents at beginning of period	<u>686,032</u>	<u>748,032</u>
Cash and cash equivalents at end of period	<u>\$ 749,426</u>	<u>\$ 839,591</u>

See accompanying notes.

VISHAY INTERTECHNOLOGY, INC.
Consolidated Condensed Statements of Equity
(Unaudited - In thousands, except share and per share amounts)

	Common Stock	Class B Convertible Common Stock	Capital in Excess of Par Value	Retained Earnings (Accumulated Deficit)	Accumulated Other Comprehensive Income (Loss)	Total Vishay Stockholders' Equity	Noncontrolling Interests	Total Equity
Balance at December 31, 2017	\$ 13,188	\$ 1,213	\$ 1,752,506	\$ (362,254)	\$ 25,714	\$ 1,430,367	\$ 2,032	\$ 1,432,399
Cumulative effect of accounting change for adoption of ASU 2016-01	-	-	-	1,801	(1,801)	-	-	-
Net earnings (loss)	-	-	-	62,366	-	62,366	179	62,545
Other comprehensive income	-	-	-	-	28,631	28,631	-	28,631
Conversion of Class B shares (31,800 shares)	3	(3)	-	-	-	-	-	-
Temporary equity reclassification	-	-	1,080	-	-	1,080	-	1,080
Issuance of stock and related tax withholdings for vested restricted stock units (211,328 shares)	21	-	(2,318)	-	-	(2,297)	-	(2,297)
Dividends declared (\$0.0675 per share)	-	-	11	(9,746)	-	(9,735)	-	(9,735)
Stock compensation expense	-	-	2,483	-	-	2,483	-	2,483
Balance at March 31, 2018	<u>\$ 13,212</u>	<u>\$ 1,210</u>	<u>\$ 1,753,762</u>	<u>\$ (307,833)</u>	<u>\$ 52,544</u>	<u>\$ 1,512,895</u>	<u>\$ 2,211</u>	<u>\$ 1,515,106</u>
Balance at December 31, 2018	13,212	1,210	1,436,011	(61,258)	(6,791)	1,382,384	2,286	1,384,670
Cumulative effect of accounting change for adoption of ASU 2016-02 (see Note 1)	-	-	-	23,013	-	23,013	-	23,013
Net earnings	-	-	-	75,459	-	75,459	182	75,641
Other comprehensive income (loss)	-	-	-	-	(8,532)	(8,532)	-	(8,532)
Conversion of Class B shares (18 shares)	-	-	-	-	-	-	-	-
Temporary equity reclassification	-	-	3	-	-	3	-	3
Issuance of stock and related tax withholdings for vested restricted stock units (220,718 shares)	22	-	(2,681)	-	-	(2,659)	-	(2,659)
Dividends declared (\$0.0850 per share)	-	-	15	(12,292)	-	(12,277)	-	(12,277)
Stock compensation expense	-	-	3,536	-	-	3,536	-	3,536
Repurchase of convertible senior debentures	-	-	(11,783)	-	-	(11,783)	-	(11,783)
Balance at March 30, 2019	<u>\$ 13,234</u>	<u>\$ 1,210</u>	<u>\$ 1,425,101</u>	<u>\$ 24,922</u>	<u>\$ (15,323)</u>	<u>\$ 1,449,144</u>	<u>\$ 2,468</u>	<u>\$ 1,451,612</u>

See accompanying notes.

Note 1 – Basis of Presentation

The accompanying unaudited consolidated condensed financial statements of Vishay Intertechnology, Inc. (“Vishay” or the “Company”) have been prepared in accordance with the instructions to Form 10-Q and therefore do not include all information and footnotes necessary for presentation of financial position, results of operations, and cash flows required by accounting principles generally accepted in the United States (“GAAP”) for complete financial statements. The information furnished reflects all normal recurring adjustments which are, in the opinion of management, necessary for a fair summary of the financial position, results of operations, and cash flows for the interim periods presented. The financial statements should be read in conjunction with the consolidated financial statements filed with the Company’s Annual Report on Form 10-K for the year ended December 31, 2018. The results of operations for the fiscal quarter and three fiscal months ended March 30, 2019 are not necessarily indicative of the results to be expected for the full year.

The Company reports interim financial information for 13-week periods beginning on a Sunday and ending on a Saturday, except for the first fiscal quarter, which always begins on January 1, and the fourth fiscal quarter, which always ends on December 31. The four fiscal quarters in 2019 end on March 30, 2019, June 29, 2019, September 28, 2019, and December 31, 2019, respectively. The four fiscal quarters in 2018 ended on March 31, 2018, June 30, 2018, September 29, 2018, and December 31, 2018, respectively.

Recently Adopted Accounting Guidance

In February 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2016-02, *Leases (Topic 842)*. The ASU is the result of a project between the FASB and the International Accounting Standards Board to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The guidance in ASU No. 2016-02 and all related ASUs is codified in Accounting Standard Codification (“ASC”) Topic 842, *Leases*. The Company adopted ASC Topic 842 effective January 1, 2019. Upon adoption at January 1, 2019, the Company recognized right of use assets of \$91,462 and lease liabilities of \$95,784 on the consolidated balance sheet. The difference between the initial right of use asset and lease liability balances recognized upon adoption of ASC Topic 842 is primarily due to accrued lease incentive balances at December 31, 2018.

On December 20, 2018, the Company received sale proceeds of \$45,500 and concurrently leased-back its former manufacturing site in Santa Clara, California, under a short-term arrangement, to raze the buildings. Upon adoption of ASC Topic 842, the Company was required to reassess the accounting for these transactions. The transactions did not qualify as a completed sale and leaseback under previous GAAP. However, pursuant to ASC Topic 842’s sale and leaseback guidance, the transaction would qualify as a completed sale. The Company recognized a cumulative-effect adjustment to retained earnings (accumulated deficit) of \$23,013, to recognize the sale as of the date of adoption, and derecognized the land, building, and related deferred proceeds, which had been recorded in other accrued expenses.

The adoption of the ASU did not have a material impact on the Company's results of operations or cash flows. See Note 3.

Recently Issued Accounting Guidance

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The ASU replaces the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The ASU is effective for the Company for interim and annual periods beginning on or after January 1, 2020, with the ability to early adopt for interim and annual periods beginning on or after January 1, 2019. The Company is currently evaluating the effect of the ASU on its financial assets measured at amortized cost.

Reclassifications

Certain prior period amounts have been reclassified to conform to the current financial statement presentation.

Note 2 – Revenue Recognition

Sales returns and allowances accrual activity is shown below:

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Beginning balance	\$ 42,663	\$ 36,680
Sales allowances	28,211	24,188
Credits issued	(33,062)	(28,450)
Foreign currency	(235)	288
Ending balance	<u>\$ 37,577</u>	<u>\$ 32,706</u>

See disaggregated revenue information in Note 10.

Note 3 – Leases

The Company leases buildings and machinery and equipment used for manufacturing and/or sales and administrative purposes. The Company is also party to various service, warehousing, and other agreements that it evaluates for potential embedded leases. Substantially all of the Company’s leases are structured and classified as operating leases. As of January 1, 2019, the Company accounts for its leases in accordance with ASC Topic 842.

The Company leases assets in each region in which it operates. The Company’s leases are generally denominated in the currency of the leased assets' location, which may not be the functional currency of the subsidiary lessee. Accordingly, the Company remeasures its lease liability and recognizes a transactional gain/loss for leases denominated in currencies other than the functional currency of the subsidiary lessee.

The Company recognizes right of use assets and lease liabilities for leases greater than twelve months in duration based on the contract consideration for lease components through the term of the lease and the applicable discount rate. Leases with a duration less than or equal to twelve months are considered short-term leases. The Company does not recognize right of use assets or lease liabilities for short-term leases and classifies the expense as short-term lease expense. Variable lease payments based on an index or rate are included in the right of use assets and lease liabilities based on the effective rates at lease commencement. Changes in the rates or indices do not impact the right of use asset or lease liability and are recognized as a component of lease expense in the statement of operations. Variable lease payments not based on an index or rate are not included in the initial right of use asset and lease liability and are recognized when incurred as a component of lease expense in the statement of operations.

The Company has elected to not separate contract consideration for lease and non-lease components for its building leases. In addition to the noncancellable period of a lease, the Company includes periods covered by extension options it is reasonably certain to exercise, termination options that it is reasonably certain not to exercise, and extension and termination options controlled by the lessor in its determination of the lease term. The Company uses the rate implicit in the contract whenever possible when determining the applicable discount rate. When the implicit rate is not used, the Company employs a portfolio approach based on the duration of the lease. The portfolio lease rates are calculated monthly.

No individual lease is considered significant and there are no leases that have not yet commenced that are considered significant.

The net right of use assets and lease liabilities recognized on the consolidated condensed balance sheet for the Company's operating leases as of March 30, 2019 and the net right of use assets and lease liabilities recognized upon the adoption of ASC Topic 842 on January 1, 2019 are presented below:

	<u>March 30, 2019</u>	<u>January 1, 2019</u>
<u>Right of use assets</u>		
<i>Operating Leases</i>		
Buildings and improvements	\$ 91,106	\$ 86,058
Machinery and equipment	5,175	5,404
Total	<u>\$ 96,281</u>	<u>\$ 91,462</u>
<u>Current lease liabilities</u>		
<i>Operating Leases</i>		
Buildings and improvements	\$ 12,076	\$ 10,644
Machinery and equipment	2,684	3,317
Total	<u>\$ 14,760</u>	<u>\$ 13,961</u>
<u>Long-term lease liabilities</u>		
<i>Operating Leases</i>		
Buildings and improvements	\$ 84,202	\$ 79,000
Machinery and equipment	2,482	2,823
Total	<u>\$ 86,684</u>	<u>\$ 81,823</u>
Total lease liabilities	<u>\$ 101,444</u>	<u>\$ 95,784</u>

NOTES TO THE CONSOLIDATED CONDENSED FINANCIAL STATEMENTS
(dollars in thousands, except per share amounts)

Lease expense is classified in the statement of operations based on asset use. Total lease cost recognized on the consolidated condensed statement of operations is as follows:

	Fiscal quarter ended March 30, 2019
<u>Lease expense</u>	
Operating lease expense	\$ 5,536
Short-term lease expense	833
Variable lease expense	<u>12</u>
Total lease expense	<u>\$ 6,381</u>

The Company paid \$5,050 for its operating leases in the fiscal quarter ended March 31, 2019, which are included in operating cash flows on the consolidated condensed statement of cash flows. The weighted-average remaining lease term for the Company's operating leases is 9.3 years and the weighted-average discount rate is 6.1% as of March 30, 2019.

The undiscounted future lease payments for the Company's operating lease liabilities are as follows:

	March 30, 2019
2019 (excluding the three fiscal months ended March 30, 2019)	\$ 15,916
2020	18,527
2021	15,502
2022	13,036
2023	12,215
Thereafter	60,661

The undiscounted future lease payments presented in the table above include payments through the term of the lease, which may include periods beyond the noncancellable term. The difference between the total payments above and the lease liability balance is due to the discount rate used to calculate lease liabilities.

The Company elected to use the package of practical expedients available in ASC Topic 842; and accordingly, did not reassess existing contracts for leases, the classification of existing leases, or initial direct costs for any existing leases. The Company also elected to use the practical expedient available in ASC Topic 842 for land easements.

The Company did not elect the practical expedient available in ASC Topic 842 to use hindsight in determining the lease term. Accordingly, the remaining lease term as of January 1, 2019 was used to calculate the initial right of use asset and lease liability.

Note 4 – Acquisition Activities

As part of its growth strategy, the Company seeks to expand through targeted acquisitions of other manufacturers of electronic components that have established positions in major markets, reputations for product quality and reliability, and product lines with which the Company has substantial marketing and technical expertise.

On January 3, 2019, the Company acquired substantially all of the assets of Bi-Metallix, Inc. ("Bi-Metallix"), a U.S.-based, privately-held provider of electron beam continuous strip welding services for \$11,862. The Company was a major customer of Bi-Metallix, and the acquired business is being vertically integrated into the Company's Resistors & Inductors segment. Based on an estimate of their fair values, the Company allocated \$2,900 of the purchase price to definite-lived intangible assets. After allocating the purchase price to the assets acquired and liabilities assumed based on an estimation of their fair values at the date of acquisition, the Company recorded goodwill of \$3,324 related to this acquisition. The results and operations of this acquisition have been included in the Resistors & Inductors segment since January 3, 2019. The inclusion of this acquisition did not have a material impact on the Company's consolidated results for the fiscal quarter ended March 30, 2019. The goodwill related to this acquisition is included in the Resistors & Inductors reporting unit for goodwill impairment testing.

Had this acquisition occurred as of the beginning of the periods presented in these consolidated condensed financial statements, the pro forma statements of operations would not be materially different than the consolidated condensed statements of operations presented.

The remaining fluctuation in the goodwill account balance is due to foreign currency translation.

Note 5 – Income Taxes

The provision for income taxes consists of provisions for federal, state, and foreign income taxes. The effective tax rates for the periods ended March 30, 2019 and March 31, 2018 reflect the Company's expected tax rate on reported income from continuing operations before income tax and tax adjustments. The Company operates in a global environment with significant operations in various jurisdictions outside the United States. Accordingly, the consolidated income tax rate is a composite rate reflecting the Company's earnings and the applicable tax rates in the various jurisdictions where the Company operates.

As of March 30, 2019, the Company has approximately \$300,000 of unremitted foreign earnings that the Company has deemed not permanently reinvested and thus has accrued foreign withholding and other taxes. The Company continues to evaluate the timing and uses of the remaining amounts, and may decide to ultimately not repatriate some of these amounts.

The Company's repurchase of a portion of the outstanding convertible debentures in the first fiscal quarter of 2019 (see Note 6) slightly reduced the Company's expected 2019 tax rate. The Company recognized a tax benefit on the pre-tax loss on early extinguishment of debt. The Company also recognized a tax benefit of \$1,312 resulting from the extinguishment, reflecting the reduction in deferred tax liabilities related to the special tax attributes of the debentures.

Income tax expense for the fiscal quarter ended March 30, 2019, includes tax benefit of \$585 for the periodic remeasurement of the deferred tax liability recorded for the foreign taxes associated with the Company's cash repatriation program.

Income tax expense for the fiscal quarter ended March 31, 2018 included tax expense of \$1,316 for the periodic remeasurement of the deferred tax liability recorded for the Company's cash repatriation program.

During the fiscal quarter ended March 30, 2019, the liabilities for unrecognized tax benefits increased by \$1,446 on a net basis, due to increases for tax positions taken in the current and prior periods and interest, offset by expiration of a statute.

Note 6 – Long-Term Debt

Long-term debt consists of the following:

	March 30, 2019	December 31, 2018
Credit facility	\$ -	\$ -
Convertible senior notes, due 2025	498,629	495,203
Convertible senior debentures, due 2040	144	539
Convertible senior debentures, due 2041	8,085	12,812
Convertible senior debentures, due 2042	-	923
Deferred financing costs	(14,028)	(14,968)
	492,830	494,509
Less current portion	-	-
	\$ 492,830	\$ 494,509

Convertible Debt Instruments

The following table summarizes some key facts and terms regarding the outstanding convertible debt instruments as of March 30, 2019:

	Convertible Senior Notes Due 2025	Convertible Senior Debentures Due 2040	Convertible Senior Debentures Due 2041
Issuance date	June 12, 2018	November 9, 2010	May 13, 2011
Maturity date	June 15, 2025	November 15, 2040	May 15, 2041
Principal amount as of March 30, 2019	\$ 600,000	\$ 350	\$ 20,790
Cash coupon rate (per annum)	2.25%	2.25%	2.25%
Nonconvertible debt borrowing rate at issuance (per annum)	5.50%	8.00%	8.375%
Conversion rate effective March 13, 2019 (per \$1 principal amount)	31.7536	78.7076	57.4367
Effective conversion price effective March 13, 2019 (per share)	\$ 31.49	\$ 12.71	\$ 17.41
130% of the conversion price (per share)	\$ 40.94	\$ 16.52	\$ 22.63
Call date	n/a	November 20, 2020	May 20, 2021

The terms of the convertible senior debentures due 2040 and due 2041 are generally congruent. The terms of the fully retired convertible senior debentures due 2042 were also generally congruent to the convertible senior debentures due 2040 and due 2041.

Prior to three months before the maturity date, the holders may convert their convertible senior debentures due 2040 and due 2041 only under the following circumstances: (1) during any fiscal quarter after the first full quarter subsequent to issuance, if the sale price of Vishay common stock reaches 130% of the conversion price for a specified period; (2) the trading price of the debentures falls below 98% of the product of the sale price of Vishay's common stock and the conversion rate for a specified period; (3) Vishay calls any or all of the debentures for redemption, at any time prior to the close of business on the third scheduled trading day immediately preceding the redemption date; or (4) upon the occurrence of specified corporate events.

Prior to December 15, 2024, the holders of the convertible senior notes due 2025 may convert their notes only under the following circumstances: (1) during any fiscal quarter after the fiscal quarter ending September 29, 2018, if the sale price of Vishay common stock reaches 130% of the conversion price for a specified period (initially \$40.94); (2) the trading price of the notes falls below 98% of the product of the sale price of Vishay's common stock and the conversion rate for a specified period; or (3) upon the occurrence of specified corporate transactions.

The convertible senior debentures due 2040 became convertible subsequent to the September 30, 2017 evaluation of the conversion criteria, and have remained convertible for each subsequent quarterly evaluation through the March 30, 2019 evaluation, due to the sale price of Vishay's common stock exceeding 130% of the conversion price for the applicable periods. The convertible senior

debentures due 2040 will remain convertible until June 29, 2019, at which time the conversion criteria will be reevaluated. At the direction of its Board of Directors, the Company intends, upon future conversion of any of the convertible debt instruments, to repay the principal amounts of the convertible debt instruments in cash and settle any additional amounts in shares of Vishay common stock. The excess of the amount that the Company would pay to the holders of the convertible senior debentures due 2040 upon conversion over the carrying value of the liability component of the debentures currently convertible has been reclassified as temporary equity on the consolidated condensed financial statements. The Company intends to finance the principal amount of any converted debentures using borrowings under its credit facility. Accordingly, the debt component of the convertible senior debentures due 2040 continues to be classified as a non-current liability on the consolidated condensed balance sheets.

NOTES TO THE CONSOLIDATED CONDENSED FINANCIAL STATEMENTS
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The quarterly cash dividend program of the Company results in adjustments to the conversion rate and effective conversion price for the convertible debt instruments effective as of the ex-dividend date of each cash dividend. The conversion rate and effective conversion price for the convertible senior notes due 2025 is adjusted for quarterly cash dividends to the extent such dividends exceed \$0.085 per share of common stock.

GAAP requires an issuer to separately account for the liability and equity components of the instrument in a manner that reflects the issuer's nonconvertible debt borrowing rate when interest costs are recognized in subsequent periods. The resulting discount on the debt is amortized as non-cash interest expense in future periods.

The carrying values of the liability and equity components of the convertible debt instruments are reflected in the Company's consolidated condensed balance sheets as follows:

	<u>Principal amount of the debt instruments</u>	<u>Unamortized discount</u>	<u>Embedded derivative</u>	<u>Carrying value of liability component</u>	<u>Equity component (including temporary equity) - net carrying value</u>
March 30, 2019					
Convertible senior notes due 2025	\$ 600,000	(101,371)	-	\$ 498,629	\$ 85,262
Convertible senior debentures due 2040 and due 2041	\$ 21,140	(12,935)	24	\$ 8,229	\$ 8,767
Total	<u>\$ 621,140</u>	<u>\$ (114,306)</u>	<u>\$ 24</u>	<u>\$ 506,858</u>	<u>\$ 94,029</u>
December 31, 2018					
Convertible senior notes due 2025	\$ 600,000	(104,797)	-	\$ 495,203	\$ 85,262
Convertible senior debentures due 2040, due 2041, and due 2042	\$ 36,556	(22,352)	70	\$ 14,274	\$ 15,092
Total	<u>\$ 636,556</u>	<u>\$ (127,149)</u>	<u>\$ 70</u>	<u>\$ 509,477</u>	<u>\$ 100,354</u>

Interest is payable on the convertible debt instruments semi-annually at the cash coupon rate; however, the remaining debt discount is being amortized as additional non-cash interest expense using an effective annual interest rate equal to the Company's estimated nonconvertible debt borrowing rate at the time of issuance. In addition to ordinary interest, contingent interest will accrue in certain circumstances relating to the trading price of the convertible senior debentures due 2040 and due 2041 and under certain other circumstances, beginning ten years subsequent to their respective issuance. The convertible senior notes due 2025 do not possess contingent interest features.

Interest expense related to the convertible debt instruments is reflected on the consolidated condensed statements of operations for the fiscal quarters ended:

	<u>Contractual coupon interest</u>	<u>Non-cash amortization of debt discount</u>	<u>Non-cash amortization of deferred financing costs</u>	<u>Non-cash change in value of derivative liability</u>	<u>Total interest expense related to the debt instruments</u>
March 30, 2019					
Convertible senior notes due 2025	\$ 3,375	3,426	454	-	\$ 7,255
Convertible senior debentures	\$ 148	64	2	(18)	\$ 196
Total	<u>\$ 3,523</u>	<u>\$ 3,490</u>	<u>\$ 456</u>	<u>\$ (18)</u>	<u>\$ 7,451</u>
March 31, 2018					
Convertible senior notes due 2025	-	-	-	-	\$ -
Convertible senior debentures	\$ 3,235	1,309	47	161	\$ 4,752
Total	<u>\$ 3,235</u>	<u>\$ 1,309</u>	<u>\$ 47</u>	<u>\$ 161</u>	<u>\$ 4,752</u>

The Company used cash to repurchase \$960, \$12,288 and \$2,168 principal amounts of convertible senior debentures due 2040, due 2041, and due 2042, respectively, in the first fiscal quarter of 2019. The net carrying value of the debentures repurchased were \$396, \$4,770, and \$924, respectively. In accordance with the authoritative accounting guidance for convertible debentures, the aggregate repurchase payment of \$22,695 was allocated between the liability (\$7,311) and equity (including temporary equity, \$15,384) components of the convertible debentures, using the Company's nonconvertible debt borrowing rate at the time of the repurchase. As a result, the Company recognized a loss on extinguishment of convertible debentures of \$1,307, including the write-off of a portion of unamortized debt issuance costs. The convertible senior debentures due 2042 have been fully repurchased, and the trustee has confirmed that the Company has satisfied and discharged its obligations under the indenture governing the convertible senior debentures due 2042.

Note 7 – Accumulated Other Comprehensive Income (Loss)

The cumulative balance of each component of other comprehensive income (loss) and the income tax effects allocated to each component are as follows:

	Pension and other post- retirement actuarial items	Currency translation adjustment	Total
Balance at January 1, 2019	\$ (58,291)	\$ 51,500	\$ (6,791)
Other comprehensive income before reclassifications	-	(9,989)	\$ (9,989)
Tax effect	-	-	\$ -
Other comprehensive income before reclassifications, net of tax	-	(9,989)	\$ (9,989)
Amounts reclassified out of AOCI	2,064	-	\$ 2,064
Tax effect	(607)	-	\$ (607)
Amounts reclassified out of AOCI, net of tax	1,457	-	\$ 1,457
Net other comprehensive income	\$ 1,457	\$ (9,989)	\$ (8,532)
Balance at March 30, 2019	\$ (56,834)	\$ 41,511	\$ (15,323)

Reclassifications of pension and other post-retirement actuarial items out of AOCI are included in the computation of net periodic benefit cost. See Note 8 for further information.

Note 8 – Pensions and Other Postretirement Benefits

The Company maintains various retirement benefit plans.

Defined Benefit Pension Plans

The following table shows the components of the net periodic pension cost for the first fiscal quarters of 2019 and 2018 for the Company's defined benefit pension plans:

	Fiscal quarter ended March 30, 2019		Fiscal quarter ended March 31, 2018	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Net service cost	\$ -	\$ 852	\$ -	\$ 948
Interest cost	424	1,291	371	1,242
Expected return on plan assets	-	(490)	-	(488)
Amortization of prior service cost	36	51	36	55
Amortization of losses	118	1,359	159	1,604
Curtailment and settlement losses	-	505	-	462
Net periodic benefit cost	<u>\$ 578</u>	<u>\$ 3,568</u>	<u>\$ 566</u>	<u>\$ 3,823</u>

Other Postretirement Benefits

The following table shows the components of the net periodic benefit cost for the first fiscal quarters of 2019 and 2018 for the Company's other postretirement benefit plans:

	Fiscal quarter ended March 30, 2019		Fiscal quarter ended March 31, 2018	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Service cost	\$ 35	\$ 72	\$ 34	\$ 75
Interest cost	77	30	68	30
Amortization of prior service (credit)	-	-	(37)	-
Amortization of losses (gains)	(32)	27	(10)	27
Net periodic benefit cost	<u>\$ 80</u>	<u>\$ 129</u>	<u>\$ 55</u>	<u>\$ 132</u>

Note 9 – Stock-Based Compensation

The Company has various stockholder-approved programs which allow for the grant of stock-based compensation to officers, employees, and non-employee directors of the Company.

The amount of compensation cost related to stock-based payment transactions is measured based on the grant-date fair value of the equity instruments issued. The Company determines compensation cost for restricted stock units (“RSUs”) and phantom stock units based on the grant-date fair value of the underlying common stock adjusted for expected dividends paid over the required vesting period for non-participating awards. Compensation cost is recognized over the period that an officer, employee, or non-employee director provides service in exchange for the award.

The following table summarizes stock-based compensation expense recognized:

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Restricted stock units	\$ 3,359	\$ 2,269
Phantom stock units	177	214
Total	\$ 3,536	\$ 2,483

The Company recognizes compensation cost for RSUs that are expected to vest and records cumulative adjustments in the period that the expectation changes.

The following table summarizes unrecognized compensation cost and the weighted average remaining amortization periods at March 30, 2019 *(amortization periods in years)* :

	Unrecognized Compensation Cost	Weighted Average Remaining Amortization Periods
Restricted stock units	\$ 5,669	1.0
Phantom stock units	-	0.0
Total	\$ 5,669	

The Company currently expects all performance-based RSUs to vest and all of the associated unrecognized compensation cost for performance-based RSUs presented in the table above to be recognized.

2007 Stock Incentive Plan

The Company's 2007 Stock Incentive Program (the "2007 Program"), as amended and restated, permits the grant of up to 6,500,000 shares of restricted stock, unrestricted stock, RSUs, stock options, and phantom stock units, to officers, employees, and non-employee directors of the Company. Such instruments are available for grant until May 20, 2024.

Restricted Stock Units

RSU activity under the 2007 Program as of March 30, 2019 and changes during the three fiscal months then ended are presented below (*number of RSUs in thousands*) :

	<u>Number of RSUs</u>	<u>Weighted Average Grant-date Fair Value per Unit</u>
Outstanding:		
January 1, 2019	904	\$ 14.77
Granted	314	19.85
Vested*	(349)	11.50
Cancelled or forfeited	-	-
Outstanding at March 30, 2019	<u>869</u>	<u>\$ 17.92</u>
Expected to vest at March 30, 2019	<u>855</u>	

* The number of RSUs vested includes shares that the Company withheld on behalf of employees to satisfy the statutory tax withholding requirements.

The number of performance-based RSUs that are scheduled to vest increases ratably based on the achievement of defined performance criteria between the established target and maximum levels. RSUs with performance-based vesting criteria are expected to vest as follows (*number of RSUs in thousands*) :

Vesting Date	<u>Expected to Vest</u>	<u>Not Expected to Vest</u>	<u>Total</u>
January 1, 2020	167	-	167
January 1, 2021	141	-	141
January 1, 2022	174	-	174

Phantom Stock Units

The 2007 Program authorizes the grant of phantom stock units to the extent provided for in the Company's employment agreements with certain executives. Each phantom stock unit entitles the recipient to receive a share of common stock at the individual's termination of employment or any other future date specified in the applicable employment agreement. Phantom stock units participate in dividend distribution on the same basis as the Company's common stock and Class B common stock. Dividend equivalents are issued in the form of additional units of phantom stock. The phantom stock units are fully vested at all times.

Phantom stock unit activity under the phantom stock plan as of March 30, 2019 and changes during the three fiscal months then ended are presented below (*number of phantom stock units in thousands*) :

	<u>Number of units</u>	<u>Grant-date Fair Value per Unit</u>
Outstanding:		
January 1, 2019	170	
Granted	10	\$ 17.72
Dividend equivalents issued	1	
Outstanding at March 30, 2019	<u>181</u>	

Note 10 – Segment Information

Vishay is a global manufacturer and supplier of electronic components. Vishay operates, and its chief operating decision maker makes strategic and operating decisions with regards to assessing performance and allocating resources based on, five reporting segments: MOSFETs, Diodes, Optoelectronic Components, Resistors & Inductors, and Capacitors. These segments represent groupings of product lines based on their functionality:

- Metal oxide semiconductor field-effect transistors ("MOSFETs") function as solid-state switches to control power.
- Diodes route, regulate, and block radio frequency, analog, and power signals; protect systems from surges or electrostatic discharge damage; or provide electromagnetic interference filtering.
- Optoelectronic components emit light, detect light, or do both.
- Resistors and inductors both impede electric current. Resistors are basic components used in all forms of electronic circuitry to adjust and regulate levels of voltage and current. Inductors use an internal magnetic field to change alternating current phase and resist alternating current.
- Capacitors store energy and discharge it when needed.

Vishay's reporting segments generate substantially all of their revenue from product sales to the industrial, automotive, telecommunications, computing, consumer products, power supplies, military and aerospace, and medical end markets. A small portion of revenues is from royalties.

The Company evaluates business segment performance on operating income, exclusive of certain items ("segment operating income"). Only dedicated, direct selling, general, and administrative expenses of the segments are included in the calculation of segment operating income. The Company's calculation of segment operating income excludes such selling, general, and administrative costs as global operations, sales and marketing, information systems, finance and administration groups, as well as restructuring and severance costs, goodwill and long-lived asset impairment charges, and other items. Management believes that evaluating segment performance excluding such items is meaningful because it provides insight with respect to intrinsic operating results of the Company. These items represent reconciling items between segment operating income and consolidated operating income. Business segment assets are the owned or allocated assets used by each business.

The Company also regularly evaluates gross profit by segment to assist in the analysis of consolidated gross profit. The Company considers segment operating income to be the more important metric because it more fully captures the business operations of the segments.

NOTES TO THE CONSOLIDATED CONDENSED FINANCIAL STATEMENTS
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The following tables set forth business segment information:

	<u>MOSFETs</u>	<u>Diodes</u>	<u>Optoelectronic Components</u>	<u>Resistors & Inductors</u>	<u>Capacitors</u>	<u>Total</u>
<u>Fiscal quarter ended March 30, 2019:</u>						
Net revenues	\$ 137,341	\$ 167,840	\$ 60,562	\$ 260,471	\$ 118,945	\$ 745,159
Gross profit	\$ 36,059	\$ 43,492	\$ 16,017	\$ 85,869	\$ 29,722	\$ 211,159
Segment operating income	\$ 26,678	\$ 38,128	\$ 11,710	\$ 76,987	\$ 24,566	\$ 178,069
<u>Fiscal quarter ended March 31, 2018:</u>						
Net revenues	\$ 127,506	\$ 167,017	\$ 71,958	\$ 244,046	\$ 106,268	\$ 716,795
Gross profit	\$ 32,022	\$ 43,200	\$ 27,233	\$ 78,530	\$ 24,315	\$ 205,300
Segment operating income	\$ 22,558	\$ 37,931	\$ 22,794	\$ 70,002	\$ 18,893	\$ 172,178

	<u>Fiscal quarters ended</u>	
	<u>March 30, 2019</u>	<u>March 31, 2018</u>
Reconciliation:		
Segment Operating Income	\$ 178,069	\$ 172,178
Unallocated Selling, General, and Administrative Expenses	<u>(70,334)</u>	<u>(68,116)</u>
Consolidated Operating Income	107,735	\$ 104,062
Unallocated Other Income (Expense)	<u>(7,787)</u>	<u>(12,043)</u>
Consolidated Income Before Taxes	<u>\$ 99,948</u>	<u>92,019</u>

NOTES TO THE CONSOLIDATED CONDENSED FINANCIAL STATEMENTS
(dollars in thousands, except per share amounts)

The Company has a broad line of products that it sells to OEMs, EMS companies, and independent distributors. The distribution of sales by customer type is shown below:

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Distributors	\$ 411,560	\$ 404,060
OEMs	282,636	264,050
EMS companies	50,963	48,685
Total Revenue	<u>\$ 745,159</u>	<u>\$ 716,795</u>

Net revenues were attributable to customers in the following regions:

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Asia	\$ 259,726	\$ 285,478
Europe	278,899	267,382
Americas	206,534	163,935
Total Revenue	<u>\$ 745,159</u>	<u>\$ 716,795</u>

The Company generates substantially all of its revenue from product sales to end customers in the industrial, automotive, telecommunications, computing, consumer products, power supplies, military and aerospace, and medical end markets. Sales by end market are presented below:

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Industrial	\$ 281,590	\$ 280,212
Automotive	214,786	208,394
Telecommunications	53,280	45,924
Computing	47,508	47,431
Consumer Products	34,049	37,259
Power Supplies	30,127	34,243
Military and Aerospace	47,561	35,214
Medical	36,258	28,118
Total revenue	<u>\$ 745,159</u>	<u>\$ 716,795</u>

Note 11 – Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per share attributable to Vishay stockholders (shares in thousands) :

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Numerator:		
Net earnings attributable to Vishay stockholders	\$ 75,459	\$ 62,366
Denominator:		
Denominator for basic earnings per share:		
Weighted average shares	144,375	144,160
Outstanding phantom stock units	179	167
Adjusted weighted average shares - basic	144,554	144,327
Effect of dilutive securities:		
Convertible and exchangeable debt instruments	237	14,610
Restricted stock units	498	565
Dilutive potential common shares	735	15,175
Denominator for diluted earnings per share:		
Adjusted weighted average shares - diluted	145,289	159,502
Basic earnings per share attributable to Vishay stockholders	\$ 0.52	\$ 0.43
Diluted earnings per share attributable to Vishay stockholders	\$ 0.52	\$ 0.39

NOTES TO THE CONSOLIDATED CONDENSED FINANCIAL STATEMENTS
(dollars in thousands, except per share amounts)

Diluted earnings per share for the periods presented do not reflect the following weighted average potential common shares that would have an antidilutive effect or have unsatisfied performance conditions *(in thousands)* :

	Fiscal quarters ended	
	March 30, 2019	March 31, 2018
Convertible debt instruments:		
Convertible senior notes due 2025	19,052	-
Weighted average other	315	307

The Company’s convertible debt instruments are only convertible for specified periods upon the occurrence of certain events. The convertible debentures due 2040 became convertible subsequent to the September 30, 2017 evaluation of the conversion criteria, and have remained convertible for each subsequent quarterly evaluation through the March 30, 2019 evaluation. In periods that the debentures are not convertible, the certain conditions which could trigger conversion of the remaining debentures have been deemed to be non-substantive, and accordingly, the Company assumes the conversion of these instruments in its diluted earnings per share computation during periods in which they are dilutive.

At the direction of its Board of Directors, the Company intends, upon conversion, to repay the principal amounts of any of the convertible debt instruments in cash and settle any additional amounts in shares of Vishay common stock. Accordingly, the convertible instruments are included in the diluted earnings per share computation using the “treasury stock method” (similar to options and warrants) rather than the “if converted method” otherwise required for convertible debt. Under the “treasury stock method,” Vishay calculates the number of shares issuable under the terms of the debentures based on the average market price of Vishay common stock during the period, and that number is included in the total diluted shares figure for the period. If the average market price is less than \$12.71, no shares are included in the diluted earnings per share computation for the convertible senior debentures due 2040, if the average market price is less than \$17.41, no shares are included in the diluted earnings per share computation for the convertible senior debentures due 2041, and if the average market price is less than \$31.49, no shares are included in the diluted earnings per share computation for the convertible senior notes due 2025.

Note 12 – Fair Value Measurements

The fair value measurement accounting guidance establishes a valuation hierarchy of the inputs used to measure fair value. This hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The following is a brief description of those three levels:

Level 1: Observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3: Unobservable inputs that reflect the Company’s own assumptions.

An asset or liability’s classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement. There have been no changes in the classification of any financial instruments within the fair value hierarchy in the periods presented.

The following table provides the financial assets and liabilities carried at fair value measured on a recurring basis:

	<u>Total Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
March 30, 2019				
<u>Assets:</u>				
Assets held in rabbi trusts	\$ 47,849	\$ 31,479	\$ 16,370	\$ -
Available for sale securities	\$ 4,295	4,295	-	-
	<u>\$ 52,144</u>	<u>\$ 35,774</u>	<u>\$ 16,370</u>	<u>\$ -</u>
<u>Liabilities:</u>				
Embedded derivative - convertible debentures due 2040	\$ 0	\$ -	\$ -	\$ 0
Embedded derivative - convertible debentures due 2041	\$ (24)	-	-	(24)
	<u>\$ (24)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (24)</u>
December 31, 2018				
<u>Assets:</u>				
Assets held in rabbi trusts	\$ 41,770	\$ 26,278	15,492	\$ -
Available for sale securities	\$ 4,309	4,309	-	-
	<u>\$ 46,079</u>	<u>\$ 30,587</u>	<u>\$ 15,492</u>	<u>\$ -</u>
<u>Liabilities:</u>				
Embedded derivative - convertible debentures due 2040	\$ (1)	\$ -	\$ -	\$ (1)
Embedded derivative - convertible debentures due 2041	\$ (67)	-	-	(67)
Embedded derivative - convertible debentures due 2042	\$ (2)	-	-	(2)
	<u>\$ (70)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (70)</u>

As described in Note 6, the Company allocated the aggregate repurchase payment of convertible senior debentures between the associated liability and equity components of the repurchased convertible senior debentures based on a nonrecurring fair value measurement of the convertible senior debentures due 2040, due 2041, and due 2042 immediately prior to the repurchase. The nonrecurring fair value measurement is considered a Level 3 measurement. See Note 6 for further information on the measurement and input.

The Company maintains non-qualified trusts, referred to as “rabbi” trusts, to fund payments under deferred compensation and non-qualified pension plans. Rabbi trust assets consist primarily of marketable securities, classified as available-for-sale and company-owned life insurance assets. The marketable securities held in the rabbi trusts are valued using quoted market prices on the last business day of the period. The company-owned life insurance assets are valued in consultation with the Company’s insurance brokers using the value of underlying assets of the insurance contracts. The fair value measurement of the marketable securities held in the rabbi trust is considered a Level 1 measurement and the measurement of the company-owned life insurance assets is considered a Level 2 measurement within the fair value hierarchy.

The Company holds investments in equity securities that are intended to fund a portion of its pension and other postretirement benefit obligations outside of the United States. The investments are valued based on quoted market prices on the last business day of the period. The fair value measurement of the investments is considered a Level 1 measurement within the fair value hierarchy.

The convertible senior debentures due 2040 and due 2041 contain embedded derivative features that GAAP requires to be bifurcated and remeasured each reporting period. Each quarter, the change in the fair value of the embedded derivative features, if any, is recorded in the consolidated condensed statements of operations. The Company uses a derivative valuation model to derive the value of the embedded derivative features. Key inputs into this valuation model are the Company's current stock price, risk-free interest rates, the stock dividend yield, the stock volatility, and the debentures' credit spread over LIBOR. The first three aforementioned inputs are based on observable market data and are considered Level 2 inputs while the last two aforementioned inputs are unobservable and thus require management's judgment and are considered Level 3 inputs. The fair value measurement is considered a Level 3 measurement within the fair value hierarchy.

The fair value of the long-term debt, excluding the derivative liabilities and deferred financing costs, at March 30, 2019 and December 31, 2018 is approximately \$586,200 and \$577,200, respectively, compared to its carrying value, excluding the derivative liabilities and deferred financing costs, of \$506,834 and \$509,407, respectively. The Company estimates the fair value of its long-term debt using a combination of quoted market prices for similar financing arrangements and expected future payments discounted at risk-adjusted rates, which are considered Level 2 inputs.

At March 30, 2019 and December 31, 2018, the Company's short-term investments were comprised of time deposits with financial institutions that have maturities that exceed 90 days from the date of acquisition; however they all mature within one year from the respective balance sheet dates. The Company's short-term investments are accounted for as held-to-maturity debt instruments, at amortized cost, which approximates their fair value. The investments are funded with excess cash not expected to be needed for operations prior to maturity; therefore, the Company believes it has the intent and ability to hold the short-term investments until maturity. At each reporting date, the Company performs an evaluation to determine if any unrealized losses are other-than-temporary. No other-than-temporary impairments have been recognized on these securities, and there are no unrecognized holding gains or losses for these securities during the periods presented. There have been no transfers to or from the held-to-maturity classification. All decreases in the account balance are due to returns of principal at the securities' maturity dates. Interest on the securities is recognized as interest income when earned.

At March 30, 2019 and December 31, 2018, the Company's cash and cash equivalents were comprised of demand deposits, time deposits with maturities of three months or less when purchased, and money market funds. The Company estimates the fair value of its cash, cash equivalents, and short-term investments using level 2 inputs. Based on the current interest rates for similar investments with comparable credit risk and time to maturity, the fair value of the Company's cash, cash equivalents, and held-to-maturity short-term investments approximate the carrying amounts reported in the consolidated condensed balance sheets.

The Company's financial instruments also include accounts receivable, short-term notes payable, and accounts payable. The carrying amounts for these financial instruments reported in the consolidated condensed balance sheets approximate their fair values.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

This Management's Discussion and Analysis ("MD&A") is intended to provide an understanding of Vishay's financial condition, results of operations and cash flows by focusing on changes in certain key measures from period to period. The MD&A should be read in conjunction with our Consolidated Condensed Financial Statements and accompanying Notes included in Item 1. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those discussed in our Annual Report on Form 10-K, particularly in Item 1A. "Risk Factors," filed with the Securities and Exchange Commission on February 15, 2019.

Overview

Vishay Intertechnology, Inc. (“Vishay,” “we,” “us,” or “our”) is a global manufacturer and supplier of discrete semiconductors and passive components, including power MOSFETs, power integrated circuits, transistors, diodes, optoelectronic components, resistors, capacitors, and inductors. Discrete semiconductors and passive components manufactured by Vishay are used in virtually all types of electronic products, including those in the industrial, computing, automotive, consumer electronic products, telecommunications, power supplies, military/aerospace, and medical industries.

We operate in five product segments: MOSFETs; Diodes; Optoelectronic Components; Resistors & Inductors; and Capacitors.

Since 1985, we have pursued a business strategy of growth through focused research and development and acquisitions. Through this strategy, we have grown to become one of the world’s largest manufacturers of discrete semiconductors and passive components. We expect to continue our strategy of acquisitions while also maintaining a prudent capital structure.

We are focused on enhancing stockholder value and improving earnings per share. In addition to our growth plan, we also have opportunistically repurchased our stock and, as further described below, reduced dilution risks by repurchasing a portion of our convertible senior debentures.

In 2014, our Board of Directors instituted a quarterly dividend payment program and declared the first cash dividend in the history of Vishay. We have paid dividends each quarter since the first fiscal quarter of 2014, and increased the quarterly cash dividend by 26% to \$0.085 per share in the second fiscal quarter of 2018. On May 8, 2019, we announced that the quarterly cash dividend was further increased by 12% to \$0.095 per share.

During 2018 we reacted quickly to the opportunities created by the enactment of the U.S. Tax Cuts and Jobs Act (“TCJA”) in December 2017. During 2018 we repatriated approximately \$724.0 million of cash to the U.S., net of taxes, and further simplified our balance sheet by refinancing some of our debt. In June 2018, we used the net proceeds from issuing \$600 million principal amount of new convertible senior notes to repurchase some of our outstanding convertible senior debentures, which had become less tax-efficient because of the TCJA. During the fourth quarter of 2018, we utilized repatriated cash to repurchase additional convertible senior debentures in open market and privately-negotiated transactions with holders. As a result of these transactions, we reduced the principal amount of outstanding convertible senior debentures due 2040, 2041, and 2042 from \$575 million to \$36.6 million. During the first quarter of 2019, we continued to repurchase convertible senior debentures in open market and privately-negotiated transactions with holders, further reducing the principal amount of outstanding convertible senior debentures to \$21.1 million.

Our business and operating results have been and will continue to be impacted by worldwide economic conditions. Our revenues are dependent on end markets that are impacted by consumer and industrial demand, and our operating results can be adversely affected by reduced demand in those global markets. For several years, we implemented aggressive cost reduction programs. We continue to monitor the current economic environment and its potential effects on our customers and the end markets that we serve. Additionally, we continue to closely monitor our costs, inventory, and capital resources to respond to changing conditions and to ensure we have the management, business processes, and resources to meet our future needs.

We utilize several financial metrics, including net revenues, gross profit margin, segment operating income, end-of-period backlog, book-to-bill ratio, inventory turnover, change in average selling prices, net cash and short-term investments (debt), and free cash generation to evaluate the performance and assess the future direction of our business. See further discussion in “Financial Metrics” and “Financial Condition, Liquidity, and Capital Resources” below. We believe that supply, in general, caught up with market demand in the first fiscal quarter of 2019. Net revenues increased versus the prior year quarter, but decreased versus the prior fiscal quarter. There is a substantial increase of inventory in the supply chain, which has negatively impacted several key financial metrics.

Net revenues for the fiscal quarter ended March 30, 2019 were \$745.2 million, compared to \$775.9 million and \$716.8 million for the fiscal quarters ended December 31, 2018 and March 31, 2018, respectively. The net earnings attributable to Vishay stockholders for the fiscal quarter ended March 30, 2019 were \$75.5 million, or \$0.52 per diluted share, compared to \$102.4 million, or \$0.69 per diluted share for the fiscal quarter ended December 31, 2018, and \$62.4 million, or \$0.39 per diluted share for the fiscal quarter ended March 31, 2018.

We define adjusted net earnings as net earnings determined in accordance with GAAP adjusted for various items that management believes are not indicative of the intrinsic operating performance of our business. We define free cash as the cash flows generated from continuing operations less capital expenditures plus net proceeds from the sale of property and equipment. The reconciliations below include certain financial measures which are not recognized in accordance with GAAP, including adjusted net earnings, adjusted earnings per share, and free cash. These non-GAAP measures should not be viewed as alternatives to GAAP measures of performance or liquidity. Non-GAAP measures such as adjusted net earnings, adjusted earnings per share, and free cash do not have uniform definitions. These measures, as calculated by Vishay, may not be comparable to similarly titled measures used by other companies. Management believes that adjusted net earnings and adjusted earnings per share are meaningful because they provide insight with respect to our intrinsic operating results. Management believes that free cash is a meaningful measure of our ability to fund acquisitions, repay debt, and otherwise enhance stockholder value through stock repurchases or dividends.

Net earnings attributable to Vishay stockholders for the fiscal quarters ended March 30, 2019, December 31, 2018, and March 31, 2018 include items affecting comparability. The items affecting comparability are (*in thousands, except per share amounts*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
GAAP net earnings attributable to Vishay stockholders	\$ 75,459	\$ 102,419	\$ 62,366
<u>Reconciling items affecting other income (expense):</u>			
Loss on early extinguishment of debt	\$ 1,307	\$ 9,274	\$ -
<u>Reconciling items affecting tax expense:</u>			
Change in deferred taxes due to early extinguishment of debt	\$ (1,312)	\$ (20,914)	\$ -
Effects of cash repatriation programs	(585)	(3,037)	1,316
Tax effects of pre-tax items above	(290)	(2,028)	-
Adjusted net earnings	<u>\$ 74,579</u>	<u>\$ 85,714</u>	<u>\$ 63,682</u>
Adjusted weighted average diluted shares outstanding	145,289	148,378	159,502
Adjusted earnings per diluted share	\$ 0.51	\$ 0.58	\$ 0.40

Although the term "free cash" is not defined in GAAP, each of the elements used to calculate free cash for the year-to-date period is presented as a line item on the face of our consolidated condensed statement of cash flows prepared in accordance with GAAP and the quarterly amounts are derived from the year-to-date GAAP statements as of the beginning and end of the respective quarter.

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Net cash provided by continuing operating activities	\$ 79,518	\$ 149,615	\$ 46,859
Proceeds from sale of property and equipment	395	47,106	184
Less: Capital expenditures	(36,367)	(103,508)	(28,273)
Free cash	<u>\$ 43,546</u>	<u>\$ 93,213</u>	<u>\$ 18,770</u>

Our results for the fiscal quarters ended March 30, 2019, December 31, 2018, and March 31, 2018 represent the effects of a strong business environment, our cost reduction programs, and our organic growth initiatives. We experienced a relatively sharp upturn in demand beginning in the first fiscal quarter of 2017 that continued through first nine fiscal months of 2018. We began to experience a normalization of demand in the fourth fiscal quarter of 2018, which continued in the first fiscal quarter of 2019 as supply, in general, caught up with demand. Our percentage of euro-based sales approximates our percentage of euro-based expenses so the foreign currency impact on revenues was substantially offset by the impact on expenses. Our pre-tax results were consistent with expectations based on our business model.

Financial Metrics

We utilize several financial metrics to evaluate the performance and assess the future direction of our business. These key financial measures and metrics include net revenues, gross profit margin, operating margin, segment operating income, end-of-period backlog, and the book-to-bill ratio. We also monitor changes in inventory turnover and our or publicly available average selling prices (“ASP”).

Gross profit margin is computed as gross profit as a percentage of net revenues. Gross profit is generally net revenues less costs of products sold, but also deducts certain other period costs, particularly losses on purchase commitments and inventory write-downs. Losses on purchase commitments and inventory write-downs have the impact of reducing gross profit margin in the period of the charge, but result in improved gross profit margins in subsequent periods by reducing costs of products sold as inventory is used. Gross profit margin is clearly a function of net revenues, but also reflects our cost management programs and our ability to contain fixed costs.

Operating margin is computed as gross profit less operating expenses as a percentage of net revenues. We evaluate business segment performance on segment operating margin. Only dedicated, direct selling, general, and administrative expenses of the segments are included in the calculation of segment operating income. Segment operating margin is computed as operating income less items such as restructuring and severance costs, asset write-downs, goodwill and indefinite-lived intangible asset impairments, inventory write-downs, gains or losses on purchase commitments, global operations, sales and marketing, information systems, finance and administrative groups, and other items, expressed as a percentage of net revenues. We believe that evaluating segment performance excluding such items is meaningful because it provides insight with respect to intrinsic operating results of the segment. Operating margin is clearly a function of net revenues, but also reflects our cost management programs and our ability to contain fixed costs.

End-of-period backlog is one indicator of future revenues. We include in our backlog only open orders that we expect to ship in the next twelve months. If demand falls below customers’ forecasts, or if customers do not control their inventory effectively, they may cancel or reschedule the shipments that are included in our backlog, in many instances without the payment of any penalty. Therefore, the backlog is not necessarily indicative of the results to be expected for future periods.

An important indicator of demand in our industry is the book-to-bill ratio, which is the ratio of the amount of product ordered during a period as compared with the product that we ship during that period. A book-to-bill ratio that is greater than one indicates that our backlog is building and that we are likely to see increasing revenues in future periods. Conversely, a book-to-bill ratio that is less than one is an indicator of declining demand and may foretell declining revenues.

We focus on our inventory turnover as a measure of how well we are managing our inventory. We define inventory turnover for a financial reporting period as our costs of products sold for the four fiscal quarters ending on the last day of the reporting period divided by our average inventory (computed using each fiscal quarter-end balance) for this same period. A higher level of inventory turnover reflects more efficient use of our capital.

Pricing in our industry can be volatile. Using our and publicly available data, we analyze trends and changes in average selling prices to evaluate likely future pricing. The erosion of average selling prices of established products is typical for semiconductor products. We attempt to offset this deterioration with ongoing cost reduction activities and new product introductions. Our specialty passive components are more resistant to average selling price erosion. All pricing is subject to governing market conditions and is independently set by us.

The quarter-to-quarter trends in these financial metrics can also be an important indicator of the likely direction of our business. The following table shows net revenues, gross profit margin, operating margin, end-of-period backlog, book-to-bill ratio, inventory turnover, and changes in ASP for our business as a whole during the five fiscal quarters beginning with the first fiscal quarter of 2018 through the first fiscal quarter of 2019 (*dollars in thousands*) :

	<u>1st Quarter 2018</u>	<u>2nd Quarter 2018</u>	<u>3rd Quarter 2018</u>	<u>4th Quarter 2018</u>	<u>1st Quarter 2019</u>
Net revenues	\$ 716,795	\$ 761,030	\$ 780,972	\$ 775,892	\$ 745,159
Gross profit margin	28.6%	29.9%	30.3%	28.3%	28.3%
Operating margin	14.5%	16.2%	17.7%	15.4%	14.5%
End-of-period backlog	\$ 1,498,700	\$ 1,595,200	\$ 1,559,700	\$ 1,497,100	\$ 1,331,800
Book-to-bill ratio	1.22	1.17	0.95	0.94	0.79
Inventory turnover	4.6	4.6	4.4	4.5	4.3
Change in ASP vs. prior quarter	(0.2)%	0.7%	0.6%	0.7%	(0.4)%

See “Financial Metrics by Segment” below for net revenues, book-to-bill ratio, and gross profit margin broken out by segment.

Revenues decreased versus the prior fiscal quarter, but increased versus the first fiscal quarter of 2018. Distributors, particularly of semiconductor products in Asia, began to normalize their backlogs in the third fiscal quarter of 2018 and we experienced a further normalization of demand through the fourth fiscal quarter of 2018 and first fiscal quarter of 2019 as supply, in general, has caught up with demand. Inventory in the supply chain has reached very high levels, which negatively impacted orders. Average selling prices have remained relatively stable.

Gross profit margin was stable versus the prior fiscal quarter, but decreased versus the first fiscal quarter of 2018. The decrease versus the first fiscal quarter of 2018 is primarily volume-driven. U.S. tariffs on goods imported from China impacted the gross profit margin versus both the prior fiscal quarter and first fiscal quarter of 2018.

The book-to-bill ratio in the first fiscal quarter of 2019 decreased to 0.79 versus 0.94 in the fourth fiscal quarter of 2018. The book-to-bill ratios in the first fiscal quarter of 2019 for distributors and original equipment manufacturers ("OEM") were 0.54 and 1.10, respectively, versus ratios of 0.90 and 0.98, respectively, during the fourth fiscal quarter of 2018.

For the second fiscal quarter of 2019, we anticipate revenues between \$700 million and \$740 million and gross margins of 26% to 27% at the exchange rates of the first fiscal quarter of 2019. We anticipate that inventory reductions by distributors will have some negative impact on our revenues in the short-term.

Financial Metrics by Segment

The following table shows net revenues, book-to-bill ratio, gross profit margin, and segment operating margin broken out by segment for the five fiscal quarters beginning with the first fiscal quarter of 2018 through the first fiscal quarter of 2019 (*dollars in thousands*) :

	<u>1st Quarter 2018</u>	<u>2nd Quarter 2018</u>	<u>3rd Quarter 2018</u>	<u>4th Quarter 2018</u>	<u>1st Quarter 2019</u>
<i><u>MOSFETs</u></i>					
Net revenues	\$ 127,506	\$ 136,559	\$ 144,260	\$ 139,318	\$ 137,341
Book-to-bill ratio	1.23	0.96	0.88	1.08	0.84
Gross profit margin	25.1%	28.1%	27.0%	26.2%	26.3%
Segment operating margin	17.7%	20.9%	20.5%	18.9%	19.4%
<i><u>Diodes</u></i>					
Net revenues	\$ 167,017	\$ 182,466	\$ 186,492	\$ 176,961	\$ 167,840
Book-to-bill ratio	1.30	1.08	0.86	0.83	0.63
Gross profit margin	25.9%	28.7%	29.3%	26.2%	25.9%
Segment operating margin	22.7%	25.8%	26.6%	23.3%	22.7%
<i><u>Optoelectronic Components</u></i>					
Net revenues	\$ 71,958	\$ 75,709	\$ 76,443	\$ 65,617	\$ 60,562
Book-to-bill ratio	1.24	1.20	0.88	0.75	0.83
Gross profit margin	37.8%	34.9%	36.2%	28.8%	26.4%
Segment operating margin	31.7%	29.3%	30.3%	22.2%	19.3%
<i><u>Resistors & Inductors</u></i>					
Net revenues	\$ 244,046	\$ 253,947	\$ 257,330	\$ 262,963	\$ 260,471
Book-to-bill ratio	1.15	1.16	1.02	0.94	0.92
Gross profit margin	32.2%	33.5%	34.3%	32.5%	33.0%
Segment operating margin	28.7%	30.0%	31.1%	29.4%	29.6%
<i><u>Capacitors</u></i>					
Net revenues	\$ 106,268	\$ 112,349	\$ 116,447	\$ 131,033	\$ 118,945
Book-to-bill ratio	1.26	1.59	1.03	1.02	0.67
Gross profit margin	22.9%	22.3%	23.0%	24.7%	25.0%
Segment operating margin	17.8%	17.5%	18.6%	20.4%	20.7%

Acquisition Activity

As part of our growth strategy, we seek to expand through targeted acquisitions of other manufacturers of electronic components that have established positions in major markets, reputations for product quality and reliability, and product lines with which we have substantial marketing and technical expertise. This includes exploring opportunities to acquire targets to gain market share, penetrate different geographic markets, enhance new product development, round out our existing product lines, or grow our high margin niche market businesses. Acquisitions of passive components businesses would likely be made to strengthen and broaden our position as a specialty product supplier; acquisitions of discrete semiconductor businesses would be made to increase market share and to generate synergies. To limit our financial exposure, we have implemented a policy not to pursue acquisitions if our post-acquisition debt would exceed 2.5x our pro forma earnings before interest, taxes, depreciation, and amortization ("EBITDA"). For these purposes, we calculate pro forma EBITDA as the adjusted EBITDA of Vishay and the target for Vishay's four preceding fiscal quarters, with a pro forma adjustment for savings which management estimates would have been achieved had the target been acquired by Vishay at the beginning of the four fiscal quarter period.

On January 3, 2019, we acquired substantially all of the assets and liabilities of Bi-Metallix, Inc. ("Bi-Metallix"), a U.S.-based, privately-held provider of electron beam continuous strip welding services for \$11.9 million. We were a major customer of Bi-Metallix, and the acquired business will be vertically integrated into our Resistors & Inductors segment. The results and operations of this acquisition have been included in the Resistors & Inductors segment since January 3, 2019. Bi-Metallix did not have a material impact on the Company's consolidated results for the fiscal quarter ended March 30, 2019.

There is no assurance that we will be able to identify and acquire additional suitable acquisition candidates at price levels and on terms and conditions we consider acceptable.

Cost Management

We place a strong emphasis on controlling our costs, and use various measures and metrics to evaluate our cost structure.

We define variable costs as expenses that vary with respect to quantity produced. Fixed costs do not vary with respect to quantity produced over the relevant time period. Contributive margin is calculated as net revenue less variable costs. It may be expressed in dollars or as a percentage of net revenue. Management uses this measure to determine the amount of profit to be expected for any change in revenues. While these measures are typical cost accounting measures, none of these measures are recognized in accordance with GAAP. The classification of expenses as either variable or fixed is judgmental and other companies might classify such expenses differently. These measures, as calculated by Vishay, may not be comparable to similarly titled measures used by other companies.

We closely monitor variable costs and seek to achieve the contributive margin in our business model. Over a period of many years, we have generally maintained a contributive margin of between 45% - 47% of revenues. The erosion of average selling prices, particularly of our semiconductor products, that is typical of our industry and inflation negatively impact contributive margin and drive us to continually seek ways to reduce our variable costs. Our variable cost reduction efforts include increasing the efficiency in our production facilities by expending capital for automation, reducing materials costs, materials substitution, increasing wafer size and shrinking dies to maximize efficiency in our semiconductor production processes, and other yield improvement activities.

Our cost management strategy also includes a focus on controlling fixed costs recorded as costs of products sold or selling, general, and administrative expenses and maintaining our break-even point (adjusted for acquisitions). We seek to limit increases in selling, general, and administrative expenses to the rate of inflation, excluding foreign currency exchange effects and substantially independent of sales volume changes. At constant fixed costs, we would expect each \$1 million increase in revenues to increase our operating income by approximately \$450,000 to \$470,000. Sudden changes in the business conditions, however, may not allow us to quickly adapt our manufacturing capacity and cost structure.

Occasionally, our ongoing cost containment activities are not adequate and we must take actions to maintain our cost competitiveness. We incurred significant restructuring expenses in our past to reduce our cost structure. Historically, our primary cost reduction technique was through the transfer of production to the extent possible from high-labor-cost countries to lower-labor-cost countries. We believe that our manufacturing footprint is suitable to serve our customers and end markets, while maintaining lower manufacturing costs. Since 2013, our cost reduction programs have primarily focused on reducing fixed costs, including selling, general, and administrative expenses.

We do not anticipate any material restructuring activities in 2019. We continue to monitor the economic environment and its potential effects on our customers and the end markets that we serve. We also continue to closely monitor our costs and may be required to implement additional restructuring activities if we were to experience a significant economic downturn.

Our long-term strategy includes growth through the integration of acquired businesses, and GAAP requires plant closure and employee termination costs that we incur in connection with our acquisition activities to be recorded as expenses in our consolidated statement of operations, as such expenses are incurred. We have not incurred any material plant closure or employee termination costs related to any of the businesses acquired since 2011, but we expect to have some level of future restructuring expenses due to acquisitions.

In uncertain times, we focus on managing our production capacities in accordance with customer requirements, and maintain discipline in terms of our fixed costs and capital expenditures.

Even as we seek to manage our costs, we remain cognizant of the future requirements of our demanding markets. We continue to pursue our growth plans through investing in capacities for strategic product lines, and through increasing our resources for R&D, technical marketing, and field application engineering; supplemented by opportunistic acquisitions of specialty businesses.

Foreign Currency Translation

We are exposed to foreign currency exchange rate risks, particularly due to transactions in currencies other than the functional currencies of certain subsidiaries. We occasionally use forward exchange contracts to economically hedge a portion of these exposures.

GAAP requires that we identify the “functional currency” of each of our subsidiaries and measure all elements of the financial statements in that functional currency. A subsidiary’s functional currency is the currency of the primary economic environment in which it operates. In cases where a subsidiary is relatively self-contained within a particular country, the local currency is generally deemed to be the functional currency. However, a foreign subsidiary that is a direct and integral component or extension of the parent company’s operations generally would have the parent company’s currency as its functional currency. We have both situations among our subsidiaries.

Foreign Subsidiaries which use the Local Currency as the Functional Currency

We finance our operations in Europe and certain locations in Asia in local currencies, and accordingly, these subsidiaries utilize the local currency as their functional currency. For those subsidiaries where the local currency is the functional currency, assets and liabilities in the consolidated condensed balance sheets have been translated at the rate of exchange as of the balance sheet date. Translation adjustments do not impact the results of operations and are reported as a separate component of stockholders’ equity.

For those subsidiaries where the local currency is the functional currency, revenues and expenses incurred in the local currency are translated at the average exchange rate for the year. While the translation of revenues and expenses incurred in the local currency into U.S. dollars does not directly impact the statements of operations, the translation effectively increases or decreases the U.S. dollar equivalent of revenues generated and expenses incurred in those foreign currencies. The dollar generally was stronger during the first fiscal quarter compared to the prior year quarter and prior fiscal quarter, with the translation of foreign currency revenues and expenses into U.S. dollars decreasing reported revenues and expenses versus the prior year quarter and prior fiscal quarter.

Foreign Subsidiaries which use the U.S. Dollar as the Functional Currency

Our operations in Israel and most significant locations in Asia are largely financed in U.S. dollars, and accordingly, these subsidiaries utilize the U.S. dollar as their functional currency. For those foreign subsidiaries where the U.S. dollar is the functional currency, all foreign currency financial statement amounts are remeasured into U.S. dollars. Exchange gains and losses arising from remeasurement of foreign currency-denominated monetary assets and liabilities are included in the results of operations. While these subsidiaries transact most business in U.S. dollars, they may have significant costs, particularly payroll-related, which are incurred in the local currency. The cost of products sold for the first fiscal quarter of 2019 have been favorably impacted compared to the prior year quarter, but unfavorably impacted compared to the prior fiscal quarter by local currency transactions of subsidiaries which use the U.S. dollar as their functional currency.

Results of Operations

Statements of operations' captions as a percentage of net revenues and the effective tax rates were as follows:

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Cost of products sold	71.7%	71.7%	71.4%
Gross profit	28.3%	28.3%	28.6%
Selling, general & administrative expenses	13.9%	12.9%	14.1%
Operating income (loss)	14.5%	15.4%	14.5%
Income (loss) before taxes and noncontrolling interest	13.4%	12.9%	12.8%
Net earnings (loss) attributable to Vishay stockholders	10.1%	13.2%	8.7%
Effective tax rate	24.3%	-2.3%	32.0%

Net Revenues

Net revenues were as follows (*dollars in thousands*) :

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Net revenues	\$ 745,159	\$ 775,892	\$ 716,795

The change in net revenues versus the comparable prior periods was as follows (*dollars in thousands*) :

	Fiscal quarter ended March 30, 2019	
	Change in net revenues	% change
December 31, 2018	\$ (30,733)	-4.0%
March 31, 2018	\$ 28,364	4.0%

Changes in net revenues were attributable to the following:

	vs. Prior Quarter	vs. Prior Year Quarter
Change attributable to:		
Change in volume	-3.4%	5.5%
Change in average selling prices	-0.4%	0.8%
Foreign currency effects	-0.1%	-2.7%
Acquisitions	0.0%	0.5%
Other	-0.1%	-0.1%
Net change	-4.0%	4.0%

We experienced a substantial, broad-based increase in demand for our products beginning in the first fiscal quarter of 2017 that continued through the third fiscal quarter of 2018, which resulted in increased net revenues compared to the first fiscal quarter of 2018. Demand started to decrease as supply started to catch up with demand in fourth fiscal quarter of 2018 and further decreased in the first fiscal quarter of 2019 as supply, in general, caught up with market demand. The decrease in demand resulted in decreased net revenues compared to the fourth fiscal quarter of 2018.

Gross Profit Margins

Gross profit margins for the fiscal quarter ended March 30, 2019 were 28.3%, versus 28.3% and 28.6% for the comparable prior fiscal quarter and prior year period, respectively. The fluctuations are primarily due to fluctuations in sales volume and the impacts of U.S. tariffs on goods imported from China. We were able to offset the negative impacts of inflation and average selling price decline by cost reductions and innovation, and maintain our contributive margin.



Segments

Analysis of revenues and gross profit margins for our segments is provided below.

MOSFETs

Net revenues and gross profit margin of the MOSFETs segment were as follows (*dollars in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Net revenues	\$ 137,341	\$ 139,318	\$ 127,506
Gross profit margin	26.3%	26.2%	25.1%

The change in net revenues versus the comparable prior periods was as follows (*dollars in thousands*) :

	Fiscal quarter ended March 30, 2019	
	Change in net revenues	% change
December 31, 2018	\$ (1,977)	-1.4%
March 31, 2018	\$ 9,835	7.7%

Changes in MOSFETs segment net revenues were attributable to the following:

	vs. Prior Quarter	vs. Prior Year Quarter
Change attributable to:		
Change in volume	-0.8%	9.3%
Change in average selling prices	-0.6%	-0.4%
Foreign currency effects	-0.1%	-1.5%
Other	0.1%	0.3%
Net change	<u>-1.4%</u>	<u>7.7%</u>

In the first fiscal quarter of 2019, the MOSFETs segment experienced a slight decline in net revenues versus the prior fiscal quarter, but a significant increase in net revenues versus the prior year quarter. Net revenues increased significantly from American and European end customers, but decreased moderately in our biggest market, Asian distributors, versus the prior fiscal quarter and prior year quarter.

Gross profit margin increased versus the prior fiscal quarter and prior year quarter. The increase versus the prior fiscal quarter is primarily due to cost reductions. The increase versus the prior year quarter is primarily due to the significant increase in volume and a more profitable product mix, partially offset by the impact of U.S. tariffs on goods imported from China.

The reduced demand from some end markets has not yet impacted pricing. We experienced a slight decrease in average selling prices versus the prior fiscal quarter and prior year quarter.

We continue to invest to expand manufacturing capacities for strategic product lines at our internal fab and at third-party foundries.

Diodes

Net revenues and gross profit margins of the Diodes segment were as follows (*dollars in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Net revenues	\$ 167,840	\$ 176,961	\$ 167,017
Gross profit margin	25.9%	26.2%	25.9%

The change in net revenues versus the comparable prior periods was as follows (*dollars in thousands*) :

	Fiscal quarter ended March 30, 2019	
	Change in net revenues	% change
December 31, 2018	\$ (9,121)	-5.2%
March 31, 2018	\$ 823	0.5%

Changes in Diodes segment net revenues were attributable to the following:

	vs. Prior Quarter	vs. Prior Year Quarter
Change attributable to:		
Change in volume	-4.4%	0.1%
Change in average selling prices	-0.6%	2.7%
Foreign currency effects	-0.1%	-2.1%
Other	-0.1%	-0.2%
Net change	<u>-5.2%</u>	<u>0.5%</u>

Net revenues of our Diodes segment declined significantly versus the prior fiscal quarter, but increased slightly versus the prior year quarter. All regions, particularly Asia, and distribution customers contributed to the decrease versus the prior fiscal quarter. The increase versus the prior year quarter is primarily due to increased average selling prices, which were partially offset by the negative impacts of a weaker euro.

Gross profit margin decreased versus the prior fiscal quarter and was stable versus the prior year quarter. The decrease versus the prior fiscal quarter is primarily due to the decreased volume and lower average selling prices. The increase in average selling prices and the effects of our cost reduction activities versus the prior year quarter were offset by the impact of U.S. tariffs on goods imported from China and general cost inflation and resulted in a stable gross profit margin.

Average selling prices decreased versus the prior fiscal quarter, but increased versus the prior year quarter. The slight decrease versus the prior fiscal quarter is primarily due to increased pricing pressure from the decreased demand from some end markets. The slight increase versus the prior year quarter is primarily due to a more favorable customer mix and the impact of U.S. tariffs passed through to customers.

Optoelectronic Components

Net revenues and gross profit margins of the Optoelectronic Components segment were as follows (*dollars in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Net revenues	\$ 60,562	\$ 65,617	\$ 71,958
Gross profit margin	26.4%	28.8%	37.8%

The change in net revenues versus the comparable prior periods was as follows (*dollars in thousands*) :

	Fiscal quarter ended March 30, 2019	
	Change in net revenues	% change
December 31, 2018	\$ (5,055)	-7.7%
March 31, 2018	\$ (11,396)	-15.8%

Changes in Optoelectronic Components segment net revenues were attributable to the following:

	vs. Prior Quarter	vs. Prior Year Quarter
Change attributable to:		
Decrease in volume	-5.2%	-11.7%
Decrease in average selling prices	-2.1%	-2.3%
Foreign currency effects	-0.3%	-2.6%
Other	-0.1%	0.8%
Net change	<u>-7.7%</u>	<u>-15.8%</u>

Net revenues of our Optoelectronic Components segment decreased significantly versus the prior fiscal quarter and prior year quarter. The decreases are primarily attributable to distribution customers in Europe and Asia and American and European end customers. Lower average selling prices and negative foreign currency impacts also contributed to the decreases.

The gross profit margin decreased versus the prior fiscal quarter and prior year quarter. The decreases are primarily due to decreased volume, lower average selling prices, and general cost inflation that exceeded the impact of our cost reduction measures.

The pricing pressure for our established Optoelectronic Components products was slightly reduced versus prior years, but continues. We experienced a slight decline in average selling prices versus the prior fiscal quarter and prior year quarter.

Resistors & Inductors

Net revenues and gross profit margins of the Resistors & Inductors segment were as follows (*dollars in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Net revenues	\$ 260,471	\$ 262,963	\$ 244,046
Gross profit margin	33.0%	32.5%	32.2%

The change in net revenues versus the comparable prior periods was as follows (*dollars in thousands*) :

	Fiscal quarter ended March 30, 2019	
	Change in net revenues	% change
December 31, 2018	\$ (2,492)	-0.9%
March 31, 2018	\$ 16,425	6.7%

Changes in Resistors & Inductors segment net revenues were attributable to the following:

	vs. Prior Quarter	vs. Prior Year Quarter
Change attributable to:		
Change in volume	-1.9%	6.1%
Change in average selling prices	-0.3%	0.2%
Foreign currency effects	-0.2%	-3.3%
Acquisition	0.0%	1.4%
Other	1.5%	2.3%
Net change	<u>-0.9%</u>	<u>6.7%</u>

Net revenues of the Resistors & Inductors segment for the fiscal quarter ended March 30, 2019 decreased slightly versus the prior fiscal quarter, but increased significantly versus the prior year quarter. The increase in net revenues from the European region versus the prior fiscal quarter was offset by decreases from the Asia and American regions. Increases in net revenues from the European and American regions versus the prior year quarter were only partially offset by decreases from the Asia region. The decrease in net revenues versus the prior fiscal quarter is primarily due to distribution customers. Distribution and the industrial and automotive end markets contributed the most to the revenue increase versus the prior year quarter.

The gross profit margin improved versus the prior fiscal quarter and the prior year quarter. The increase versus the prior fiscal quarter is primarily due to cost reduction activities. The increase versus the prior year quarter is primarily due to increased sales volume, cost reduction activities, and volume efficiencies.

Due to the strong business environment throughout 2018, average selling prices increased through the first nine fiscal months of 2018 before starting to decrease consistent with our historical experience in the fourth fiscal quarter of 2018. This resulted in average selling prices that were slightly lower versus the prior fiscal quarter and slightly higher versus the prior year quarter.

Capital spending projects continue for strategic product lines.

Capacitors

Net revenues and gross profit margins of the Capacitors segment were as follows (*dollars in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Net revenues	\$ 118,945	\$ 131,033	\$ 106,268
Gross profit margin	25.0%	24.7%	22.9%

The change in net revenues versus the comparable prior periods was as follows (*dollars in thousands*) :

	Fiscal quarter ended March 30, 2019	
	Change in net revenues	% change
December 31, 2018	\$ (12,088)	-9.2%
March 31, 2018	\$ 12,677	11.9%

Changes in Capacitors segment net revenues were attributable to the following:

	vs. Prior Quarter	vs. Prior Year Quarter
Change attributable to:		
Change in volume	-9.7%	13.8%
Increase in average selling prices	0.6%	2.2%
Foreign currency effects	-0.2%	-4.0%
Other	0.1%	-0.1%
Net change	<u>-9.2%</u>	<u>11.9%</u>

Net revenues of the Capacitors segment for the first fiscal quarter of 2019 decreased significantly versus the prior fiscal quarter, but increased significantly versus the prior year quarter. The increase in net revenues from the European region versus the prior fiscal quarter was offset by decreases from the Asia and American regions. Increases in net revenues from the European and American regions versus the prior year quarter were only partially offset by decreases from the Asia region. The decrease in net revenues versus the prior fiscal quarter is primarily due to distribution customers. Distribution customers contributed the most to the revenue increase versus the prior year quarter.

The gross profit margin in the first fiscal quarter of 2019 increased versus the prior fiscal quarter and the prior year quarter. The increase versus the prior fiscal quarter is primarily due to a more favorable product mix and higher average selling prices. The increase versus the prior year quarter is primarily due to increased sales volume and higher average selling prices.

Due to the positive business climate, average selling prices increased slightly versus the prior fiscal quarter and prior year quarter.

Selling, General, and Administrative Expenses

Selling, general, and administrative (“SG&A”) expenses are summarized as follows (*dollars in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Total SG&A expenses	\$ 103,424	\$ 100,023	\$ 101,238
as a percentage of revenues	13.9%	12.9%	14.1%

The overall increase in SG&A expenses is primarily attributable to general salary and cost inflation. Compared to the prior year quarter, the increase also reflects the costs of acquisitions and higher R&D costs, partially offset by lower amortization expense.

Certain items included in SG&A expenses impact the comparability of these amounts, as summarized below (*in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	March 31, 2018
Amortization of intangible assets	\$ 2,139	\$ 2,142	\$ 3,201

Certain intangible assets became fully amortized in the third fiscal quarter of 2018.

Other Income (Expense)

Interest expense for the fiscal quarter ended March 30, 2019 decreased by \$1.4 million versus the fiscal quarter ended December 31, 2018 and increased by \$0.7 million versus the fiscal quarter ended March 31, 2018. The decrease versus the prior fiscal quarter is primarily due to reduced interest expense on the revolving credit facility and convertible senior debentures as a result of using cash repatriated in 2018 to reduce the outstanding balance of the revolving credit facility and to repurchase convertible senior debentures. The increase versus the prior year quarter is primarily attributable to the issuance of convertible senior notes due 2025 in the second fiscal quarter of 2018, partially offset by the effects of convertible senior debenture repurchases.

The following tables analyze the components of the line “Other” on the consolidated condensed statements of operations (*in thousands*):

	Fiscal quarters ended		
	March 30, 2019	December 31, 2018	Change
Foreign exchange gain (loss)	\$ (470)	\$ (994)	\$ 524
Interest income	2,199	3,638	(1,439)
Investment income (expense)	3,590	(155)	3,745
Other	(11)	108	(119)
	<u>\$ 5,308</u>	<u>\$ 2,597</u>	<u>\$ 2,711</u>

	Fiscal quarters ended		
	March 30, 2019	March 31, 2018	Change
Foreign exchange gain (loss)	\$ (470)	\$ (1,925)	\$ 1,455
Interest income	2,199	2,036	163
Investment income (expense)	3,590	(904)	4,494
Other	(11)	(54)	43
	<u>\$ 5,308</u>	<u>\$ (847)</u>	<u>\$ 6,155</u>

Income Taxes

For the fiscal quarter ended March 30, 2019, our effective tax rate was 24.3%, as compared to -2.3% and 32.0% for the fiscal quarters ended December 31, 2018 and March 31, 2018, respectively. With the reduction in the U.S. statutory rate to 21% beginning January 1, 2018, we expect that our effective tax rate will now be higher than the U.S. statutory rate, excluding unusual transactions. Historically, the effective tax rates were generally less than the U.S. statutory rate primarily because of earnings in foreign jurisdictions. Discrete tax items impacted our effective tax rate for each fiscal quarter presented.

We recorded additional tax benefit of \$0.6 million and tax expense of \$1.3 million in the first fiscal quarters of 2019 and 2018, respectively, due to the remeasurement of the deferred tax liability related to our cash repatriation program, primarily due to foreign currency effects. These types of remeasurement adjustments will continue until the amounts are repatriated.

The effective tax rate for the fiscal quarters ended March 30, 2019 and December 31, 2018 was also impacted by the effect of the repurchase of convertible senior debentures. We recognized a tax benefit of \$1.3 million and \$20.9 million in the fiscal quarters ended March 30, 2019 and December 31, 2018, respectively, resulting from the extinguishments, reflecting the reduction in deferred tax liabilities related to the special tax attributes of the debentures.

During the three fiscal months ended March 30, 2019, the liabilities for unrecognized tax benefits increased by \$1.4 million on a net basis, due to increases for tax positions taken in the current and prior periods and interest, offset by expiration of a statute.

We operate in a global environment with significant operations in various locations outside the United States. Accordingly, the consolidated income tax rate is a composite rate reflecting our earnings and the applicable tax rates in the various locations where we operate. Part of our historical strategy has been to achieve cost savings through the transfer and expansion of manufacturing operations to countries where we can take advantage of lower labor costs and available tax and other government-sponsored incentives. Accordingly, our effective tax rate has historically been less than the U.S. statutory rate, except in years where there are material discrete items.

Additional information about income taxes is included in Note 5 to our consolidated condensed financial statements.

Financial Condition, Liquidity, and Capital Resources

We focus on our ability to generate cash flows from operations. The cash generated from operations is used to fund our capital expenditure plans, and cash in excess of our capital expenditure needs is available to fund our acquisition strategy, to reduce debt levels, and to pay dividends and repurchase stock. We have generated cash flows from operations in excess of \$200 million in each of the last 17 years, and cash flows from operations in excess of \$100 million in each of the last 24 years.

Management uses a non-GAAP measure, "free cash," to evaluate our ability to fund acquisitions, repay debt, and otherwise enhance stockholder value through stock repurchases or dividends. See "Overview" above for "free cash" definition and reconciliation to GAAP. Vishay has generated positive "free cash" in each of the past 22 years, and "free cash" in excess of \$80 million in each of the last 17 years. In this volatile economic environment, we continue to focus on the generation of free cash, including an emphasis on cost controls.

During 2018, we repatriated approximately \$724 million to the United States, and paid cash taxes of \$156.8 million related to the repatriations. The payment of these cash taxes was recorded as an operating cash flow and any future cash taxes associated with the TCJA transition tax and related foreign taxes on repatriated cash will generally be recorded as operating cash flows. The payment of these cash taxes significantly impacted cash flows from operations and free cash for the year ended December 31, 2018. We expect our business to continue to be a reliable generator of free cash, partially offset by such tax payments. There is no assurance, however, that we will be able to continue to generate cash flows from operations and free cash at the same levels, or at all, going forward if the current economic environment worsens.

We maintain a revolving credit facility, first entered into in 2010, which was amended and restated on August 8, 2013, and further amended and restated on December 10, 2015. The credit facility provides an aggregate commitment of \$640 million of revolving loans available until December 10, 2020, and we have the ability to request up to \$50 million of incremental revolving commitments, subject to the satisfaction of certain conditions. At March 30, 2019, no amounts are outstanding under our credit facility.

The credit facility allows an unlimited amount of defined "Restricted Payments," which include cash dividends to stockholders and share repurchases, provided our pro forma leverage ratio is less than 2.25 to 1. If our leverage ratio is greater than 2.25 to 1, the credit facility allows such payments up to \$75 million per annum (subject to a cap of \$225 million for the term of the facility).

Borrowings under the credit facility bear interest at LIBOR plus an interest margin. The applicable interest margin is based on our leverage ratio. The interest rate on any borrowings increases to LIBOR plus 1.75% if our leverage ratio is between 1.50 to 1 and 2.50 to 1 and further increases to 2.00% if our leverage ratio equals or exceeds 2.50 to 1. Based on our leverage ratio as of the end of the first fiscal quarter of 2019, any new borrowings in the second fiscal quarter of 2019 will bear interest at LIBOR plus 1.50%.

We also pay a fee, also based on our leverage ratio, on undrawn amounts. The undrawn commitment fee, based on our leverage ratio for the first fiscal quarter of 2019, was 0.30% per annum. Such undrawn commitment fee increases to 0.35% per annum if our leverage ratio is between 1.50 to 1 and 2.50 to 1 and further increases to 0.40% per annum if our leverage ratio equals or exceeds 2.50 to 1. Based on our leverage ratio as of the end of the first fiscal quarter of 2019, our undrawn commitment fee in the second fiscal quarter of 2019 will be 0.30% per annum.

The borrowings under the credit facility are secured by a lien on substantially all assets, including accounts receivable, inventory, machinery and equipment, and general intangibles (but excluding real estate, intellectual property registered or licensed for use in, or arising under the laws of, any country other than the United States, assets located outside of the United States and deposit and securities accounts), of Vishay and certain significant subsidiaries located in the United States, and pledges of stock in certain significant domestic and foreign subsidiaries; and are guaranteed by certain significant subsidiaries. Certain of our subsidiaries are permitted to borrow under the credit facility, subject to the satisfaction of specified conditions. Any borrowings by these subsidiaries under the credit facility will be guaranteed by Vishay and certain subsidiaries.

The credit facility also limits or restricts us from, among other things, incurring indebtedness, incurring liens on assets, making investments and acquisitions, and making asset sales, and making other restricted payments (assuming our leverage ratio is greater than 2.25 to 1), and requires us to comply with other covenants, including the maintenance of specific financial ratios.

The financial maintenance covenants include (a) an interest expense coverage ratio of not less than 2.00 to 1; and (b) a leverage ratio of not more than 3.25 to 1 (and a pro forma ratio of 2.75 to 1 on the date of incurrence of additional debt). The computation of these ratios is prescribed in Article VI of the Credit Agreement between Vishay Intertechnology, Inc. and JPMorgan Chase Bank, N.A., which has been filed with the SEC as Exhibit 10.1 to our current report on Form 8-K filed December 10, 2015.

We were in compliance with all financial covenants under the credit facility at March 30, 2019. Our interest expense coverage ratio and leverage ratio were 19.33 to 1 and 0.96 to 1, respectively. We expect to continue to be in compliance with these covenants based on current projections.

If we are not in compliance with all of the required financial covenants, the credit facility could be terminated by the lenders, and any amounts then outstanding pursuant to the credit facility could become immediately payable. Additionally, our convertible senior debentures due 2040 and due 2041 and our convertible senior notes due 2025 have cross-default provisions that could accelerate repayment in the event the indebtedness under the credit facility is accelerated.

We had no amounts outstanding on our revolving credit facility at December 31, 2018. We had no borrowings or repayments on our credit facility during the three fiscal months ended March 30, 2019.

During 2018, we issued \$600 million principal amount of 2.25% convertible senior notes due 2025 to qualified institutional investors and repatriated approximately \$724 million to the United States. We used substantially all of the proceeds from the issuance and the repatriated amounts to reduce the outstanding balance of the credit facility to zero, to repay certain intercompany indebtedness, and to fund our 2018 repurchases of convertible senior debentures.

During the first fiscal quarter of 2019, we repurchased \$1.0 million, \$12.3 million, and the remaining \$2.2 million principal amount of convertible senior debentures due 2040, due 2041, and due 2042, respectively, for \$22.7 million. We used cash on hand, primarily repatriated cash, to fund the repurchases.

After completing the 2018 phases of cash repatriation, there is approximately \$300 million of unremitted foreign earnings that we have deemed not permanently reinvested and thus have accrued foreign withholding and other taxes. We continue to evaluate the timing and uses of the remaining amounts, and may decide to ultimately not repatriate some of these amounts.

We also continue to evaluate the TCJA's provisions and may further adjust our financial and capital structure and business practices accordingly.

As of March 30, 2019, approximately 90% of our cash and cash equivalents and short-term investment were held in countries outside of the United States. Our substantially undrawn credit facility provides us with significant operating liquidity in the United States. We expect to fund any future repurchases of convertible debentures, as well as other obligations required to be paid by the U.S. parent company, Vishay Intertechnology, Inc., including cash dividends to stockholders, share repurchases, and principal and interest payments on our debt instruments by borrowing under our revolving credit facility. Our U.S. subsidiaries also have operating cash needs.

Although we do not currently have any amounts outstanding on the revolving credit facility, management expects to use the credit facility from time-to-time to meet certain short-term financing needs. We expect that cash on-hand and cash flows from operations will be sufficient to meet our longer-term financing needs related to normal operating requirements, regular dividend payments, and our research and development and capital expenditure plans. Additional acquisition activity, share repurchases, convertible debt repurchases, or conversion of our convertible debentures may require additional borrowing under our credit facility or may otherwise require us to incur additional debt. No principal payments on our debt are due before the maturity of our revolving credit facility in December 2020.

Prior to three months before the maturity date, our convertible senior debentures are convertible by the holders under certain circumstances. The convertible debentures due 2040 became convertible subsequent to the September 30, 2017 evaluation of the conversion criteria, and have remained convertible for each subsequent quarterly evaluation through the March 30, 2019 evaluation, due to the sale price of our common stock exceeding 130% of the conversion price for the applicable periods. Such debentures will remain convertible until June 29, 2019, at which time the conversion criteria will be reevaluated. At the direction of our Board of Directors, we intend, upon conversion, to repay the principal amount of the any convertible debt instruments in cash and settle any additional amounts in shares of our common stock. We intend to finance the principal amount of any converted debentures using borrowings under our credit facility. Accordingly, the debt component of the convertible senior debentures due 2040 continues to be classified as a noncurrent liability on the consolidated condensed balance sheets. No conversions have occurred to date. The convertible senior debentures due 2041 and the convertible senior notes due 2025 are not currently convertible.

We invest a portion of our excess cash in highly liquid, high-quality instruments with maturities greater than 90 days, but less than 1 year, which we classify as short-term investments on our consolidated balance sheets. As these investments were funded using a portion of excess cash and represent a significant aspect of our cash management strategy, we include the investments in the calculation of net cash and short-term investments (debt).

The interest rates on our short-term investments vary by location, but can be up to 150 bps higher than the interest rates on our cash accounts. The average interest rate on our short-term investments was 1.4% due to the low interest rate environment in Europe. Transactions related to these investments are classified as investing activities on our consolidated condensed statements of cash flows.

The following table summarizes the components of net cash and short-term investments (debt) at March 30, 2019 and December 31, 2018 (*in thousands*) :

	<u>March 30, 2019</u>	<u>December 31, 2018</u>
Credit facility	\$ -	\$ -
Convertible senior notes, due 2025*	498,629	495,203
Convertible senior debentures, due 2040*	144	539
Convertible senior debentures, due 2041*	8,085	12,812
Convertible senior debentures, due 2042*	-	923
Deferred financing costs	(14,028)	(14,968)
Total debt	492,830	494,509
Cash and cash equivalents	749,426	686,032
Short-term investments	8,411	78,286
Net cash and short-term investments (debt)	\$ 265,007	\$ 269,809

*Represents the carrying amount of the convertible instruments, which is comprised of the principal amount of the instruments, net of the unamortized discount and the associated embedded derivative liability, when applicable.

"Net cash and short-term investments (debt)" does not have a uniform definition and is not recognized in accordance with GAAP. This measure should not be viewed as an alternative to GAAP measures of performance or liquidity. However, management believes that an analysis of "net cash and short-term investments (debt)" assists investors in understanding aspects of our cash and debt management. The measure, as calculated by us, may not be comparable to similarly titled measures used by other companies.

Our financial condition as of March 30, 2019 continued to be strong, with a current ratio (current assets to current liabilities) of 3.1 to 1, as compared to 2.8 to 1 as of December 31, 2018. The increase is primarily due to the decrease in accounts payable and other accrued expenses. Our ratio of total debt to Vishay stockholders' equity was 0.34 to 1 at March 30, 2019, as compared to 0.36 to 1 at December 31, 2018. The decrease in the ratio is primarily due to increased retained earnings.

Cash flows provided by operating activities were \$79.5 million for the three fiscal months ended March 30, 2019, as compared to cash flows provided by operations of \$46.9 million for the three fiscal months ended March 31, 2018.

Cash paid for property and equipment for the three fiscal months ended March 30, 2019 was \$36.4 million, as compared to \$28.3 million for the three fiscal months ended March 31, 2018. We expect capital spending of approximately \$165 million in 2019, which represents a moderate adaptation to foreseeable 2019 market needs.

Cash paid for dividends to our common and Class B common stockholders totalled \$12.3 million and \$9.7 million for the three fiscal months ended March 30, 2019 and March 31, 2018, respectively. On May 7, 2018, our Board of Directors increased the quarterly cash dividend to \$0.085 per share, representing a 26% increase over the previous quarterly dividend. On May 8, 2019, our Board of Directors further increased the quarterly cash dividend to \$0.095 per share, representing a 12% increase over the previous quarterly dividend. We expect dividend payments in 2019 to total approximately \$53.4 million. However, any future dividend declaration and payment remains subject to authorization by our Board of Directors.

Contractual Commitments and Off-Balance Sheet Arrangements

Our Annual Report on Form 10-K for the year ended December 31, 2018 filed on February 15, 2019, includes a table of contractual commitments. There were no material changes to these commitments during the three fiscal months ended March 30, 2019.

Dividends

In 2014, our Board of Directors approved the initiation of a quarterly cash dividend program. Quarterly cash dividends have been paid in each quarter since the first fiscal quarter of 2014. We expect to continue to pay quarterly dividends, although each dividend is subject to approval by our Board of Directors.

The following table summarizes the quarterly cash dividends declared (*in thousands*) :

<u>Fiscal Period</u>	<u>Amount</u>	<u>Month of Payment</u>
Three fiscal months ended March 30, 2019	\$ 12,277	March

On May 8, 2019, we announced that the quarterly cash dividend was further increased by 12% to \$0.095 per share.

Safe Harbor Statement

From time to time, information provided by us, including but not limited to statements in this report, or other statements made by or on our behalf, may contain “forward-looking” information within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “believe,” “estimate,” “will be,” “will,” “would,” “expect,” “anticipate,” “plan,” “project,” “intend,” “could,” “should,” or other similar words or expressions often identify forward-looking statements.

Such statements are based on current expectations only, and are subject to certain risks, uncertainties, and assumptions, many of which are beyond our control. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results, performance, or achievements may vary materially from those anticipated, estimated, or projected. Among the factors that could cause actual results to materially differ include: general business and economic conditions; delays or difficulties in implementing our cost reduction strategies; delays or difficulties in expanding our manufacturing capacities; an inability to attract and retain highly qualified personnel; changes in foreign currency exchange rates; uncertainty related to the effects of changes in foreign currency exchange rates; competition and technological changes in our industries; difficulties in new product development; difficulties in identifying suitable acquisition candidates, consummating a transaction on terms which we consider acceptable, and integration and performance of acquired businesses; changes in applicable domestic and foreign tax regulations and uncertainty regarding the same; changes in U.S. and foreign trade regulations and tariffs and uncertainty regarding the same; changes in applicable accounting standards and other factors affecting our operations, markets, capacity to meet demand, products, services, and prices that are set forth in our filings with the SEC, including our annual reports on Form 10-K and our quarterly reports on Form 10-Q. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

Our 2018 Annual Report on Form 10-K listed various important factors that could cause actual results to differ materially from projected and historic results. We note these factors for investors as permitted by the Private Securities Litigation Reform Act of 1995. Readers can find them in Part I, Item 1A, of that filing under the heading “Risk Factors.” You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider any such list to be a complete set of all potential risks or uncertainties.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Part II, Item 7A, “Quantitative and Qualitative Disclosures About Market Risk,” of our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on February 15, 2019, describes our exposure to market risks. There have been no material changes to our market risks since December 31, 2018.

Item 4. Controls and Procedures

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

An evaluation was performed under the supervision and with the participation of our management, including the Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) and Rule 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Based on that evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of the end of the period covered by this quarterly report to ensure that information required to be

disclosed in reports that we file or submit under the Exchange Act are: (1) recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms; and (2) accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the period covered by this report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

Item 3 of Part I of our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on February 15, 2019 describes certain of our legal proceedings. Except as described below, there have been no material developments to the legal proceedings previously disclosed.

As previously reported, the Korean Ministry of Justice conducted a review of the conduct of Vishay Polytech Co., Ltd., a wholly owned subsidiary of the Company (“VPC”), at the request of the Korean Fair Trade Commission. At the conclusion of that review, the Seoul Central District Prosecutors’ Office issued a summary indictment of VPC, along with other respondents, for alleged violations of applicable antitrust laws. On March 4, 2019, the Seoul Central District Court issued a summary order finding that VPC had violated South Korea’s Monopoly Regulation and Fair Trade Law and imposed a penalty of approximately \$44,000 against VPC. VPC waived its opportunity for a trial.

The conduct attributable to VPC occurred prior to the acquisition of that entity from Holy Stone Enterprises Co. Ltd. (“Holy Stone”) in 2014. Holy Stone has agreed to indemnify VPC for losses, including the penalty and expenses associated with the decision described above.

Item 1A. Risk Factors

There have been no material changes to the risk factors we previously disclosed under Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on February 15, 2019.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Not applicable.

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

- 10.1 [Amendment to Employment Agreement between between Vishay Electronic GmbH \(an indirect wholly owned subsidiary of Vishay Intertechnology, Inc.\), Vishay Intertechnology, Inc., and Werner Gebhardt, dated February 22, 2019.](#)
- 31.1 [Certification pursuant to Rule 13a-14\(a\) or 15d-14\(a\) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Dr. Gerald Paul, Chief Executive Officer.](#)
- 31.2 [Certification pursuant to Rule 13a-14\(a\) or 15d-14\(a\) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 - Lori Lipcaman, Chief Financial Officer.](#)
- 32.1 [Certification Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 – Dr. Gerald Paul, Chief Executive Officer.](#)
- 32.2 [Certification Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 – Lori Lipcaman, Chief Financial Officer.](#)
- 101 Interactive Data File (Quarterly Report on Form 10-Q, for the quarterly period ended March 30, 2019, furnished in XBRL (eXtensible Business Reporting Language)).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

VISHAY INTERTECHNOLOGY, INC.

/s/ Lori Lipcaman

Lori Lipcaman

Executive Vice President and Chief Financial Officer

(as a duly authorized officer and principal financial and
accounting officer)

Date: May 9, 2019

VISHAY INTERTECHNOLOGY, INC.
63 Lancaster Avenue
Malvern, Pennsylvania 19355

February 22, 2019

Mr. Werner Gebhardt

Re: Amendment to Employment Agreement

Dear Werner:

Reference is made to that certain employment agreement dated February 15, 2018 (the "Employment Agreement"), by and between you (the "Executive"), Vishay Intertechnology, Inc., a Delaware corporation (the "Company") and Vishay Electronic GmbH, a company with limited liability organized under the laws of Germany ("Vishay Electronic").

The Executive, the Company and Vishay Electronic (the "Parties") acknowledge that the reference to "40%" in Section 4.3(a) of the Employment Agreement was intended to be "30%," and the Parties further agree that such reference shall be changed to 30% effective as of February 15, 2018.

This letter agreement shall constitute an amendment to the Employment Agreement, and except as otherwise set forth herein, all other terms and conditions of the Employment Agreement remain unchanged.

Remainder of Page Intentionally Left Blank

To confirm your agreement with the foregoing, please countersign this letter agreement in the space below provided.

VISHAY INTERTECHNOLOGY, INC.

By: /s/ Gerald Paul
Name: Dr. Gerald Paul
Title: CEO

VISHAY ELECTRONIC GMBH

By: /s/ Arnold Rohr
Name: Arnold Rohr
Title: Managing Director

/s/ Günther Volkmann
Name: Günther Volkmann
Title: Managing Director

Accepted and agreed:
/s/ Werner Gebhardt
WERNER GEBHARDT

DATE: February 26, 2019

CERTIFICATIONS

I, Dr. Gerald Paul, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Vishay Intertechnology, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 9, 2019

/s/ Gerald Paul

Dr. Gerald Paul
Chief Executive Officer

CERTIFICATIONS

I, Lori Lipcaman, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Vishay Intertechnology, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 9, 2019

/s/ Lori Lipcaman
Lori Lipcaman
Chief Financial Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Vishay Intertechnology, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended March 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Dr. Gerald Paul, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Gerald Paul
Dr. Gerald Paul
Chief Executive Officer
May 9, 2019

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Vishay Intertechnology, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended March 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Lori Lipcaman, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Lori Lipcaman
Lori Lipcaman
Chief Financial Officer
May 9, 2019