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 September 28, 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 001-07416

Vishay Intertechnology, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**38-1686453**
(State or Other Jurisdiction of Incorporation)	(I.R.S. Employer Identification Number)
63 LANCASTER AVENUE **MALVERN, Pennsylvania 19355-2143**	**610-644-1300**
(Address of Principal Executive Offices)	(Registrant's Area Code and Telephone Number)

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 LLC

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 ☐
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

As of October 25, 2019, the registrant had 132,348,357 shares of its common stock and 12,097,409 shares of its Class B common stock outstanding.

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FORM 10-Q
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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

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

	September 28, 2019 (Unaudited)	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	**$ 731,483**	$ 686,032
Short-term investments	**56,043**	78,286
Accounts receivable, net	**335,189**	397,020
Inventories:		
Finished goods	**129,485**	138,112
Work in process	**189,757**	190,982
Raw materials	**125,411**	150,566
Total inventories	**444,653**	479,660
Prepaid expenses and other current assets	**123,712**	142,888
Total current assets	**1,691,080**	1,783,886
Property and equipment, at cost:		
Land	**74,053**	87,622
Buildings and improvements	**570,727**	619,445
Machinery and equipment	**2,551,127**	2,510,001
Construction in progress	**113,639**	125,109
Allowance for depreciation	**(2,381,868)**	(2,373,176)
Property and equipment, net	**927,678**	969,001
Right of use assets	**93,103**	-
Goodwill	**150,309**	147,480
Other intangible assets, net	**62,265**	65,688
Other assets	**147,751**	140,143
Total assets	**$ 3,072,186**	$ 3,106,198

Continues on following page.

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

	September 28, 2019 (Unaudited)	December 31, 2018
Liabilities and equity		
Current liabilities:		
Notes payable to banks	**$ 7**	$ 18
Trade accounts payable	**141,472**	218,322
Payroll and related expenses	**131,751**	141,670
Lease liabilities	**16,932**	-
Other accrued expenses	**164,995**	229,660
Income taxes	**25,945**	54,436
Total current liabilities	**481,102**	644,106
Long-term debt less current portion	**496,262**	494,509
U.S. transition tax payable	**140,196**	154,953
Deferred income taxes	**47,246**	85,471
Long-term lease liabilities	**80,998**	-
Other liabilities	**90,174**	79,489
Accrued pension and other postretirement costs	**248,357**	260,984
Total liabilities	**1,584,335**	1,719,512
Redeemable convertible debentures	**-**	2,016
Equity:		
Vishay stockholders' equity		
Common stock	**13,235**	13,212
Class B convertible common stock	**1,210**	1,210
Capital in excess of par value	**1,427,049**	1,436,011
Retained earnings (accumulated deficit)	**71,956**	(61,258)
Accumulated other comprehensive income (loss)	**(27,952)**	(6,791)
Total Vishay stockholders' equity	**1,485,498**	1,382,384
Noncontrolling interests	**2,353**	2,286
Total equity	**1,487,851**	1,384,670
Total liabilities, temporary equity, and equity	**$ 3,072,186**	$ 3,106,198

See accompanying notes.

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

	Fiscal quarters ended	
	September 28, 2019	**September 29, 2018**
Net revenues	**$ 628,329**	$ 780,972
Costs of products sold	**478,250**	544,676
Gross profit	**150,079**	236,296
Selling, general, and administrative expenses	**91,796**	98,198
Restructuring and severance costs	**7,255**	-
Operating income	**51,028**	138,098
Other income (expense):		
Interest expense	**(8,564)**	(10,813)
Other components of net periodic pension cost	**(3,348)**	(3,367)
Other	**5,066**	2,890
Total other income (expense)	**(6,846)**	(11,290)
Income before taxes	**44,182**	126,808
Income tax expense	**13,917**	48,737
Net earnings	**30,265**	78,071
Less: net earnings attributable to noncontrolling interests	**227**	195
Net earnings attributable to Vishay stockholders	**$ 30,038**	$ 77,876
Basic earnings per share attributable to Vishay stockholders	**$ 0.21**	$ 0.54
Diluted earnings per share attributable to Vishay stockholders	**$ 0.21**	$ 0.51
Weighted average shares outstanding - basic	**144,628**	144,383
Weighted average shares outstanding - diluted	**145,027**	152,946
Cash dividends per share	**$ 0.0950**	$ 0.0850

See accompanying notes.

VISHAY INTERTECHNOLOGY, INC.
Consolidated Statements of Comprehensive Income
(Unaudited - In thousands)

	Fiscal quarters ended	
	September 28, 2019	**September 29, 2018**
Net earnings	**$ 30,265**	$ 78,071
Other comprehensive income (loss), net of tax		
Pension and other post-retirement actuarial items	**1,368**	1,670
Foreign currency translation adjustment	**(23,004)**	4,277
Other comprehensive income (loss)	**(21,636)**	5,947
Comprehensive income	**8,629**	84,018
Less: comprehensive income attributable to noncontrolling interests	**227**	195
Comprehensive income attributable to Vishay stockholders	**$ 8,402**	$ 83,823

See accompanying notes.

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

	Nine fiscal months ended September 28, 2019	Nine fiscal months ended September 29, 2018
Net revenues	**$ 2,058,728**	$ 2,258,797
Costs of products sold	**1,522,889**	1,589,963
Gross profit	**535,839**	668,834
Selling, general, and administrative expenses	**290,332**	303,381
Restructuring and severance costs	**7,255**	-
Operating income	**238,252**	365,453
Other income (expense):		
Interest expense	**(25,160)**	(26,862)
Other components of net periodic pension cost	**(10,111)**	(10,336)
Other	**13,344**	5,440
Loss on early extinguishment of debt	**(1,307)**	(17,309)
Total other income (expense)	**(23,234)**	(49,067)
Income before taxes	**215,018**	316,386
Income tax expense	**64,377**	72,508
Net earnings	**150,641**	243,878
Less: net earnings attributable to noncontrolling interests	**667**	539
Net earnings attributable to Vishay stockholders	**$ 149,974**	$ 243,339
Basic earnings per share attributable to Vishay stockholders	**$ 1.04**	$ 1.69
Diluted earnings per share attributable to Vishay stockholders	**$ 1.03**	$ 1.55
Weighted average shares outstanding - basic	**144,602**	144,364
Weighted average shares outstanding - diluted	**145,114**	156,702
Cash dividends per share	**$ 0.2750**	$ 0.2375

See accompanying notes.

VISHAY INTERTECHNOLOGY, INC.
Consolidated Statements of Comprehensive Income
(Unaudited - In thousands)

	Nine fiscal months ended September 28, 2019	Nine fiscal months ended September 29, 2018
Net earnings	**$ 150,641**	$ 243,878
Other comprehensive income (loss), net of tax		
Pension and other post-retirement actuarial items	**4,448**	4,852
Foreign currency translation adjustment	**(25,609)**	(30,236)
Other comprehensive income (loss)	**(21,161)**	(25,384)
Comprehensive income	**129,480**	218,494
Less: comprehensive income attributable to noncontrolling interests	**667**	539
Comprehensive income attributable to Vishay stockholders	**$ 128,813**	$ 217,955

See accompanying notes.

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

	Nine fiscal months ended September 28, 2019	September 29, 2018
Operating activities		
Net earnings	**$ 150,641**	$ 243,878
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation and amortization	**122,302**	121,888
(Gain) loss on disposal of property and equipment	**(168)**	(2,216)
Accretion of interest on convertible debt instruments	**10,558**	6,966
Inventory write-offs for obsolescence	**19,214**	17,059
Deferred income taxes	**(4,481)**	(12,348)
Loss on extinguishment of debt	**1,307**	17,309
Other	**9,029**	13,021
Change in U.S. transition tax liability	**(14,757)**	(14,400)
Change in repatriation tax liability	**(38,814)**	(156,767)
Net change in operating assets and liabilities, net of effects of businesses acquired	**(42,810)**	(125,499)
Net cash provided by operating activities	**212,021**	108,891
Investing activities		
Capital expenditures	**(100,267)**	(126,391)
Proceeds from sale of property and equipment	**486**	8,455
Purchase of businesses, net of cash received	**(11,862)**	(14,880)
Purchase of short-term investments	**(59,440)**	(172,732)
Maturity of short-term investments	**79,765**	577,524
Other investing activities	**4,021**	(1,608)
Net cash provided by (used in) investing activities	**(87,297)**	270,368
Financing activities		
Proceeds from long-term borrowings	**-**	600,000
Issuance costs	**(5,394)**	(15,621)
Repurchase of convertible debentures	**(22,695)**	(584,991)
Net proceeds (payments) on revolving credit lines	**-**	(150,000)
Net changes in short-term borrowings	**(12)**	-
Dividends paid to common stockholders	**(36,396)**	(31,378)
Dividends paid to Class B common stockholders	**(3,327)**	(2,873)
Distributions to noncontrolling interests	**(600)**	(525)
Cash withholding taxes paid when shares withheld for vested equity awards	**(2,708)**	(2,297)
Net cash used in financing activities	**(71,132)**	(187,685)
Effect of exchange rate changes on cash and cash equivalents	**(8,141)**	(11,501)
Net increase in cash and cash equivalents	**45,451**	180,073
Cash and cash equivalents at beginning of period	**686,032**	748,032
Cash and cash equivalents at end of period	**$ 731,483**	$ 928,105

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	-	-	-	165,463	-	165,463	344	165,807
Other comprehensive income	-	-	-	-	(31,331)	(31,331)	-	(31,331)
Distributions to noncontrolling interests	-	-	-	-	-	-	(525)	(525)
Conversion of Class B shares (31,800 shares)	3	(3)	-	-	-	-	-	-
Temporary equity reclassification	-	-	1,779	-	-	1,779	-	1,779
Issuance of stock and related tax withholdings for vested restricted stock units (211,328 shares)	21	-	(2,318)	-	-	(2,297)	-	(2,297)
Dividends declared ($0.1525 per share)	-	-	25	(22,018)	-	(21,993)	-	(21,993)
Stock compensation expense	-	-	3,261	-	-	3,261	-	3,261
Issuance of convertible notes due 2025	-	-	85,262	-	-	85,262	-	85,262
Repurchase of convertible debentures due 2040 and due 2042	-	-	(246,573)	-	-	(246,573)	-	(246,573)
Balance at June 30, 2018	$ 13,212	$ 1,210	$ 1,593,942	$ (217,008)	$ (7,418)	$ 1,383,938	$ 1,851	$ 1,385,789
Net earnings	-	-	-	77,876	-	77,876	195	78,071
Other comprehensive income	-	-	-	-	5,947	5,947	-	5,947
Temporary equity reclassification	-	-	358	-	-	358	-	358
Dividends declared ($0.0850 per share)	-	-	14	(12,272)	-	(12,258)	-	(12,258)
Stock compensation expense	-	-	778	-	-	778	-	778
Balance at September 29, 2018	$ 13,212	$ 1,210	$ 1,595,092	$ (151,404)	$ (1,471)	$ 1,456,639	$ 2,046	$ 1,458,685
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	**-**	**-**	**-**	**23,013**	**-**	**23,013**	**-**	**23,013**
Net earnings	**-**	**-**	**-**	**119,936**	**-**	**119,936**	**440**	**120,376**
Other comprehensive income	**-**	**-**	**-**	**-**	**475**	**475**	**-**	**475**
Distributions to noncontrolling interests	**-**	**-**	**-**	**-**	**-**	**-**	**(600)**	**(600)**
Conversion of Class B shares (18 shares)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Temporary equity reclassification	**-**	**-**	**209**	**-**	**-**	**209**	**-**	**209**
Issuance of stock and related tax withholdings								

for vested restricted stock units (230,624 shares)	23	-	(2,731)	-	-	(2,708)	-	(2,708)
Dividends declared ($0.1800 per share)	-	-	32	(26,032)	-	(26,000)	-	(26,000)
Stock compensation expense	-	-	4,426	-	-	4,426	-	4,426
Repurchase of convertible senior debentures	-	-	(11,783)	-	-	(11,783)	-	(11,783)
Balance at June 29, 2019	$ 13,235	$ 1,210	$ 1,426,164	$ 55,659	$ (6,316)	$ 1,489,952	$ 2,126	$ 1,492,078
Net earnings	-	-	-	30,038	-	30,038	227	30,265
Other comprehensive income	-	-	-	-	(21,636)	(21,636)	-	(21,636)
Dividends declared ($0.0950 per share)	-	-	18	(13,741)	-	(13,723)	-	(13,723)
Stock compensation expense	-	-	867	-	-	867	-	867
Balance at September 28, 2019	$ 13,235	$ 1,210	$ 1,427,049	$ 71,956	$ (27,952)	$ 1,485,498	$ 2,353	$ 1,487,851

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 nine fiscal months ended September 28, 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.

(dollars in thousands, except per share amounts)

Note 2 – Revenue Recognition

Sales returns and allowances accrual activity is shown below:

	Fiscal quarters ended		Nine fiscal months ended	
	September 28, 2019	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Beginning balance	**$ 44,382**	$ 38,032	**$ 42,663**	$ 36,680
Sales allowances	**26,403**	27,986	**83,517**	77,539
Credits issued	**(34,937)**	(29,293)	**(90,269)**	(77,091)
Foreign currency	**(449)**	103	**(512)**	(300)
Ending balance	**$ 35,399**	$ 36,828	**$ 35,399**	$ 36,828

(dollars in thousands, except per share amounts)

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 September 28, 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:

	September 28, 2019	**January 1, 2019**
Right of use assets		
Operating Leases		
Buildings and improvements	**$ 88,060**	$ 86,058
Machinery and equipment	**5,043**	5,404
Total	**$ 93,103**	$ 91,462
Current lease liabilities		
Operating Leases		
Buildings and improvements	**$ 14,398**	$ 10,644
Machinery and equipment	**2,534**	3,317
Total	**$ 16,932**	$ 13,961
Long-term lease liabilities		
Operating Leases		
Buildings and improvements	**$ 78,519**	$ 79,000
Machinery and equipment	**2,479**	2,823
Total	**$ 80,998**	$ 81,823
Total lease liabilities	**$ 97,930**	$ 95,784

(dollars in thousands, except per share amounts)

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

	Fiscal quarter ended September 28, 2019	Nine fiscal months ended September 28, 2019
Lease expense		
Operating lease expense	**$ 5,557**	**$ 16,720**
Short-term lease expense	**361**	**2,013**
Variable lease expense	**9**	**30**
Total lease expense	**$ 5,927**	**$ 18,763**

The Company paid $16,023 for its operating leases in the nine fiscal months ended September 28, 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 9.0 years and the weighted-average discount rate is 6.1% as of September 28, 2019.

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

	September 28, 2019
2019 (excluding the nine fiscal months ended September 28, 2019)	$ 5,504
2020	19,629
2021	16,949
2022	13,633
2023	12,463
Thereafter	61,261

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 and nine fiscal months ended September 28, 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 – Restructuring and Related Activities

On July 29, 2019, the Company announced global cost reduction and management rejuvenation programs as part of its continuous efforts to improve efficiency and operating performance.

The programs are primarily designed to reduce manufacturing fixed costs and selling, general, and administrative costs company-wide, and provide management rejuvenation. The Company expects to incur charges of approximately $25,000, primarily related to cash severance costs, to implement these programs. The Company expects these cost reductions to be fully achieved by December 2020.

The Company incurred $7,255 of restructuring expenses, primarily severance costs, during the fiscal quarter and nine fiscal months ended September 28, 2019. Cash paid for these programs was immaterial during the fiscal quarter and nine fiscal months ended September 28, 2019. Severance benefits are generally paid in a lump sum at cessation of employment. The current portion of the liability is $3,635 and is included in other accrued expenses in the accompanying consolidated condensed balance sheet. The non-current portion of the liability is $3,597 and is included in other liabilities in the accompanying consolidated condensed balance sheet.

Note 6 – 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 September 28, 2019 and September 29, 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.

The Company repatriated $115,152 and $188,742 to the United States, and paid withholding and foreign taxes of $18,335 and $38,814 in the fiscal quarter and nine fiscal months ended September 28, 2019, respectively. Substantially all of these amounts are being used to repay certain intercompany indebtedness, to pay the U.S. transition tax, and to fund capital expansion projects.

After completing these phases of cash repatriation, there is approximately $100,000 of unremitted foreign earnings remaining that the Company has deemed not permanently reinvested and thus has accrued foreign withholding and other taxes. The Company continues to evaluate the timing of the reparation of these remaining amounts, and may decide to ultimately not repatriate some of these amounts.

As part of the Company's cash repatriation activity, the Company settled an intercompany loan in the second fiscal quarter of 2019, which previously had been accounted for at the historical foreign exchange rate (akin to an equity contribution) because the debtor entity did not have the intent or ability to repay such intercompany loan. Currency translation adjustments were recorded in accumulated other comprehensive income, and were not included in U.S. GAAP pre-tax income. The Company's cash repatriation activity resulted in the ability to repay such intercompany loan. Upon settlement of this intercompany loan, the foreign entity realized a taxable gain. Income tax expense for the nine fiscal months ended September 28, 2019 includes tax expense of $7,554 related to this tax-basis foreign exchange gain.

The Company's repurchase of a portion of the outstanding convertible debentures in the first fiscal quarter of 2019 (see Note 7) 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, reflecting the reduction in deferred tax liabilities related to the special tax attributes of the extinguished debentures.

Income tax expense for the fiscal quarter and nine fiscal months ended September 28, 2019, includes tax expense of $2,604 and $1,971, respectively, for the periodic remeasurement of the deferred tax liability recorded for the foreign taxes associated with the Company's cash repatriation program.

During the nine fiscal months ended September 28, 2019, the liabilities for unrecognized tax benefits increased by $5,522 on a net basis, principally due to increases for tax positions taken in the current and prior periods and interest, offset by expiration of statutes and payments.

Income tax expense for the fiscal quarter and nine fiscal months ended September 29, 2018 includes additional tax expense of $13,496 and $25,496, respectively, recognized as a result of additional analysis of the impact of the Tax Cuts and Jobs Act completed throughout the first nine fiscal months of 2018.

The Company recognized a tax benefit on the pre-tax loss on early extinguishment of debt in the second fiscal quarter of 2018. The Company also recognized a tax benefit of $33,963, reflecting the reduction in deferred tax liabilities related to the special tax attributes of the extinguished debentures.

Income tax expense for the fiscal quarter and nine fiscal months ended September 29, 2018 also included tax expense of $680 and tax benefits of $7,010, respectively, for the periodic remeasurement of the deferred tax liability recorded for the Company's cash repatriation program.

(dollars in thousands, except per share amounts)

Note 7 – Long-Term Debt

Long-term debt consists of the following:

	September 28, 2019	December 31, 2018
Credit facility	**$ -**	$ -
Convertible senior notes, due 2025	**505,591**	495,203
Convertible senior debentures, due 2040	**146**	539
Convertible senior debentures, due 2041	**8,175**	12,812
Convertible senior debentures, due 2042	**-**	923
Deferred financing costs	**(17,650)**	(14,968)
	496,262	494,509
Less current portion	**-**	-
	$ 496,262	$ 494,509

Credit Facility

On June 5, 2019, the Company entered into a new credit agreement with a consortium of banks led by JPMorgan Chase Bank, N.A., as administrative agent, and the lenders (the "New Credit Facility"), which provides an aggregate commitment of $750,000 of revolving loans available until June 5, 2024. The New Credit Facility replaces Vishay's previous credit agreement that provided for an aggregate commitment of $640,000, and that was scheduled to mature on December 10, 2020. The New Credit Facility also provides for the ability of Vishay to request up to $300,000 of incremental facilities, subject to the satisfaction of certain conditions, which could take the form of additional revolving commitments, incremental "term loan A" or "term loan B" facilities, or incremental equivalent debt.

Borrowings under the New Credit Facility bear interest at LIBOR plus an interest margin. The applicable interest margin is based on Vishay's leverage ratio. Based on Vishay's current leverage ratio, borrowings bear interest at LIBOR plus 1.50%, the same as pursuant to the previous credit agreement. Vishay also pays a commitment fee, also based on its leverage ratio, on undrawn amounts. The undrawn commitment fee, based on Vishay's current leverage ratio, is 0.25% per annum, an improvement of 5 basis points over the previous credit agreement.

The New Credit Facility allows an unlimited amount of defined "Investments," which include certain intercompany transactions and acquisitions, provided the Company's pro forma leverage ratio is equal to or less than 2.75 to 1.00. If the Company's pro forma leverage ratio is greater than 2.75 to 1.00, such Investments are subject to certain limitations.

The New Credit Facility also allows an unlimited amount of defined "Restricted Payments," which include cash dividends and share repurchases, provided the Company's pro forma leverage ratio is equal to or less than 2.50 to 1.00. If the Company's pro forma leverage ratio is greater than 2.50 to 1.00, the New Credit Facility allows such payments up to $100,000 per annum (subject to a cap of $300,000 for the term of the facility, with up to $25,000 of any unused amount of the $100,000 per annum base available for use in the next succeeding calendar year).

Similar to the previous credit agreement, the borrowings under the New 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 solely for use in, or arising solely under the laws of, any country other than the United States, assets located solely 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.

The New Credit Facility continues to limit or restrict the Company and its subsidiaries, from, among other things, incurring indebtedness, incurring liens on its respective assets, making investments and acquisitions (assuming the Company's pro forma leverage ratio is greater than 2.75 to 1.00), making asset sales, and paying cash dividends and making other restricted payments (assuming the Company's pro forma leverage ratio is greater than 2.50 to 1.00), and requires the Company to comply with other covenants, including the maintenance of specific financial ratios.

Similar to the previous credit agreement, the New Credit Facility also contains customary events of default, including, but not limited to, failure to pay principal or interest, failure to pay or default under other material debt, material misrepresentation or breach of warranty, violation of certain covenants, a change of control, the commencement of bankruptcy proceedings, the insolvency of Vishay or certain of its significant subsidiaries, and the rendering of a judgment in excess of $50,000 against Vishay or its subsidiaries. Upon the occurrence of an event of default under the New Credit Facility, Vishay's obligations under the credit facility may be accelerated and the lending commitments under the credit facility may be terminated.

(dollars in thousands, except per share amounts)

Convertible Debt Instruments

The following table summarizes some key facts and terms regarding the outstanding convertible debt instruments as of September 28, 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 September 28, 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 September 11, 2019 (per $1 principal amount)	31.7924	79.6235	58.1051
Effective conversion price effective September 11, 2019 (per share)	$ 31.45	$ 12.56	$ 17.21
130% of the conversion price (per share)	$ 40.89	$ 16.33	$ 22.37
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. The convertible senior debentures due 2040 and due 2041 are not currently convertible.

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; (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 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.

(dollars in thousands, except per share amounts)

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:

	Principal amount of the debt instruments	Unamortized discount	Embedded derivative	Carrying value of liability component	Equity component (including temporary equity) -net carrying value
September 28, 2019					
Convertible senior notes due 2025	**$ 600,000**	**(94,409)**	**-**	**$ 505,591**	**$ 85,262**
Convertible senior debentures due 2040 and due 2041	**$ 21,140**	**(12,829)**	**10**	**$ 8,321**	**$ 8,767**
Total	**$ 621,140**	**$ (107,238)**	**$ 10**	**$ 513,912**	**$ 94,029**
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	$ 636,556	$ (127,149)	$ 70	$ 509,477	$ 100,354

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:

	Contractual coupon interest	Non-cash amortization of debt discount	Non-cash amortization of deferred financing costs	Non-cash change in value of derivative liability	Total interest expense related to the debt instruments
September 28, 2019					
Convertible senior notes due 2025	**$ 3,375**	**3,520**	**454**	**-**	**$ 7,349**
Convertible senior debentures	**$ 118**	**53**	**2**	**(10)**	**$ 163**
Total	**$ 3,493**	**$ 3,573**	**$ 456**	**$ (10)**	**$ 7,512**
September 29, 2018					
Convertible senior notes due 2025	$ 3,375	3,334	454	-	$ 7,163
Convertible senior debentures	$ 1,609	668	23	110	$ 2,410
Total	$ 4,984	$ 4,002	$ 477	$ 110	$ 9,573

(dollars in thousands, except per share amounts)

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

	Contractual coupon interest	Non-cash amortization of debt discount	Non-cash amortization of deferred financing costs	Non-cash change in value of derivative liability	Total interest expense related to the debt instruments
September 28, 2019					
Convertible senior notes due 2025	**$ 10,125**	**10,388**	**1,362**	**-**	**$ 21,875**
Convertible senior debentures	**$ 385**	**170**	**6**	**(32)**	**$ 529**
Total	**$ 10,510**	**$ 10,558**	**$ 1,368**	**$ (32)**	**$ 22,404**
September 29, 2018					
Convertible senior notes due 2025	$ 4,088	3,890	605	-	$ 8,583
Convertible senior debentures	$ 7,536	3,076	109	115	$ 10,836
Total	$ 11,624	$ 6,966	$ 714	$ 115	$ 19,419

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.

(dollars in thousands, except per share amounts)

Note 8 – 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	-	(25,609)	**$ (25,609)**
Tax effect	-	-	**$ -**
Other comprehensive income before reclassifications, net of tax	-	(25,609)	**$ (25,609)**
Amounts reclassified out of AOCI	6,136	-	**$ 6,136**
Tax effect	(1,688)	-	**$ (1,688)**
Amounts reclassified out of AOCI, net of tax	4,448	-	**$ 4,448**
Net other comprehensive income	$ 4,448	$ (25,609)	**$ (21,161)**
Balance at September 28, 2019	**$ (53,843)**	**$ 25,891**	**$ (27,952)**

Reclassifications of pension and other post-retirement actuarial items out of AOCI are included in the computation of net periodic benefit cost. See Note 9 for further information.

(dollars in thousands, except per share amounts)

Note 9 – 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 third fiscal quarters of 2019 and 2018 for the Company's defined benefit pension plans:

	Fiscal quarter ended September 28, 2019		Fiscal quarter ended September 29, 2018	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Net service cost	$ -	$ 841	$ -	$ 900
Interest cost	424	1,271	371	1,175
Expected return on plan assets	-	(483)	-	(463)
Amortization of prior service cost	36	49	36	52
Amortization of losses	118	1,332	159	1,520
Curtailment and settlement losses	-	499	-	441
Net periodic benefit cost	$ 578	$ 3,509	$ 566	$ 3,625

The following table shows the components of the net periodic pension cost for the nine fiscal months ended September 28, 2019 and September 29, 2018 for the Company's defined benefit pension plans:

	Nine fiscal months ended September 28, 2019		Nine fiscal months ended September 29, 2018	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Net service cost	$ -	$ 2,538	$ -	$ 2,775
Interest cost	1,272	3,843	1,113	3,628
Expected return on plan assets	-	(1,462)	-	(1,430)
Amortization of prior service cost	108	150	108	161
Amortization of losses	354	4,035	477	4,690
Curtailment and settlement losses	-	1,504	-	1,358
Net periodic benefit cost	$ 1,734	$ 10,608	$ 1,698	$ 11,182

(dollars in thousands, except per share amounts)

Other Postretirement Benefits

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

	Fiscal quarter ended September 28, 2019		Fiscal quarter ended September 29, 2018	
	U.S. Plans	**Non-U.S. Plans**	**U.S. Plans**	**Non-U.S. Plans**
Service cost	**$ 36**	**$ 71**	$ 35	$ 71
Interest cost	**77**	**30**	69	28
Amortization of prior service (credit)	**-**	**-**	(37)	-
Amortization of losses (gains)	**(32)**	**27**	(10)	26
Net periodic benefit cost	**$ 81**	**$ 128**	$ 57	$ 125

The following table shows the components of the net periodic pension cost for the nine fiscal months ended September 28, 2019 and September 29, 2018 for the Company's other postretirement benefit plans:

	Nine fiscal months ended September 28, 2019		Nine fiscal months ended September 29, 2018	
	U.S. Plans	**Non-U.S. Plans**	**U.S. Plans**	**Non-U.S. Plans**
Service cost	**$ 106**	**$ 215**	$ 103	$ 219
Interest cost	**232**	**90**	205	86
Amortization of prior service (credit)	**-**	**-**	(111)	-
Amortization of losses (gains)	**(96)**	**81**	(29)	80
Net periodic benefit cost	**$ 242**	**$ 386**	$ 168	$ 385

(dollars in thousands, except per share amounts)

Note 10 – 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		Nine fiscal months ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Restricted stock units	**$ 867**	$ 778	**$ 5,116**	3,825
Phantom stock units	**-**	-	**177**	214
Total	**$ 867**	$ 778	**$ 5,293**	4,039

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 September 28, 2019 *(amortization periods in years)*:

	Unrecognized Compensation Cost	Weighted Average Remaining Amortization Periods
Restricted stock units	**$ 3,912**	**0.9**
Phantom stock units	**-**	**0.0**
Total	**$ 3,912**	

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 September 28, 2019 and changes during the nine fiscal months then ended are presented below *(number of RSUs in thousands)*:

	Number of RSUs	Weighted Average Grant-date Fair Value per Unit
Outstanding:		
January 1, 2019	**904**	**$ 14.77**
Granted	**314**	**19.85**
Vested*	**(361)**	**11.70**
Cancelled or forfeited	**(15)**	**17.71**
Outstanding at September 28, 2019	**842**	**$ 17.93**
Expected to vest at September 28, 2019	**842**	

* 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	Expected to Vest	Not Expected to Vest	Total
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 September 28, 2019 and changes during the nine fiscal months then ended are presented below *(number of phantom stock units in thousands)*:

	Number of units	Grant-date Fair Value per Unit
Outstanding:		
January 1, 2019	**170**	

Granted	**10**	**$**	**17.72**
Dividend equivalents issued	**3**		
Outstanding at September 28, 2019	**183**		

Note 11 – 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.

(dollars in thousands, except per share amounts)

The following tables set forth business segment information:

	MOSFETs	Diodes	Optoelectronic Components	Resistors & Inductors	Capacitors	Total
Fiscal quarter ended September 28, 2019:						
Net revenues	**$ 126,747**	**$ 123,879**	**$ 50,702**	**$ 228,577**	**$ 98,424**	**$ 628,329**
Gross profit	**$ 30,491**	**$ 21,138**	**$ 10,883**	**$ 65,894**	**$ 21,673**	**$ 150,079**
Segment operating income	**$ 21,018**	**$ 16,420**	**$ 6,923**	**$ 57,697**	**$ 16,675**	**$ 118,733**
Fiscal quarter ended September 29, 2018:						
Net revenues	$ 144,260	$ 186,492	$ 76,443	$ 257,330	$ 116,447	$ 780,972
Gross profit	$ 38,991	$ 54,690	$ 27,653	$ 88,213	$ 26,749	$ 236,296
Segment operating income	$ 29,502	$ 49,561	$ 23,144	$ 80,042	$ 21,655	$ 203,904
Nine fiscal months ended September 28, 2019:						
Net revenues	**$ 392,930**	**$ 433,761**	**$ 171,939**	**$ 731,431**	**$ 328,667**	**$ 2,058,728**
Gross Profit	**$ 98,483**	**$ 93,487**	**$ 43,131**	**$ 223,178**	**$ 77,560**	**$ 535,839**
Segment Operating Income	**$ 70,237**	**$ 78,558**	**$ 30,655**	**$ 198,127**	**$ 62,402**	**$ 439,979**
Nine fiscal months ended September 29, 2018:						
Net revenues	$ 408,325	$ 535,975	$ 224,110	$ 755,323	$ 335,064	$ 2,258,797
Gross Profit	$ 109,440	$ 150,298	$ 81,290	$ 251,712	$ 76,094	$ 668,834
Segment Operating Income	$ 80,577	$ 134,592	$ 68,103	$ 226,292	$ 60,258	$ 569,822

	Fiscal quarters ended		Nine fiscal months ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Reconciliation:				
Segment Operating Income	**$ 118,733**	$ 203,904	**$ 439,979**	$ 569,822
Restructuring and severance costs	**(7,255)**	-	**(7,255)**	-
Unallocated Selling, General, and Administrative Expenses	**(60,450)**	(65,806)	**(194,472)**	(204,369)
Consolidated Operating Income	**$ 51,028**	$ 138,098	**$ 238,252**	$ 365,453
Unallocated Other Income (Expense)	**(6,846)**	(11,290)	**(23,234)**	(49,067)
Consolidated Income Before Taxes	**$ 44,182**	$ 126,808	**$ 215,018**	$ 316,386

(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		Nine fiscal months ended	
	September 28, 2019	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Distributors	**$ 317,385**	$ 452,051	**$ 1,097,365**	$ 1,302,127
OEMs	**263,983**	276,299	**815,645**	803,128
EMS companies	**46,961**	52,622	**145,718**	153,542
Total Revenue	**$ 628,329**	$ 780,972	**$ 2,058,728**	$ 2,258,797

Net revenues were attributable to customers in the following regions:

	Fiscal quarters ended		Nine fiscal months ended	
	September 28, 2019	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Asia	**$ 231,999**	$ 315,701	**$ 737,918**	$ 904,047
Europe	**231,677**	269,518	**765,318**	809,501
Americas	**164,653**	195,753	**555,492**	545,249
Total Revenue	**$ 628,329**	$ 780,972	**$ 2,058,728**	$ 2,258,797

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		Nine fiscal months ended	
	September 28, 2019	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Industrial	**$ 205,670**	$ 283,134	**$ 738,043**	$ 858,963
Automotive	**212,222**	224,041	**627,588**	642,293
Telecommunications	**34,409**	51,935	**132,251**	144,326
Computing	**47,923**	62,774	**143,675**	163,862
Consumer Products	**23,401**	48,583	**87,936**	126,781
Power Supplies	**31,103**	34,899	**90,704**	110,468
Military and Aerospace	**41,872**	41,881	**137,281**	117,355
Medical	**31,729**	33,725	**101,250**	94,749
Total revenue	**$ 628,329**	$ 780,972	**2,058,728**	2,258,797

Note 12 – 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		Nine fiscal months ended	
	September 28, 2019	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Numerator:				
Net earnings attributable to Vishay stockholders	**$ 30,038**	$ 77,876	**$ 149,974**	$ 243,339
Denominator:				
Denominator for basic earnings per share:				
Weighted average shares	**144,446**	144,215	**144,421**	144,197
Outstanding phantom stock units	**182**	168	**181**	167
Adjusted weighted average shares	**144,628**	144,383	**144,602**	144,364
Effect of dilutive securities:				
Convertible and exchangeable debt instruments	**6**	8,062	**89**	11,827
Restricted stock units	**393**	501	**423**	511
Dilutive potential common shares	**399**	8,563	**512**	12,338
Denominator for diluted earnings per share:				
Adjusted weighted average shares - diluted	**145,027**	152,946	**145,114**	156,702
Basic earnings per share attributable to Vishay stockholders	**$ 0.21**	$ 0.54	**$ 1.04**	$ 1.69
Diluted earnings per share attributable to Vishay stockholders	**$ 0.21**	$ 0.51	**$ 1.03**	$ 1.55

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		Nine fiscal months ended	
	September 28, 2019	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Convertible debt instruments:				
Convertible Senior Notes, due 2025	**19,066**	19,052	**19,058**	7,607
Convertible Senior Debentures, due 2041	**1,204**	-	**401**	-
Weighted average other	**315**	307	**315**	307

The Company's convertible debt instruments are only convertible for specified periods upon the occurrence of certain events. The Company's convertible debt instruments are not currently convertible. In periods that the convertible debt instruments are not convertible, the certain conditions which could trigger conversion of the debt instruments 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 $12.56, 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 $17.21, 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 $31.45, no shares are included in the diluted earnings per share computation for the convertible senior notes due 2025.

(dollars in thousands, except per share amounts)

Note 13 – 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:

	Total Fair Value	Level 1	Level 2	Level 3
September 28, 2019				
Assets:				
Assets held in rabbi trusts	**$ 51,065**	$ 34,217	$ 16,848	$ -
Available for sale securities	**$ 4,328**	4,328	-	-
	$ 55,393	**$ 38,545**	**$ 16,848**	**$ -**
Liabilities:				
Embedded derivative - convertible debentures due 2040	**$ -**	$ -	$ -	$ -
Embedded derivative - convertible debentures due 2041	**$ (10)**	-	-	(10)
	$ (10)	$ -	$ -	**$ (10)**
December 31, 2018				
Assets:				
Assets held in rabbi trusts	$ 41,770	$ 26,278	15,492	$ -
Available for sale securities	$ 4,309	4,309	-	-
	$ 46,079	$ 30,587	$ 15,492	$ -
Liabilities:				
Embedded derivative - convertible debentures due 2040	$ (1)	$ -	$ -	$ (1)
Embedded derivative - convertible debentures due 2041	$ (67)	-	-	(67)
Embedded derivative - convertible debentures due 2042	$ (2)	-	-	(2)
	$ (70)	$ -	$ -	$ (70)

As described in Note 7, 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 7 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 September 28, 2019 and December 31, 2018 is approximately $592,300 and $577,200, respectively, compared to its carrying value, excluding the derivative liabilities and deferred financing costs, of $513,902 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 September 28, 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 September 28, 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 further increased the quarterly cash dividend by 12% to $0.095 per share in the second fiscal quarter of 2019.

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. 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 in 2019.

We continued to re-shape our capital structure in 2019. We replaced our existing credit agreement that was due to expire in December 2020 with a new agreement that will expire June 5, 2024. The new credit facility increases the aggregate commitment of revolving loans from $640 million to $750 million; provides us with the ability to request up to $300 million of incremental facilities, subject to the satisfaction of certain conditions, which could take the form of additional revolving commitments, incremental "term loan A" or "term loan B" facilities, or incremental equivalent debt; reduces the undrawn commitment fee while maintaining the same borrowing rates; and provides greater operating flexibility, including with respect to intercompany funding and other transactions, to enable us to continue to streamline our complex subsidiary structure.

We repatriated approximately $73.6 million and $115.2 million to the United States, and paid withholding and foreign taxes of approximately $20.5 million and $18.3 million during the second and third fiscal quarters of 2019, respectively. Substantially all of these amounts are being used to repay certain intercompany indebtedness, to repay the outstanding balance on the revolving credit facility, to pay the U.S. transition tax, and to fund capital expansion projects.

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. In the third fiscal quarter of 2019, we announced global cost reduction and management rejuvenation programs as part of our continuous efforts to improve efficiency and operating performance.

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. The second and third fiscal quarters of 2019 were significantly impacted by a substantial decrease in orders, particularly from distribution customers, as they reduced their inventory. This decrease has negatively impacted almost all key financial metrics, including net revenues.

Net revenues for the fiscal quarter ended September 28, 2019 were $628.3 million, compared to $685.2 million and $781.0 million for the fiscal quarters ended June 29, 2019 and September 29, 2018, respectively. The net earnings attributable to Vishay stockholders for the fiscal quarter ended September 28, 2019 were $30.0 million, or $0.21 per diluted share, compared to $44.5 million, or $0.31 per diluted share for the fiscal quarter ended June 29, 2019, and $77.9 million, or $0.51 per diluted share for the fiscal quarter ended September 29, 2018.

Net revenues for the nine fiscal months ended September 28, 2019 were $2,058.7 million, compared to $2,258.8 million for the nine fiscal months ended September 29, 2018. The net earnings attributable to Vishay stockholders for the nine fiscal months ended September 28, 2019 were $150.0 million, or $1.03 per diluted share, compared to $243.3 million, or $1.55 per diluted share for the nine fiscal months ended September 29, 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.

The items affecting comparability are (*in thousands, except per share amounts*):

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	**June 29, 2019**	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
GAAP net earnings attributable to Vishay stockholders	**$ 30,038**	$ 44,477	$ 77,876	**$ 149,974**	$ 243,339
<u>Reconciling items affecting operating margin:</u>					
Restructuring and severance costs	**7,255**	-	-	**7,255**	-
<u>Reconciling items affecting other income (expense):</u>					
Loss on early extinguishment of debt	**-**	-	-	**1,307**	17,309
<u>Reconciling items affecting tax expense:</u>					
Effects of tax-basis foreign exchange gain	**$ -**	$ 7,554	$ -	**$ 7,554**	$ -
Enactment of TCJA	**-**	-	13,496	**-**	25,496
Effects of cash repatriation program	**2,604**	(48)	680	**1,971**	(7,010)
Change in deferred taxes due to early extinguishment of debt	**-**	-	-	**(1,312)**	(33,963)
Tax effects of pre-tax items above	**(1,644)**	-	-	**(1,934)**	(3,784)
Adjusted net earnings	**$ 38,253**	$ 51,983	$ 92,052	**$ 164,815**	$ 241,387
Adjusted weighted average diluted shares outstanding	**145,027**	145,023	152,946	**145,114**	156,702
Adjusted earnings per diluted share	**$ 0.26**	$ 0.36	$ 0.60	**$ 1.14**	$ 1.54

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			Nine fiscal months ended	
	September 28, 2019	**June 29, 2019**	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Net cash provided by continuing operating activities	**$ 76,202**	$ 56,301	$ 70,721	**$ 212,021**	$ 108,891
Proceeds from sale of property and equipment	**22**	69	77	**486**	8,455
Less: Capital expenditures	**(30,119)**	(33,781)	(49,745)	**(100,267)**	(126,391)
Free cash	**$ 46,105**	$ 22,589	$ 21,053	**$ 112,240**	$ (9,045)

Our results for the fiscal quarters ended September 28, 2019, June 29, 2019, and September 29, 2018 and nine fiscal months ending September 28, 2019 and September 29, 2018 represent the effects of the normalization of demand that we began to experience in the fourth fiscal quarter of 2018 and has accelerated through the first nine fiscal months of 2019 as supply, in general, caught up with demand, and distributors significantly reduced their orders as they decrease their inventory. 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.

Our free cash results were significantly impacted by the payment of cash taxes related to the cash repatriated to the U.S. in the second and third fiscal quarters of 2019 of $20.5 million and $18.3 million, respectively, and $92.1 million and $64.7 million in the second and third fiscal quarters of 2018, respectively, and the installment payments of the U.S. transition tax of $14.8 million and $14.4 million in the second fiscal quarters of 2019 and 2018, respectively.

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 third fiscal quarter of 2018 through the third fiscal quarter of 2019 *(dollars in thousands)*:

	3rd Quarter 2018	4th Quarter 2018	1st Quarter 2019	2nd Quarter 2019	3rd Quarter 2019
Net revenues	$ 780,972	$ 775,892	$ 745,159	$ 685,240	$ 628,329
Gross profit margin	30.3%	28.3%	28.3%	25.5%	23.9%
Operating margin	17.7%	15.4%	14.5%	11.6%	8.1%
End-of-period backlog	$ 1,559,700	$ 1,497,100	$ 1,331,800	$ 1,126,700	$ 935,400
Book-to-bill ratio	0.95	0.94	0.79	0.69	0.72
Inventory turnover	4.4	4.5	4.3	4.3	4.1
Change in ASP vs. prior quarter	0.6%	0.7%	(0.4)%	(0.9)%	(1.1)%

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 and the third fiscal quarter of 2018. In periods where customers, particularly distributors, have high levels of inventory, backlog is less indicative of future revenues. 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 third fiscal quarter of 2019. Inventory in the supply chain remains at a high level, which continues to negatively impact orders. Average selling prices, particularly of commodity semiconductor products, have begun to decrease consistent with the decrease in demand.

Gross profit margin decreased versus the prior fiscal quarter and the third fiscal quarter of 2018. The decreases are primarily volume-driven, and include temporary manufacturing inefficiencies as we adapt manufacturing capacities. U.S. tariffs on goods imported from China also impacted the gross profit margin versus the third fiscal quarter of 2018.

The book-to-bill ratio in the third fiscal quarter of 2019 increased to 0.72 versus 0.69 in the second fiscal quarter of 2019. The book-to-bill ratios in the third fiscal quarter of 2019 for distributors and original equipment manufacturers ("OEM") were 0.55 and 0.90, respectively, versus ratios of 0.55 and 0.86, respectively, during the second fiscal quarter of 2019.

For the fourth fiscal quarter of 2019, we anticipate revenues between $580 million and $620 million and gross margins of 23% to 24% at the exchange rates of the third fiscal quarter of 2019. We anticipate that inventory reductions, particularly by distributors, will continue to 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 third fiscal quarter of 2018 through the third fiscal quarter of 2019 *(dollars in thousands)*:

	3rd Quarter 2018	4th Quarter 2018	1st Quarter 2019	2nd Quarter 2019	3rd Quarter 2019
MOSFETs					
Net revenues	$ 144,260	$ 139,318	$ 137,341	$ 128,842	$ 126,747
Book-to-bill ratio	0.88	1.08	0.84	0.54	0.54
Gross profit margin	27.0%	26.2%	26.3%	24.8%	24.1%
Segment operating margin	20.5%	18.9%	19.4%	17.5%	16.6%
Diodes					
Net revenues	$ 186,492	$ 176,961	$ 167,840	$ 142,042	$ 123,879
Book-to-bill ratio	0.86	0.83	0.63	0.52	0.57
Gross profit margin	29.3%	26.2%	25.9%	20.3%	17.1%
Segment operating margin	26.6%	23.3%	22.7%	16.9%	13.3%
Optoelectronic Components					
Net revenues	$ 76,443	$ 65,617	$ 60,562	$ 60,675	$ 50,702
Book-to-bill ratio	0.88	0.75	0.83	0.70	0.86
Gross profit margin	36.2%	28.8%	26.4%	26.8%	21.5%
Segment operating margin	30.3%	22.2%	19.3%	19.8%	13.7%
Resistors & Inductors					
Net revenues	$ 257,330	$ 262,963	$ 260,471	$ 242,383	$ 228,577
Book-to-bill ratio	1.02	0.94	0.92	0.88	0.86
Gross profit margin	34.3%	32.5%	33.0%	29.5%	28.8%
Segment operating margin	31.1%	29.4%	29.6%	26.2%	25.2%
Capacitors					
Net revenues	$ 116,447	$ 131,033	$ 118,945	$ 111,298	$ 98,424
Book-to-bill ratio	1.03	1.02	0.67	0.68	0.76
Gross profit margin	23.0%	24.7%	25.0%	23.5%	22.0%
Segment operating margin	18.6%	20.4%	20.7%	19.0%	16.9%

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 and nine fiscal months ended September 28, 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 continue to monitor the economic environment and its potential effects on our customers and the end markets that we serve.

In the third fiscal quarter of 2019, we announced global cost reduction and management rejuvenation programs as part of our continuous efforts to improve efficiency and operating performance. We incurred restructuring expense of $7.3 million related to this program during the nine fiscal months ended September 28, 2019.

The programs are primarily designed to reduce manufacturing fixed costs and selling, general, and administrative ("SG&A") costs company-wide, and provide management rejuvenation. The programs in total are expected to lower costs by approximately $15 million annually when fully implemented, of which approximately 50% is expected to be realized as reduced manufacturing fixed costs and 50% is expected to be realized as reduced SG&A expenses. We expect to incur costs (primarily cash severance expenses) of approximately $25 million related to the programs. The implementation of these programs will not impact planned research and development activities.

We are first soliciting volunteers to accept a voluntary separation / early retirement offer. The voluntary separation benefits vary by country and job classification, but generally offer a cash loyalty bonus. Additional involuntary terminations will likely be necessary to achieve the cost reduction targets. We expect these cost reductions to be fully achieved by December 2020.

No manufacturing facility closures are currently expected pursuant to these programs. Except for these programs, we do not anticipate any other material restructuring activities during the remainder of 2019 or 2020. However, a continued sluggish business environment for the electronics industry or a significant economic downturn may require us to implement additional restructuring initiatives.

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.

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.

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 third fiscal quarter and first nine fiscal months of 2019 compared to the prior fiscal quarter and prior year periods, with the translation of foreign currency revenues and expenses into U.S. dollars decreasing reported revenues and expenses versus the prior fiscal quarter and prior year periods.

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 third fiscal quarter and first nine fiscal months of 2019 have been favorably impacted compared to the prior fiscal quarter and prior year periods 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			Nine fiscal months ended	
	September 28, 2019	June 29, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Cost of products sold	76.1%	74.5%	69.7%	74.0%	70.4%
Gross profit	23.9%	25.5%	30.3%	26.0%	29.6%
Selling, general & administrative expenses	14.6%	13.9%	12.6%	14.1%	13.4%
Operating income	8.1%	11.6%	17.7%	11.6%	16.2%
Income before taxes and noncontrolling interest	7.0%	10.3%	16.2%	10.4%	14.0%
Net earnings attributable to Vishay stockholders	4.8%	6.5%	10.0%	7.3%	10.8%
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Effective tax rate	31.5%	36.9%	38.4%	29.9%	22.9%

Net Revenues

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

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	June 29, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Net revenues	$ 628,329	$ 685,240	$ 780,972	$ 2,058,728	$ 2,258,797

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

	Fiscal quarter ended September 28, 2019		Nine fiscal months ended September 28, 2019	
	Change in net revenues	% change	Change in net revenues	% change
June 29, 2019	$ (56,911)	-8.3%		
September 29, 2018	$ (152,643)	-19.5%	$ (200,069)	-8.9%

Changes in net revenues were attributable to the following:

	vs. Prior Quarter	vs. Prior Year Quarter	vs. Prior Year-to-Date
Change attributable to:			
Decrease in volume	-7.1%	-17.4%	-6.8%
Decrease in average selling prices	-1.1%	-1.9%	-0.5%
Foreign currency effects	-0.2%	-1.1%	-1.9%
Acquisitions	0.0%	0.0%	0.2%
Other	0.1%	0.9%	0.1%
Net change	-8.3%	-19.5%	-8.9%

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. Demand started to decrease in the fourth fiscal quarter of 2018 and the decrease has accelerated through the third fiscal quarter of 2019 as distributors have significantly reduced orders as they decrease their inventory. The decrease in demand resulted in decreased net revenues compared to the prior fiscal quarter and prior year periods.

Gross Profit and Margins

Gross profit margins for the fiscal quarter ended September 28, 2019 were 23.9%, versus 25.5% and 30.3%, for the comparable prior quarter and prior year period, respectively. Gross profit margins for the nine fiscal months ended September 28, 2019 were 26.0%, versus 29.6% for the comparable prior year period. The decreases are primarily due to the decreases 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. Contributive margin was also negatively impacted by costs to adapt direct labor and near-term foundry capacities in the second and third fiscal quarters of 2019.

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			Nine fiscal months ended	
	September 28, 2019	June 29, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Net revenues	$ 126,747	$ 128,842	$ 144,260	$ 392,930	$ 408,325
Gross profit margin	24.1%	24.8%	27.0%	25.1%	26.8%

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

	Fiscal quarter ended September 28, 2019		Nine fiscal months ended September 28, 2019	
	Change in net revenues	% change	Change in net revenues	% change
June 29, 2019	$ (2,095)	-1.6%		
September 29, 2018	$ (17,513)	-12.1%	$ (15,395)	-3.8%

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

	vs. Prior Quarter	vs. Prior Year Quarter	vs. Prior Year-to Date
Change attributable to:			
Decrease in volume	-0.1%	-8.4%	-0.7%
Decrease in average selling prices	-1.5%	-3.9%	-2.4%
Foreign currency effects	-0.2%	-0.6%	-1.0%
Other	0.2%	0.8%	0.3%
Net change	-1.6%	-12.1%	-3.8%

Net revenues of the MOSFETs segment decreased slightly versus the prior fiscal quarter, significantly versus the prior year quarter, and moderately versus the prior year-to-date period. The decrease versus the prior year-to-date period was partially offset by the significant increase in the first fiscal quarter versus the prior year. The increase in net revenues versus the prior fiscal quarter and the prior year periods from European and American end customers were offset by the significant decrease from distributor customers in all regions. The decreases in our biggest market, Asian distributors, were partially offset by significant increases in our integrated circuits products.

Gross profit margin decreased versus the prior fiscal quarter and prior year periods. The decrease versus the prior fiscal quarter is primarily due to lower average selling prices. The decrease versus the prior year quarter is primarily due to lower volume and lower average selling prices. The decrease versus the prior year-to-date period is primarily due to lower average selling prices, the impact of U.S. tariffs on goods imported from China, and costs associated with near-term foundry capacity adaptations, which were partially offset by positive foreign currency impacts and an increase in inventory.

The ongoing reduced demand from some end markets continues to increase the pressure on pricing. We experienced a slight decrease in average selling prices versus the prior fiscal quarter and prior year-to-date period and a moderate decrease versus the prior year quarter.

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

Diodes

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

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	**June 29, 2019**	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Net revenues	$ 123,879	$ 142,042	$ 186,492	$ 433,761	$ 535,975
Gross profit margin	17.1%	20.3%	29.3%	21.6%	28.0%

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

	Fiscal quarter ended September 28, 2019		Nine fiscal months ended September 28, 2019	
	Change in net revenues	**% change**	**Change in net revenues**	**% change**
June 29, 2019	$ (18,163)	-12.8%		
September 29, 2018	$ (62,613)	-33.6%	$ (102,214)	-19.1%

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

	vs. Prior Quarter	**vs. Prior Year Quarter**	**vs. Prior Year-to-Date**
Change attributable to:			
Decrease in volume	-10.5%	-31.2%	-17.7%
Decrease in average selling prices	-2.6%	-3.9%	-0.4%
Foreign currency effects	-0.2%	-0.7%	-1.3%
Other	0.5%	2.2%	0.3%
Net change	-12.8%	-33.6%	-19.1%

Net revenues of our Diodes segment declined significantly versus the prior fiscal quarter and prior year periods. Net revenues decreased significantly in all regions and sales channels versus the prior fiscal quarter and prior year periods. The decrease was most significant with our distribution customers in Asia.

Gross profit margin decreased versus the prior fiscal quarter and prior year periods. The decreases versus the prior fiscal quarter and the prior year quarter are primarily due to the significant decrease in volume and lower average selling prices. The decrease versus the prior year-to-date period is primarily due to the significant decrease in volume and the impact of U.S. tariffs on goods imported from China. Our cost reduction efforts offset the impact from cost inflation and the costs associated with the adaptation of direct labor to the lower sales volume.

The ongoing low level of demand increased the pressure on selling prices. We experienced a slight decrease in average selling prices versus the prior fiscal quarter and prior year-to-date period and a moderate decrease versus the prior year quarter.

Optoelectronic Components

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

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	**June 29, 2019**	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Net revenues	$ 50,702	$ 60,675	$ 76,443	$ 171,939	$ 224,110
Gross profit margin	21.5%	26.8%	36.2%	25.1%	36.3%

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

	Fiscal quarter ended September 28, 2019		**Nine fiscal months ended September 28, 2019**	
	Change in net revenues	**% change**	**Change in net revenues**	**% change**
June 29, 2019	$ (9,973)	-16.4%		
September 29, 2018	$ (25,741)	-33.7%	$ (52,171)	-23.3%

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

	vs. Prior Quarter	**vs. Prior Year Quarter**	**vs. Prior Year-to-Date**
Change attributable to:			
Decrease in volume	-13.5%	-29.5%	-19.4%
Decrease in average selling prices	-2.7%	-6.0%	-3.5%
Foreign currency effects	-0.3%	-1.0%	-1.9%
Other	0.1%	2.8%	1.5%
Net change	-16.4%	-33.7%	-23.3%

Net revenues of our Optoelectronic Components segment decreased significantly versus the prior fiscal quarter and prior year periods. The decreases were in all regions and sales channels, particularly distributor customers.

The gross profit margin decreased versus the prior fiscal quarter and the prior year periods. The decreases are primarily due to decreased volume, lower average selling prices, cost inflation, and higher inventory obsolescence.

The pricing pressure for our established Optoelectronic Components products has increased as demand remains low.

The Optoelectronic Components segment has been particularly affected by high inventories at distribution and the resulting lower order rate, an unfavorable product mix, and a general weakness in one of its main product lines. We expect the business to return to historical levels of profitability after this normalization phase.

Resistors & Inductors

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

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	June 29, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Net revenues	$ 228,577	$ 242,383	$ 257,330	$ 731,431	$ 755,323
Gross profit margin	28.8%	29.5%	34.3%	30.5%	33.3%

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

	Fiscal quarter ended September 28, 2019		Nine fiscal months ended September 28, 2019	
	Change in net revenues	% change	Change in net revenues	% change
June 29, 2019	$ (13,806)	-5.7%		
September 29, 2018	$ (28,753)	-11.2%	$ (23,892)	-3.2%

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

	vs. Prior Quarter	vs. Prior Year Quarter	vs. Prior Year-to-Date
Change attributable to:			
Decrease in volume	-5.7%	-8.7%	-1.5%
Decrease in average selling prices	-0.3%	-0.5%	-0.1%
Foreign currency effects	-0.3%	-1.4%	-2.3%
Acquisitions	0.0%	0.0%	0.5%
Other	0.6%	-0.6%	0.2%
Net change	-5.7%	-11.2%	-3.2%

Net revenues of the Resistors & Inductors segment decreased significantly versus the prior fiscal quarter and the prior year quarter, and moderately versus the prior year-to-date period. The decrease versus the prior year-to-date period was partially offset by the significant increase in net revenues in the first fiscal quarter of 2019 versus the prior year. Net revenues decreased for all regions versus the prior fiscal quarter and prior year quarter, except for the Asia region, which increased versus the prior fiscal quarter. The decrease in net revenues versus the prior fiscal quarter is primarily due to distribution customers and the military and aerospace end market. The decrease in net revenues versus the prior year quarter is primarily due to distribution customers and the industrial end market.

The gross profit margin decreased versus the prior fiscal quarter and the prior year periods. The decrease versus the prior fiscal quarter is primarily due to lower volume and a reduction in inventory, which was partially offset by our cost reduction efforts. The decrease versus the prior year periods is primarily due to lower volume, inefficiencies caused by lower volume, increased labor costs, negative foreign currency impacts and a reduction in inventory.

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 the prior year periods.

Capacitors

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

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	June 29, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Net revenues	$ 98,424	$ 111,298	$ 116,447	$ 328,667	$ 335,064
Gross profit margin	22.0%	23.5%	23.0%	23.6%	22.7%

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

	Fiscal quarter ended September 28, 2019		Nine fiscal months ended September 28, 2019	
	Change in net revenues	% change	Change in net revenues	% change
June 29, 2019	$ (12,874)	-11.6%		
September 29, 2018	$ (18,023)	-15.5%	$ (6,397)	-1.9%

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

	vs. Prior Quarter	vs. Prior Year Quarter	vs. Prior Year-to-Date
Change attributable to:			
Decrease in volume	-12.0%	-16.1%	-1.1%
Increase in average selling prices	0.6%	2.8%	2.3%
Foreign currency effects	-0.4%	-1.6%	-2.8%
Other	0.2%	-0.6%	-0.3%
Net change	-11.6%	-15.5%	-1.9%

Net revenues of the Capacitors segment decreased significantly versus the prior fiscal quarter and the prior year quarter and decreased slightly versus the prior year-to-date period. Net revenues decreased versus the prior fiscal quarter and prior year periods in all regions, except for Americas, which increased versus the prior year-to-date period. The decrease in net revenues versus the prior fiscal quarter and prior year periods is primarily due to distribution customers.

The gross profit margin decreased versus the prior fiscal quarter and prior year quarter, but increased versus the prior year-to-date period. The decrease versus the prior fiscal quarter and prior year fiscal quarter is primarily due to lower sales volume and increased metal and labor costs, partially offset by higher average selling prices and our cost reduction efforts. The increase versus the prior year-to-date period is primarily due to higher average selling prices and more profitable product mix.

Average selling prices increased slightly versus the prior fiscal quarter and the prior year periods.

Selling, General, and Administrative Expenses

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

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	**June 29, 2019**	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Total SG&A expenses	$ 91,796	$ 95,112	$ 98,198	$ 290,332	$ 303,381
as a percentage of revenues	14.6%	13.9%	12.6%	14.1%	13.4%

The overall decrease in SG&A expenses is primarily attributable to reductions to incentive compensation and favorable foreign currency exchange impacts.

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

	Fiscal quarters ended			Nine fiscal months ended	
	September 28, 2019	**June 29, 2019**	**September 29, 2018**	**September 28, 2019**	**September 29, 2018**
Amortization of intangible assets	$ 2,112	$ 2,115	$ 3,240	$ 6,366	$ 9,665
Net loss (gain) on sales of assets	(6)	11	26	(168)	(2,216)

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

In the third fiscal quarter of 2019, we announced a restructuring program targeting SG&A expenses. See "Cost Management" above.

Other Income (Expense)

Interest expense for the fiscal quarter ended September 28, 2019 increased $0.4 million versus the fiscal quarter ended June 29, 2019, but decreased $2.2 million versus September 29, 2018. Interest expense for the nine fiscal months ended September 28, 2019 decreased by $1.7 million versus the nine fiscal months ended September 29, 2018. The increase versus the prior fiscal quarter is primarily due to higher average amounts outstanding on the revolving credit facility. However, as a result of using cash repatriated in the third fiscal quarter of 2019 the outstanding balance of the revolving credit facility was reduced to zero by September 28, 2019. The decrease versus the prior year quarter is primarily due to reduced interest expense on the convertible senior debentures as a result of using cash repatriated in 2018 to repurchase convertible senior debentures. The decrease versus the prior year-to-date period is primarily attributable to reduced interest expense on the revolving credit facility and the convertible senior debentures as a result of using cash repatriated in 2018 to repay the balance of the credit facility in the third fiscal quarter of 2018 and to repurchase convertible senior debentures, partially offset by the issuance of convertible senior notes due 2025 in the second fiscal quarter of 2018.

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

	Fiscal quarters ended		
	September 28, 2019	**September 29, 2018**	**Change**
Foreign exchange gain (loss)	$ 1,113	$ (254)	$ 1,367
Interest income	2,365	3,504	(1,139)
Investment income (expense)	1,556	(37)	1,593
Other	32	(323)	355
	$ 5,066	$ 2,890	$ 2,176

	Fiscal quarters ended		
	September 28, 2019	**June 29, 2019**	**Change**
Foreign exchange gain (loss)	$ 1,113	$ (481)	$ 1,594
Interest income	2,365	2,147	218
Investment income (expense)	1,556	1,399	157
Other	32	(95)	127
	$ 5,066	$ 2,970	$ 2,096

	Nine fiscal months ended		
	September 28, 2019	**September 29, 2018**	**Change**
Foreign exchange gain (loss)	$ 162	$ (997)	$ 1,159
Interest income	6,711	8,302	(1,591)
Investment income (expense)	6,545	(1,491)	8,036
Other	(74)	(374)	300
	$ 13,344	$ 5,440	$ 7,904

Income Taxes

For the fiscal quarter ended September 28, 2019, our effective tax rate was 31.5%, as compared to 36.9% and 38.4% for the fiscal quarters ended June 29, 2019 and September 29, 2018, respectively. For the nine fiscal months ended September 28, 2019, our effective tax rate was 29.9%, as compared to 22.9% for the nine fiscal months ended September 29, 2018. 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 period presented.

We recorded tax expense of $2.0 million during the nine fiscal months ended September 28, 2019, due to the remeasurement of the deferred tax liability related to our cash repatriation program. These types of remeasurement adjustments will continue until the amounts are repatriated. During the second and third fiscal quarters of 2019, we repatriated $73.6 million and $115.2 million, respectively, to the United States, and paid withholding and foreign taxes of approximately $20.5 million and $18.3 million, respectively.

As part of our cash repatriation activity, we settled an intercompany loan, which previously had been accounted for at the historical foreign exchange rate (akin to an equity contribution) because the debtor entity did not have the intent or ability to repay such intercompany loan. Currency translation adjustments were recorded in accumulated other comprehensive income, and were not included in U.S. GAAP pre-tax income. Our cash repatriation activity resulted in the ability to repay such intercompany loan. Upon settlement of this intercompany loan, the foreign entity realized a taxable gain. Income tax expense for the fiscal quarter ended June 29, 2019 and nine fiscal months ended September 28, 2019 includes tax expense of $7.6 million related to this tax-basis foreign exchange gain.

The effective tax rate for the nine fiscal months ended September 28, 2019 was impacted by the effect of the repurchase of convertible senior debentures in the first fiscal quarter of 2019. We recognized a tax benefit of $1.3 million in the fiscal quarter ended March 30, 2019, reflecting the reduction in deferred tax liabilities related to the special tax attributes of the extinguished debentures.

During the nine fiscal months ended September 28, 2019, the liabilities for unrecognized tax benefits increased by $5.5 million on a net basis, principally due to increases for tax positions taken in the current and prior periods and interest, offset by expiration of statutes and payments.

Income tax expense for the fiscal quarter and nine fiscal months ended September 29, 2018 includes additional tax expense of $13.5 million and $25.5 million, respectively, recognized as a result of additional analysis of the impact of the Tax Cuts and Jobs Act completed in 2018.

The Company recognized a tax benefit on the pre-tax loss on early extinguishment of debt in the second fiscal quarter of 2018. The Company also recognized a tax benefit of $34.0 million, reflecting the reduction in deferred tax liabilities related to the special tax attributes of the extinguished debentures.

We also recorded additional tax expense of $0.7 million and tax benefits of $7.0 million during the third fiscal quarter and nine fiscal months ended September 29, 2018, respectively, due to the remeasurement of the deferred tax liability related to our cash repatriation program. We repatriated $274 million and $450 million to the U.S. pursuant to this program in the second and third fiscal quarters of 2018. As a result of this repatriation, we paid cash taxes of $92.1 million and $64.7 million in the second and third fiscal quarters of 2018, respectively.

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 6 to our consolidated condensed financial statements included in Item 1.

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. We repatriated approximately $188.7 million to the United States, and paid cash taxes of $38.8 million related to the repatriations in 2019. 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 and nine fiscal months ended September 28, 2019. 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.

In the second fiscal quarter of 2019, we entered into a new credit facility, which provides an aggregate commitment of $750 million of revolving loans available until June 5, 2024. The new credit facility replaces our previous credit agreement that provided for an aggregate commitment of $640 million, and that was scheduled to mature on December 10, 2020. The new credit facility also provides us the ability to request up to $300 million of incremental facilities, subject to the satisfaction of certain conditions, which could take the form of additional revolving commitments, incremental “term loan A” or “term loan B” facilities, or incremental equivalent debt. At September 28, 2019, we had no amounts outstanding under our credit facility.

The credit facility allows an unlimited amount of defined “Investments,” which include certain intercompany transactions and acquisitions, provided our pro forma leverage ratio is equal to or less than 2.75 to 1.00. If our pro forma leverage ratio is greater than 2.75 to 1.00, such Investments are subject to certain limitations.

The credit facility also allows an unlimited amount of defined "Restricted Payments," which include cash dividends and share repurchases, provided our pro forma leverage ratio is equal to or less than 2.50 to 1.00. If our pro forma leverage ratio is greater than 2.50 to 1.00, the credit facility allows such payments up to $100 million per annum (subject to a cap of $300 million for the term of the facility, with up to $25 million of any unused amount of the $100 million per annum base available for use in the next succeeding calendar year).

Borrowings under the credit facility bear interest at LIBOR plus an interest margin. The applicable interest margin is based on our leverage ratio. Based on our current leverage ratio, any new borrowings will bear interest at LIBOR plus 1.50%, the same as pursuant to the previous credit agreement. 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.

We also pay a commitment fee, also based on its leverage ratio, on undrawn amounts. The undrawn commitment fee, based on Vishay's current leverage ratio, is 0.25% per annum, an improvement of 5 basis points over the previous credit agreement. Such undrawn commitment fee increases to 0.30% per annum if our leverage ratio is between 1.50 to 1 and 2.50 to 1 and further increases to 0.35% per annum if our leverage ratio equals or exceeds 2.50 to 1.

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 solely for use in, or arising solely under the laws of, any country other than the United States, assets located solely 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.

The credit facility also limits or restricts us from, among other things, incurring indebtedness, incurring liens on its respective assets, making investments and acquisitions (assuming our pro forma leverage ratio is greater than 2.75 to 1.00), making asset sales, and paying cash dividends and making other restricted payments (assuming our pro forma leverage ratio is greater than 2.50 to 1.00), and requires us to comply with other covenants, including the maintenance of specific financial ratios.

The financial maintenance covenants include (a) an interest 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 3.00 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 June 5, 2019.

We were in compliance with all financial covenants under the credit facility at September 28, 2019. Our interest coverage ratio and leverage ratio were 19.29 to 1 and 1.16 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 borrowed $38 million and repaid $38 million on the credit facility during the nine fiscal months ended September 28, 2019. The average outstanding balance on our credit facility calculated at fiscal month-ends was $8.1 million and the highest amount outstanding on our revolving credit facility at a fiscal month end was $28 million during the nine fiscal months ended September 28, 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.

During the second and third fiscal quarters of 2019, we repatriated approximately $73.6 million and $115.2 million, respectively, to the United States, and paid withholding and foreign taxes of approximately $20.5 million and $18.3 million, respectively. Substantially all of these amounts are being used to repay certain intercompany indebtedness, repay the outstanding balance on our revolving credit facility, to pay the US transition tax, and to fund capital expansion projects.

After completing these phases of cash repatriation, there is approximately $100 million of unremitted foreign earnings that we have deemed not permanently reinvested and thus has accrued foreign withholding and other taxes. We continue to evaluate the timing of the reparation of these 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 September 28, 2019, substantially all 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.

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 new revolving credit facility in June 2024.

Prior to three months before the maturity date, our convertible senior debentures are convertible by the holders under certain circumstances. The convertible senior debentures due 2040 and due 2041 and the convertible senior notes due 2025 are not currently convertible. 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. No conversions have occurred to date.

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 0.04% 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 amount of short-term investments at September 28, 2019 is lower than normal due to the recently completed cash repatriation activity.

The following table summarizes the components of net cash and short-term investments (debt) at September 28, 2019 and December 31, 2018 *(in thousands)*:

	September 28, 2019	December 31, 2018
Credit facility	**$ -**	$ -
Convertible senior notes, due 2025*	**505,591**	495,203
Convertible senior debentures, due 2040*	**146**	539
Convertible senior debentures, due 2041*	**8,175**	12,812
Convertible senior debentures, due 2042*	**-**	923
Deferred financing costs	**(17,650)**	(14,968)
Total debt	**496,262**	494,509
Cash and cash equivalents	**731,483**	686,032
Short-term investments	**56,043**	78,286
Net cash and short-term investments (debt)	**$ 291,264**	$ 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 September 28, 2019 continued to be strong, with a current ratio (current assets to current liabilities) of 3.5 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 0.33 to 1 at September 28, 2019, as compared to 0.36 to 1 at December 31, 2018. The slight decrease in the ratio is primarily due to increased retained earnings.

Cash flows provided by operating activities were $212.0 million for the nine fiscal months ended September 28, 2019, as compared to cash flows provided by operations of $108.9 million for the nine fiscal months ended September 29, 2018.

Cash paid for property and equipment for the nine fiscal months ended September 28, 2019 was $100.3 million, as compared to $126.4 million for the nine fiscal months ended September 29, 2018. We expect capital spending of approximately $140 million to $150 million in 2019, which reflects lower short-term market requirements.

Cash paid for dividends to our common and Class B common stockholders totalled $39.7 million and $34.3 million for the nine fiscal months ended September 28, 2019 and September 29, 2018, respectively. On May 7, 2018, our Board of Directors increased the quarterly dividend to $0.085 per share, representing a 26% increase over the previous quarterly dividend. On May 8, 2019, our Board of Directors increased the quarterly 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 nine fiscal months ended September 28, 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)*:

Fiscal Period	Amount	Month of Payment
Three fiscal months ended March 30, 2019	$ 12,277	March
Three fiscal months ended June 29, 2019	13,723	June
Three fiscal months ended September 28, 2019	13,723	September

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 and Item 1 of Part II of our Quarterly Report on Form 10-Q for the quarter ended March 30, 2019, filed with the SEC on May 9, 2019 describe certain of our legal proceedings. There have been no material developments to the legal proceedings previously disclosed.

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 No. 1 to Credit Agreement, dated as of September 20, 2019, among Vishay Intertechnology, Inc. and JPMorgan Chase Bank, N.A., as administrative agent, and the lenders and other parties thereto.
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 September 29, 2019, furnished in iXBRL (Inline eXtensible Business Reporting Language)).
104	Cover Page Interactive Data File (formatted as Inline eXtensible Business Reporting Language and contained in Exhibit 101)

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: October 29, 2019

Exhibit 10.1_

AMENDMENT NO. 1 TO
CREDIT AGREEMENT

THIS AMENDMENT NO. 1 TO CREDIT AGREEMENT dated as of September 20, 2019 (this "Amendment"), is entered into among VISHAY INTERTECHNOLOGY, INC., a Delaware corporation (the "Borrower"), the other Loan Parties identified on the signature pages hereto and JPMORGAN CHASE BANK, N.A., as administrative agent on behalf of the Lenders (as defined below) (in such capacity, the "Administrative Agent"). Capitalized terms used herein and not otherwise defined shall have the meanings ascribed thereto in the Credit Agreement (as defined below).

RECITALS

WHEREAS, the Borrower, certain lenders from time to time party thereto (the "Lenders") and Administrative Agent are parties to that certain Credit Agreement, dated as of June 5, 2019 (as amended or modified from time to time prior to the date hereof, the "Credit Agreement");

WHEREAS, the Loan Parties have requested to make certain amendments to the Credit Agreement to cure certain ambiguities and omissions, as further described herein;

WHEREAS, the Administrative Agent has agreed to make such amendments in accordance with Section 9.02(b)(i) of the Credit Agreement;

WHEREAS, notice and a copy of this Amendment has been provided to the Lenders at least five Business Days prior to the date hereof, and Administrative Agent has not received a written notice from the Required Lenders stating that the Required Lenders object to this Amendment.

NOW, THEREFORE, in consideration of the agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

AGREEMENT

1. Amendment to Credit Agreement. The defined term "CFC" in Section 1.01 of the Credit Agreement is hereby amended by adding "formed or acquired after the Effective Date" at the end of clause (c) thereof.

2. Effectiveness. This Amendment shall be effective upon receipt by the Administrative Agent of executed counterparts of this Amendment from each party hereto.

3. Ratification of Credit Agreement and other Loan Documents. Except as specifically amended herein, all Loan Documents shall continue to be in full force and effect and are hereby in all respects ratified and confirmed. The Borrower and the other Loan Parties acknowledge and consent to the terms set forth herein and agree that the execution, delivery and effectiveness of this Amendment shall not operate as a waiver of any right, power or remedy of the Lenders under any of the Loan Documents, nor constitute a waiver of any provision of the Loan Documents or in any way impair, reduce or limit any of the obligations of the Borrower and the other Loan Parties under any of the Loan Documents, as amended hereby. This Amendment is a Loan Document.

4. Authority/Enforceability. Each of the Loan Parties represents and warrants as follows:

(a) it has taken all necessary corporate or other organizational action to authorize the execution, delivery and performance of this Amendment;

(b) this Amendment has been duly executed and delivered by such Loan Party and constitutes a legal, valid and binding obligation of such Loan Party, enforceable against such Loan Party in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights generally and to general principles of equity, regardless of whether considered in a proceeding in equity or at law;

(c) no consent, license, permit, approval, or authorization of, exemption by, notice or report to, or registration, filing, or declaration with, any Person (including, without limitation, any member or creditor of the Borrower or the Guarantor or any governmental entity, agency, or authority) is required to be obtained by such Loan Party in connection with: (A) the execution, delivery, or performance by such Loan Party of this Amendment or (B) the validity or enforceability against such Loan Party of this Amendment; and

(d) the execution, delivery and performance by such Loan Party of this Amendment does not (i) contravene the terms of its respective articles of organization and operating agreement or (ii) violate any material law.

5. Representations and Warranties of the Loan Parties. The Loan Parties represent and warrant to the Administrative Agent that after giving effect to this Amendment (a) the representations and warranties contained in Article III of the Credit Agreement or in any of the other Loan Documents are true and correct in all material respects (or, in the case of representations and warranties qualified as to materiality, in all respects) and (b) no Event of Default has occurred or is continuing as of the date hereof.

6. Amendments; Counterparts/Facsimile. This Amendment shall not be construed as a waiver of or consent to any further or future action on the part of the Loan Parties that would require a waiver or consent of the Administrative Agent or the Lenders. This Amendment may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Amendment by fax transmission or e-mail transmission (e.g. "pdf" or "tif") shall be effective as delivery of a manually executed counterpart of this Amendment.

7. Governing Law; Jurisdiction; Consent to Service of Process; Waiver of Jury Trial. The provisions set forth in Sections 7.08 and 7.09 of the Credit Agreement are hereby incorporated herein, *mutatis mutandis*.

8. Successors and Assigns. This Amendment shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

9. Headings. The headings of the sections hereof are provided for convenience only and shall not in any way affect the meaning or construction of any provision of this Amendment.

10. Severability. If any provision of this Amendment is held to be illegal, invalid or unenforceable, (a) the legality, validity and enforceability of the remaining provisions of this Amendment shall not be affected or impaired thereby and (b) the parties shall endeavor in good faith negotiations to replace the illegal, invalid or unenforceable provisions with valid provisions the economic effect of which comes as close as possible to that of the illegal, invalid or unenforceable provisions. The invalidity of a provision in a particular jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed as of the date first above written.

BORROWER: VISHAY INTERTECHNOLOGY, INC.

By: /s/ David E. McConnell
Name: David E. McConnell
Title: Senior Vice President and Corporate Treasurer

LOAN PARTIES: VISHAY GSI, INC.
SILICONIX INCORPORATED
VISHAY BCCOMPONENTS HOLDINGS LTD.
VISHAY SPRAGUE, INC.
VISHAY AMERICAS, INC.
VISHAY HIREL SYSTEMS LLC
VISHAY SILICONIX, LLC

By: /s/ David E. McConnell
Name: David E. McConnell
Title: Treasurer

VISHAY DALE ELECTRONICS, LLC

By: /s/ David E. McConnell
Name: David E. McConnell
Title: Manager

ADMINISTRATIVE AGENT: JPMORGAN CHASE BANK, N.A.

By: /s/ Daglas Panchal
Name: Daglas Panchal
Title: Executive Director

[Signature page to Amendment No. 1 to Credit Agreement]

Exhibit 31.1

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: October 29, 2019

/s/ Gerald Paul
Dr. Gerald Paul
Chief Executive Officer

Exhibit 31.2

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: October 29, 2019

/s/ Lori Lipcaman
Lori Lipcaman
Chief Financial Officer

Exhibit 32.1

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 September 28, 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
October 29, 2019

Exhibit 32.2

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 September 28, 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
October 29, 2019