



Consolidated Financial Statements
for the six-month ended and as of September 30, 2019 (in English)

On November 13, 2019, the Japanese version of this report was filed with the Director-General of the Kanto Local Finance Bureau of the Ministry of Finance pursuant to Japan's Financial Instruments and Exchange Act.

[This is an English translation prepared for the convenience of non-resident shareholders. Should there be any inconsistency between the translation and the official Japanese text, the latter shall prevail.]

[Cover]

Document to be filed:	Quarterly Report
Provisions to base upon:	Article 24-4-7, paragraph 1 of the Financial Instruments and Exchange Act
Filing to:	Director-General of the Kanto Local Finance Bureau
Date of filing:	November 13, 2019
Fiscal period:	2nd quarter of 124th term (from July 1, 2019 to September 30, 2019)
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1) Consolidated balance sheets (Unaudited)

ASSETS	Yen (Millions)	
	March 31, 2019	September 30, 2019
Current assets:		
Cash and cash equivalents	¥ 289,175	¥ 320,372
Short-term investments	40,505	9,737
Marketable securities (Note 2 and 7)	57	55
Net trade receivables	308,154	372,307
Inventories (Note 3)	226,892	221,277
Other current assets (Note 6)	57,702	58,542
Total current assets	922,485	982,290
Investments in affiliates (Note 2)	139,522	16,897
Other investments in securities (Note 2 and 7)	15,784	15,829
Net property, plant and equipment (Note 9)	603,110	603,274
Right-of-use assets of operating leases (Note 1)	-	41,828
Goodwill (Note 10)	164,794	159,535
Intangible assets (Note 10)	88,693	84,189
Other assets (Note 6 and 7)	58,092	48,855
Total assets	¥ 1,992,480	¥ 1,952,697

See accompanying notes to consolidated financial statements.

	Yen (Millions)	
LIABILITIES AND EQUITY	March 31, 2019	September 30, 2019
Current liabilities:		
Short-term debt	¥ 221,310	¥ 232,947
Current installments of long-term debt (Note 7 and 9)	91,276	40,968
Current portion of operating lease obligations (Note 1)	-	6,767
Trade payables	189,892	207,016
Accrued expenses	192,800	182,825
Other current liabilities (Note 6)	19,042	23,772
Total current liabilities	<u>714,320</u>	<u>694,295</u>
Long-term debt, excluding current installments (Note 7 and 9)	207,682	184,265
Long-term operating lease obligations (Note 1)	-	30,751
Retirement and severance benefits	129,050	121,442
Other noncurrent liabilities	57,672	60,376
Total noncurrent liabilities	<u>394,404</u>	<u>396,834</u>
Total liabilities	<u>1,108,724</u>	<u>1,091,129</u>
TDK stockholders' equity:		
Common stock		
Authorized 480,000,000 shares; issued 129,590,659 shares at March 31, 2019 and September 30, 2019 outstanding 126,288,818 shares at March 31, 2019 and 126,309,472 shares at September 30, 2019	32,641	32,641
Additional paid-in capital	5,958	2,044
Legal reserve	44,436	45,085
Retained earnings	935,649	969,835
Accumulated other comprehensive income (loss) (Note 11 and 12)	(124,435)	(176,480)
Treasury stock at cost; 3,301,841 shares at March 31, 2019 and 3,281,187 shares at September 30, 2019	(16,959)	(16,854)
Total TDK stockholders' equity	<u>877,290</u>	<u>856,271</u>
Noncontrolling interests (Note 11 and 12)	6,466	5,297
Total equity	<u>883,756</u>	<u>861,568</u>
Total liabilities and equity	<u>¥ 1,992,480</u>	<u>¥ 1,952,697</u>

2) Consolidated statements of income

and Consolidated statements of comprehensive income (loss) (Unaudited)

For the Six-month ended September 30, 2018 and 2019

Consolidated statements of income

	Yen (Millions)	
	Six-month ended September 30, 2018	Six-month ended September 30, 2019
Net sales (Note 16)	¥ 721,940	¥ 707,029
Cost of sales (Note 4 and 6)	512,117	494,888
Gross profit	209,823	212,141
Selling, general and administrative expenses (Note 4)	144,966	144,641
Other operating expense (income) (Note 17)	2,677	(1,343)
Operating income	62,180	68,843
Other income (deductions):		
Interest and dividend income	3,556	4,735
Interest expense	(2,184)	(1,998)
Foreign exchange gain (loss) (Note 6)	(1,583)	(703)
Other - net (Note 4 and 6)	(4,170)	(2,229)
Total other income (deductions)	(4,381)	(195)
Income before income taxes	57,799	68,648
Income taxes	16,538	23,610
Net income	41,261	45,038
Less: Net income attributable to noncontrolling interests	185	100
Net income attributable to TDK	¥ 41,076	¥ 44,938

Amounts per share:

	Yen	
	Six-month ended September 30, 2018	Six-month ended September 30, 2019
Net income attributable to TDK per share (Note 13):		
Basic	¥ 325.30	¥ 355.81
Diluted	324.46	355.01
Cash dividends paid during the period	¥ 70.00	¥ 80.00

Consolidated statements of comprehensive income (loss)

	Yen (Millions)	
	Six-month ended September 30, 2018	Six-month ended September 30, 2019
Net income	¥ 41,261	¥ 45,038
Other comprehensive income (loss), net of taxes		
Foreign currencies translation adjustments	24,337	(54,339)
Pension liability adjustments	2,137	2,081
Net unrealized gains (losses) on securities	(1)	(36)
Total other comprehensive income (loss) (Note 12):	26,473	(52,294)
Comprehensive income (loss) (Note 11)	67,734	(7,256)
Comprehensive income (loss) attributable to noncontrolling interests	58	(168)
Comprehensive income (loss) attributable to TDK	¥ 67,676	¥ (7,088)

See accompanying notes to consolidated financial statements.

For the Three-month ended September 30, 2018 and 2019
Consolidated statements of income

	Yen (Millions)	
	Three-month ended September 30, 2018	Three-month ended September 30, 2019
Net sales (Note 16)	¥ 378,872	¥ 370,214
Cost of sales (Note 4 and 6)	263,847	254,068
Gross profit	115,025	116,146
Selling, general and administrative expenses (Note 4)	74,625	72,759
Other operating expense (income) (Note 17)	3,640	(476)
Operating income	36,760	43,863
Other income (deductions):		
Interest and dividend income	1,646	2,215
Interest expense	(1,066)	(881)
Foreign exchange gain (loss) (Note 6)	(630)	257
Other - net (Note 4 and 6)	(2,646)	(1,509)
Total other income (deductions)	(2,696)	82
Income before income taxes	34,064	43,945
Income taxes	9,101	14,562
Net income	24,963	29,383
Less: Net income attributable to noncontrolling interests	84	33
Net income attributable to TDK	¥ 24,879	¥ 29,350

Amounts per share:

	Yen	
	Three-month ended September 30, 2018	Three-month ended September 30, 2019
Net income attributable to TDK (Note 13):		
Basic	¥ 197.03	¥ 232.37
Diluted	196.56	231.87
Cash dividends paid during the period	¥ -	¥ -

Consolidated statements of comprehensive income

	Yen (Millions)	
	Three-month ended September 30, 2018	Three-month ended September 30, 2019
Net income	¥ 24,963	¥ 29,383
Other comprehensive income (loss), net of taxes		
Foreign currencies translation adjustments	16,286	(16,281)
Pension liability adjustments	1,147	1,074
Net unrealized gains (losses) on securities	2	(22)
Total other comprehensive income (loss) (Note 12):	17,435	(15,229)
Comprehensive income (Note 11)	42,398	14,154
Comprehensive income (loss) attributable to noncontrolling interests	-	(32)
Comprehensive income attributable to TDK	¥ 42,398	¥ 14,186

See accompanying notes to consolidated financial statements.

3) Consolidated statements of cash flows (Unaudited)

	Yen (Millions)	
	Six-month ended September 30, 2018	Six-month ended September 30, 2019
Cash flows from operating activities:		
Net income	¥ 41,261	¥ 45,038
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	52,370	59,684
Impairment of long-lived assets	4,720	242
Deferred income taxes	1,931	5,183
Loss (gain) on securities, net	2,841	144
Changes in assets and liabilities:		
Decrease (increase) in trade receivables	(82,321)	(80,268)
Decrease (increase) in inventories	(22,500)	(6,103)
Increase (decrease) in trade payables	11,761	30,203
Increase (decrease) in accrued expenses	(246)	2,189
Decrease (increase) in other assets and liabilities, net	(1,488)	3,645
Other - net	(651)	(85)
Net cash provided by operating activities	<u>7,678</u>	<u>59,872</u>
Cash flows from investing activities:		
Capital expenditures	(77,023)	(90,847)
Proceeds from sales of tangible and intangible assets	1,820	1,764
Proceeds from sale and maturity of short-term investments	60,771	56,284
Payment for purchase of short-term investments	(44,966)	(26,940)
Proceeds from sale and maturity of securities	232	712
Payment for purchase of securities	(743)	(373)
Proceeds from sale of business, net of cash transferred	7,530	-
Proceeds from sale of investments in affiliates	-	124,484
Other - net	(2,667)	(489)
Net cash provided by (used in) investing activities	<u>(55,046)</u>	<u>64,595</u>
Cash flows from financing activities:		
Proceeds from debt with maturities longer than three months	2,053	808
Repayment of debt with maturities longer than three months	(36,641)	(76,026)
Net increase (decrease) in debt with maturities of three months or less	61,717	13,977
Dividends paid	(8,843)	(10,901)
Acquisition of noncontrolling interests	(3,590)	(4,879)
Other - net	34	(13)
Net cash provided by (used in) financing activities	<u>14,730</u>	<u>(77,034)</u>
Effect of exchange rate changes on cash and cash equivalents	4,120	(16,236)
Net increase (decrease) in cash and cash equivalents	(28,518)	31,197
Cash and cash equivalents at beginning of period	279,624	289,175
Cash and cash equivalents at end of period	<u>¥ 251,106</u>	<u>¥ 320,372</u>

See accompanying notes to consolidated financial statements.

4) Notes to Consolidated Financial Statements (Unaudited)

1. Summary of Significant Accounting Policies

(a) Basis of Presentation

TDK Corporation and most of its domestic subsidiaries maintain their books of account in conformity with the generally accepted accounting principles in Japan, and its foreign subsidiaries' books of accounts are mainly in conformity with those of the countries of their domicile.

The consolidated financial statements presented herein reflect certain adjustments, not recorded in the primary books of TDK Corporation and its subsidiaries, to present the financial position, results of operations and cash flows in conformity with U.S. generally accepted accounting principles ("U.S. GAAP").

(b) Consolidation Policy

The consolidated financial statements include the accounts of TDK Corporation, its subsidiaries and those variable interest entities where TDK is the primary beneficiary under U.S. GAAP. All significant intercompany balances and transactions have been eliminated in consolidation.

The investments in affiliates where TDK exercises significant influence over their operating and financial policies are accounted for using the equity method of accounting. All significant intercompany profits from transactions with these affiliates have been eliminated.

(c) Adoption of New Accounting Standards

Leases

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-02 "Leases (Topic 842)".

This ASU requires lessees to recognize most leases on their consolidated balance sheets but recognize expenses on their consolidated statements of income in a manner similar to the previous standard. Additionally, this ASU expands qualitative and quantitative disclosures related to leases. TDK adopted this ASU from April 1, 2019. TDK applied the package of practical expedients that allows us not to reassess whether any existing contracts at or expired contracts prior to the adoption date are or contain leases, lease classification and whether any initial direct costs qualify for capitalization, to use hindsight in determining the lease term and in assessing impairment of the right-of-use assets, in addition to applying the short term lease exception. TDK also adopted the transition method which no restatement of comparative periods and no reassessment of land easements not previously accounted for as a lease that exist at or expired prior to the adoption date are required. The right-of-use assets of operating leases and operating lease obligations recognized at April 1, 2019 was ¥38,016 million and ¥35,690 million, respectively and are included in assets and liabilities in the accompanying consolidated balance sheets.

The adoption of this ASU did not have a material impact on TDK's results of operations.

Targeted Improvements to Accounting for Hedging Activities

In August 2017, FASB issued ASU 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities". This ASU amends existing standard to simplify the application of hedge accounting in certain situations and enables an entity to better portray the economic results of an entity's risk management activities in its financial statements. This ASU eliminates the requirement to separately measure and report hedge ineffectiveness, and requires an entity to present the earnings effect of the hedging instrument in the same line item of the consolidated statements of income in which the earnings effect of the hedged item is reported. TDK adopted this ASU from April 1, 2019. The adoption of this ASU did not have a material impact on TDK's results of operations and financial position.

(d) Subsequent Events

TDK has evaluated the subsequent events through November 12, 2019, the date on which the consolidated financial statements are available to be issued.

(e) Reclassifications

Certain reclassifications have been made to the prior year's consolidated financial statements and quarterly consolidated financial statements to conform to the presentation used for the six-month and the three-month ended September 30, 2019.

2. Marketable Securities and Investments in Securities

Marketable securities and investments in securities as of March 31, 2019 and September 30, 2019, are as follows:

	Yen (Millions)	
	March 31, 2019	September 30, 2019
Marketable securities		
Debt securities	¥ 57	¥ 55
Total Marketable securities	57	55
Investments in affiliates	139,522	16,897
Other investments in securities:		
Debt securities	103	56
Equity securities with readily determinable fair values	6,409	6,097
Equity securities without readily determinable fair values	9,272	9,676
Total other investments in securities	15,784	15,829
Total	¥ 155,363	¥ 32,781

TDK sold 49% of the common shares of RF360 Holdings Singapore PTE.Ltd. for the six-month ended September 30, 2019, which was recognized as Investments in affiliates in consolidated financial statements as of March 31, 2019. Please refer to Note 15 Sale of Business for more details.

Debt securities include available-for-sale securities. Information with respect to such securities as of March 31, 2019 and September 30, 2019 is as follows:

As of March 31, 2019	Yen (Millions)			
	Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
Marketable securities (Debt securities):				
Government bonds	¥ 57	¥ -	¥ 0	¥ 57
Investments (Debt securities):				
Commercial papers	2	101	-	103
Public-utility bonds	0	-	-	0
Total	¥ 59	¥ 101	¥ 0	¥ 160
As of September 30, 2019	Yen (Millions)			
	Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Fair Value
Marketable securities (Debt securities):				
Government bonds	¥ 55	¥ -	¥ 0	¥ 55
Investments (Debt securities):				
Commercial papers	0	56	-	56
Public-utility bonds	0	-	-	0
Total	¥ 55	¥ 56	¥ 0	¥ 111

The proceeds from sale and maturity of debt securities classified as available-for-sale securities were ¥7 million and ¥4 million for the six-month ended and the three-month ended September 30, 2018, respectively. The proceeds from sale and maturity of debt securities classified as available-for-sale securities was ¥3 million for the six-month ended September 30, 2019. The gross realized gains on the sale of debt securities classified as available-for-sale securities were determined on average cost basis and were reflected in income (loss).

As of September 30, 2019, all of the debt securities classified as available-for-sale securities with unrealized losses were in a continuous unrealized loss position for less than 12 months.

TDK measures certain nonmarketable equity securities without readily determinable fair values based on a practical expedient by estimating the fair value at cost minus impairment, and plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar equity securities of the same issuer. The book value of such investments amounted to ¥870 million as of September 30, 2019. TDK did not record an impairment or other adjustments for the six-month ended September 30, 2019.

Net gains and losses recognized during the period on equity securities and unrealized gains and losses recognized during the period on equity securities for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

	Yen (Millions) Six-month ended September 30, 2018	Yen (Millions) Six-month ended September 30, 2019
Unrealized gains and losses recognized during the period on equity securities held as of September 30	¥ (2,941)	¥ (316)
Net gains and losses recognized on equity securities sold during the period	100	168
Net gains and losses recognized during the period on equity securities	¥ (2,841)	¥ (148)

Net gains and losses recognized during the period on equity securities and unrealized gains and losses recognized during the period on equity securities for the three-month ended September 30, 2018 and September 30, 2019 are as follows:

	Yen (Millions) Three-month ended September 30, 2018	Yen (Millions) Three-month ended September 30, 2019
Unrealized gains and losses recognized during the period on equity securities held as of September 30	¥ (1,468)	¥ 9
Net gains and losses recognized on equity securities sold during the period	1	168
Net gains and losses recognized during the period on equity securities	¥ (1,467)	¥ 177

3. Inventories

Inventories as of March 31, 2019 and September 30, 2019, are summarized as follows:

	Yen (Millions)	
	March 31, 2018	September 30, 2018
Finished goods	¥ 86,507	¥ 87,601
Work in process	52,688	56,723
Raw materials	87,697	76,953
Total	¥ 226,892	¥ 221,277

4. Cost for Retirement and Severance Benefits

Net periodic benefit cost for TDK's employee retirement and severance defined benefit plans for the six-month ended September 30, 2018 and September 30, 2019 consist of the following components:

	Yen (Millions)	
	Six-month ended September 30, 2018	Six-month ended September 30, 2019
Service cost-benefits earned during the period	¥ 4,201	¥ 4,384
Interest cost on projected benefit obligation	1,743	1,505
Expected return on plan assets	(2,336)	(2,458)
Amortization of actuarial loss	2,638	2,702
Amortization of prior service cost (benefit)	(184)	(155)
Net periodic benefit cost	¥ 6,062	¥ 5,978

In net periodic benefit cost for TDK's employee retirement and severance defined benefit plans, service cost is included in cost of sales and sales and general administrative expense. Other elements except service cost are included in other - net of other income (deductions).

Net periodic benefit cost for TDK's employee retirement and severance defined benefit plans for the three-month ended September 30, 2018 and September 30, 2019 consist of the following components:

	Yen (Millions)	
	Three-month ended September 30, 2018	Three-month ended September 30, 2019
Service cost-benefits earned during the period	¥ 2,072	¥ 2,217
Interest cost on projected benefit obligation	866	755
Expected return on plan assets	(1,170)	(1,226)
Amortization of actuarial loss	1,322	1,265
Amortization of prior service cost (benefit)	(92)	(68)
Net periodic benefit cost	¥ 2,998	¥ 2,943

In net periodic benefit cost for TDK's employee retirement and severance defined benefit plans, service cost is included in cost of sales and sales and general administrative expense. Other elements except service cost are included in other - net of other income (deductions).

5. Contingent Liabilities

TDK provides guarantees to third parties on bank loans of its employees. The guarantees on behalf of the employees are made for their housing loans. For each guarantee issued, in the event the employee defaults on payment, TDK would be required to make payments under its guarantee.

The maximum amount of undiscounted payments TDK would have to make in the event of default as of March 31, 2019 and September 30, 2019, are as follows:

	Yen (Millions)	
	March 31, 2019	September 30, 2019
Guarantees to third parties on bank loans of employees	¥ 610	¥ 532

As of September 30, 2019, the liability recognized for the estimated fair value of TDK's obligation under the guarantee arrangement is not material.

Several claims against TDK are pending. In the opinion of TDK management, based on discussions with legal counsel, any additional liability not currently provided for will not materially affect the consolidated financial position or result of operations of TDK.

6. Derivative Financial Instruments and Hedging Activities

TDK operates internationally and is exposed to the risk of changes in foreign exchange rates and interest rates as well as changes in raw material prices. TDK assesses these risks by continuously monitoring changes in the exchange rates, interest rates and raw material prices and by evaluating hedging opportunities. Derivative financial instruments are utilized to reduce these risks. TDK does not hold or issue derivative financial instruments for trading purposes. TDK is exposed to credit related losses in the event of nonperformance by the counterparties to those derivative financial instruments, but does not expect any counterparties to fail to meet their obligations given their high credit ratings. The credit exposure of those financial instruments is represented by the fair values of contracts. The fair values of the contracts are calculated based on the quotes presented by financial institutions. TDK does not hold any derivative instruments which consisted credit-risk-related contingent features.

(1) Hedges of net investment in foreign operations

TDK uses forward foreign exchange contracts and borrowings denominated in the subsidiary's local currency to hedge the foreign currency exposure of the net investment in overseas subsidiaries. The gains and losses of these hedging instruments are recorded in foreign currency translation adjustments, which is a part of other comprehensive income (loss). There is no ineffective portion and amount excluded from effectiveness testing.

(2) Derivatives not designated as hedging instruments

TDK uses forward foreign exchange contracts, currency swap contracts and currency option contracts in order to offset foreign exchange gain (loss) mainly arising from foreign-currency denominated assets and liabilities and forecasted transactions. TDK uses interest rate swap in order to control the fluctuation risks of interest rates. Also, TDK uses commodity forward contracts in order to control the fluctuation risk of raw material prices. Although these contracts are not designated as hedges, which is required to apply hedge accountings, TDK considers that these are effective as hedges from an economic viewpoint. The fair values of these undesignated contracts are recognized as income or expenses as earned or incurred.

The effect of derivative financial instruments and other hedging instruments on the consolidated statements of income and consolidated statements of comprehensive income (loss) for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

(1) Hedges of net investment in foreign operations and other hedging instruments

	Yen (Millions)	
	Six-month ended September 30, 2018	
	Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ (5,010)	¥ -
Borrowings in local currency	(4,398)	-
Total	¥ (9,408)	¥ -

	Yen (Millions)	
	Six-month ended September 30, 2019	
	Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ (227)	¥ (2,563)
Borrowings in local currency	1,831	-
Total	¥ 1,604	¥ (2,563)

(2) Derivatives not designated as hedging instruments

		Yen (Millions)	
		Six-month ended September 30, 2018	Six-month ended September 30, 2019
Forward foreign exchange contracts	Foreign exchange gain (loss)	¥ (3,306)	¥ 1,240
Currency swap contracts	Foreign exchange gain (loss)	1,281	(731)
Interest rate swap contracts	Other income (deductions)-Other-net	12	(124)
Currency option contracts	Foreign exchange gain (loss)	(164)	(52)
Commodity forward contracts	Cost of sales	131	31
Total		¥ (2,046)	¥ 364

The effect of derivative financial instruments and other hedging instruments on the consolidated statements of income and consolidated statements of comprehensive income (loss) for the three-month ended September 30, 2018 and September 30, 2019 are as follows:

(1) Hedges of net investment in foreign operations and other hedging instruments

	Yen (Millions)	
	Three-month ended September 30, 2018	
	Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ (2,382)	¥ -
Borrowings in local currency	(1,818)	-
Total	¥ (4,200)	¥ -

	Yen (Millions)	
	Three-month ended September 30, 2019	
	Gains (losses) recognized in other comprehensive income (loss) on derivatives and other	Gains (losses) reclassified from other comprehensive income (loss) into income (loss) Other income (deductions), Other - net
Forward foreign exchange contracts	¥ (1,736)	¥ (2,563)
Borrowings in local currency	(89)	-
Total	¥ (1,825)	¥ (2,563)

(2) Derivatives not designated as hedging instruments

		Yen (Millions)	
		Three-month ended September 30, 2018	Three-month ended September 30, 2019
Forward foreign exchange contracts	Foreign exchange gain (loss)	¥ (68)	¥ (1,295)
Currency swap contracts	Foreign exchange gain (loss)	612	(153)
Interest rate swap contracts	Other income (deductions)-Other-net	(15)	(41)
Currency option contracts	Foreign exchange gain (loss)	(50)	(45)
Commodity forward contracts	Cost of sales	93	14
Total		¥ 572	¥ (1,520)

Notional amounts and fair value of derivative financial instruments and other hedging instruments as of March 31, 2019 and September 30, 2019 are as follows:

Yen (Millions)					
March 31, 2019					
Derivatives designated as hedging instruments and other:					
	Notional amounts	Asset derivatives		Liability derivatives	
		Fair value	Consolidated balance sheets location	Fair value	Consolidated balance sheets location
Forward foreign exchange contracts	¥ 135,102	¥ 977	Other current assets	¥ 522	Other current liabilities
Borrowings in local currency	66,594	-	-	-	-
Derivatives not designated as hedging instruments:					
	Notional amounts	Asset derivatives		Liability derivatives	
		Fair value	Consolidated balance sheets location	Fair value	Consolidated balance sheets location
Forward foreign exchange contracts	¥ 57,800	¥ 225	Other current assets	¥ 698	Other current liabilities
Currency swap contracts	19,701	30 1,322	Other current assets Other assets	29 -	Other current liabilities -
Interest rate swap contracts	33,297	124	Other current assets	-	-
Commodity forward contracts	252	150	Other current assets	-	-

Yen (Millions)					
September 30, 2019					
Derivatives not designated as hedging instruments:					
	Notional amounts	Asset derivatives		Liability derivatives	
		Fair value	Consolidated balance sheets location	Fair value	Consolidated balance sheets location
Forward foreign exchange contracts	¥ 116,712	¥ 281	Other current assets	¥ 1,135	Other current liabilities
Currency swap contracts	29,602	978	Other current assets	308	Other current liabilities
Commodity forward contracts	50	52	Other current assets	-	-

7. Fair Value of Financial Instruments

The following methods and assumptions were used to estimate the fair value of financial instruments in cases for which it is practicable:

(a) Cash and cash equivalents, Short-term investments, Trade receivables, Other current assets, Short-term debt, Trade payables, Accrued expenses and Other current liabilities

Except for derivative financial instruments, the carrying amount approximates fair value because of the short maturity of these instruments.

(b) Marketable securities, Other investments in securities and Other assets

The fair values of marketable securities and investments in securities are primarily estimated based on quoted market prices for these instruments. The fair value of TDK's long-term loans receivable included in other assets are estimated based on the amount of future cash flows associated with the instrument discounted using the borrower's current borrowing rate in the market for similar borrowing of comparable maturity, or based on the quoted market prices for the same or similar issues. The long-term loans receivable are classified as Level 2, one of the three levels of fair value hierarchy that is discussed in Note 8 of the Notes to Consolidated Financial Statements.

(c) Long-term debt

The fair value of TDK's long-term debt is estimated based on the amount of future cash flows associated with the instrument discounted using current borrowing rate in the market for similar debt of comparable maturity, or based on the quoted market prices for the same or similar issues. The long-term debt is classified as Level 2, one of the three levels of fair value hierarchy that is discussed in Note 8 of the Notes to Consolidated Financial Statements.

The carrying amounts and estimated fair values of TDK's financial instruments as of March 31, 2019 and September 30, 2019 are summarized as follows:

As of March 31, 2019	Yen (Millions)	
	Carrying amount	Estimated fair value
Assets:		
Marketable securities	¥ 57	¥ 57
Other investments in securities and other assets	31,051	31,051
Liability:		
Long-term debt, including current portion (excluding lease obligation)	(293,274)	(293,017)
As of September 30, 2019	Yen (Millions)	
	Carrying amount	Estimated fair value
Assets:		
Marketable securities	¥ 55	¥ 55
Other investments in securities and other assets	30,405	30,405
Liability:		
Long-term debt, including current portion (excluding lease obligation)	(219,440)	(219,976)

Derivative financial instruments are presented in Note 6 of the Notes to Consolidated Financial Statements.

Limitations

Fair value estimates are made at a specific point in time, based on relevant market information and information about the financial instruments. These estimates are subjective in nature and involve uncertainties and matters of significant judgment and therefore cannot be determined with precision. Changes in assumptions could significantly affect the estimates.

8. Fair Value Measurements

FASB Accounting Standards Codification (“ASC”) 820 “Fair Value Measurements and Disclosures” defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or most advantageous market for the asset or liability. FASB ASC 820 establishes a three level fair value hierarchy for material inputs used in measuring fair value as follows:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that TDK has the ability to access at the measurement date

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

Level 3: Unobservable inputs for the asset or liability

Assets and liabilities that are measured at fair value on a recurring basis

Assets and liabilities that are measured at fair value on a recurring basis as of March 31, 2019 and September 30, 2019 are as follows:

As of March 31, 2019	Yen (Millions)			
	Level 1	Level 2	Level 3	Total
Assets:				
Marketable securities (debt securities):				
Government bonds	¥ 57	¥ -	¥ -	¥ 57
Derivative contracts:				
Forward foreign exchange contracts	-	1,202	-	1,202
Currency swap contracts	-	1,352	-	1,352
Interest rate swap contracts	-	124	-	124
Commodity forward contracts	-	150	-	150
Investments (Debt securities):				
Commercial papers	-	103	-	103
Public-utility bonds	0	-	-	0
Investments (Equity securities):				
Manufacturing companies	2,991	-	8,716	11,707
Other	2,272	-	-	2,272
Investments (Mutual funds)	1,146	-	-	1,146
Rabbi trust investments	6,192	-	-	6,192
Total	¥ 12,658	¥ 2,931	¥ 8,716	¥ 24,305
Liabilities:				
Derivative contracts:				
Forward foreign exchange contracts	¥ -	¥ 1,220	¥ -	¥ 1,220
Currency swap contracts	-	29	-	29
Total	¥ -	¥ 1,249	¥ -	¥ 1,249

As of September 30, 2019	Yen (Millions)			
	Level 1	Level 2	Level 3	Total
Assets:				
Marketable securities (Debt securities):				
Government bonds	¥ 55	¥ -	¥ -	¥ 55
Derivative contracts:				
Forward foreign exchange contracts	-	281	-	281
Currency swap contracts	-	978	-	978
Commodity forward contracts	-	52	-	52
Investments (Debt securities):				
Commercial papers	-	56	-	56
Public-utility bonds	0	-	-	0
Investments (Equity securities):				
Stock	4,924	-	8,806	13,730
Mutual funds	1,173	-	-	1,173
Rabbi trust investments	6,089	-	-	6,089
Total	¥ 12,241	¥ 1,367	¥ 8,806	¥ 22,414
Liabilities:				
Derivative contracts:				
Forward foreign exchange contracts	¥ -	¥ 1,135	¥ -	¥ 1,135
Currency swap contracts	-	308	-	308
Total	¥ -	¥ 1,443	¥ -	¥ 1,443

Level 1 marketable securities and investments are valued using unadjusted quoted prices in active markets in which transactions occur with sufficient frequency and volume. Rabbi trusts investments included in other assets in which a part of the employees' salary is deposited and valued using unadjusted quoted prices in active markets.

Level 2 derivative contracts include forward foreign exchange contracts, currency swap contracts, interest rate swap contracts and commodity forward contracts that are valued based on quotes obtained from counterparties and are verified using observable market inputs, such as foreign currency exchange rates and raw material prices. Investments consist of commercial papers and the fair values thereof are based on third-party assessments using observable market data.

Fair values of Level 3 investments are based on discounted cash flow method.

The changes in the carrying amount of assets measured at fair value on a recurring basis that was classified as level 3 for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

	Yen (Millions)	
	Six-month ended September 30, 2018	Six-month ended September 30, 2019
Opening Balance	¥ -	¥ 8,716
Purchase	-	791
Reclassification*	1,186	-
Net income (loss) (Realized or unrealized):		
Other Comprehensive Income(loss)	82	(701)
Ending Balance	¥ 1,268	¥ 8,806

*Certain investments (equity securities without readily determinable fair values) were measured at fair value on a recurring basis and classified as Level 3.

The changes in the carrying amount of assets measured at fair value on a recurring basis that was classified as level 3 for the three-month ended September 30, 2018 and September 30, 2019 are as follows:

	Yen (Millions)	
	Three-month ended September 30, 2018	Three-month ended September 30, 2019
Opening Balance	¥ 1,234	¥ 8,464
Purchase	-	791
Net income (loss) (Realized or unrealized):		
Other Comprehensive Income(loss)	34	(449)
Ending Balance	¥ 1,268	8,806

Assets and liabilities that are measured at fair value on a nonrecurring basis

Assets and liabilities that are measured at fair value on a nonrecurring basis for the six-month ended September 30, 2018 are as follows.

	Yen (Millions)			
	Six-month ended September 30, 2018			
	Total gains (losses)	Level 1	Level 2	Level 3
Assets:				
Long-lived assets (Property, plant and equipment)	¥ (4,711)	-	-	¥ 135
Long-lived assets (Intangible assets)	(9)	-	-	-

For the six-month ended September 30, 2018, the book value of long-lived assets (property, plant and equipment) of ¥4,846 million was written down to its fair value of ¥135 million. Also the book value of long-lived assets (Intangible assets) of ¥9 million was fully written down due to impairment. The fair value of these long-lived assets was determined based on the discounted future cash flows expected from the use of each of the assets or real estate appraisal amount by external real estate appraiser etc. These fair values are classified as Level 3 because they were determined using unobservable inputs.

As a result of the above, impairment loss of ¥4,720 million caused by other-than-temporary declines in fair values during the six-month ended September 30, 2018 was included in the consolidated statements of income.

9. Lease

Right-of-use assets of finance leases are included in net property, plant and equipment of the consolidated balance sheet and the amount is ¥3,793 million as of September 30, 2019.

Finance lease obligations are included in current installments of long-term debt and long-term debt, excluding current installments of the consolidated balance sheet and the amounts are ¥584 million and ¥5,209 million, respectively, as of September 30, 2019.

10. Goodwill and Other Intangible Assets

The components of acquired intangible assets excluding goodwill as of March 31, 2019 and September 30, 2019 are as follows:

As of March 31, 2019	Yen (Millions)		Net Amount
	Gross Carrying Amount	Accumulated Amortization	
Amortizable intangible assets:			
Patent	¥ 26,578	¥ 9,088	¥ 17,490
Customer relationships	24,243	19,852	4,391
Software	41,391	17,893	23,498
Unpatented technologies	56,642	26,024	30,618
Other	12,198	3,541	8,657
Total	¥ 161,052	¥ 76,398	¥ 84,654
Nonamortizable intangible assets:			
Trademark	¥ 3,452		¥ 3,452
In-process research and development	355		355
Other	232		232
Total	¥ 4,039		¥ 4,039
As of September 30, 2019	Yen (Millions)		Net Amount
	Gross Carrying Amount	Accumulated Amortization	
Amortizable intangible assets:			
Patent	¥ 27,585	¥ 10,612	¥ 16,973
Customer relationships	23,840	19,894	3,946
Software	42,619	18,674	23,945
Unpatented technologies	55,001	27,518	27,483
Other	11,448	3,634	7,814
Total	¥ 160,493	¥ 80,332	¥ 80,161
Nonamortizable intangible assets:			
Trademark	¥ 3,452		¥ 3,452
In-process research and development	344		344
Other	232		232
Total	¥ 4,028		¥ 4,028

Intangible assets subject to amortization are amortized using the straight-line method over their estimated useful lives to their estimated residual value of zero. Aggregate amortization expense for the six-month ended September 30, 2019 was ¥6,812 million.

There are no significant changes in the carrying amount of goodwill for the six-month ended September 30, 2019.

11. Equity

The changes in the carrying amount of stockholders' equity, noncontrolling interests and total equity for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

	Yen (Millions)		
	Stockholders' equity	Noncontrolling Interests	Total equity
March 31, 2018	¥ 824,634	¥ 6,598	¥ 831,232
Cumulative-effect from adoption of ASU 2014-09	181	-	181
Cumulative-effect from adoption of ASU 2016-01	-	-	-
Cumulative-effect from adoption of ASU 2016-16	(6,374)	-	(6,374)
Equity transaction of consolidated subsidiaries and other	(2,654)	(307)	(2,961)
Comprehensive income:			
Net income	41,076	185	41,261
Other comprehensive income (loss), net of taxes:			
Foreign currency translation adjustments	24,463	(126)	24,337
Pension liability adjustments	2,138	(1)	2,137
Net unrealized gains (losses) on securities	(1)	-	(1)
Total other comprehensive income	26,600	(127)	26,473
Comprehensive income	67,676	58	67,734
Dividends	(8,837)	(21)	(8,858)
September 30, 2018	¥ 874,626	¥ 6,328	¥ 880,954

	Yen (Millions)		
	Stockholders' equity	Noncontrolling Interests	Total equity
March 31, 2019	¥ 877,290	¥ 6,466	¥ 883,756
Equity transaction of consolidated subsidiaries and other	(3,828)	(896)	(4,724)
Comprehensive income:			
Net income	44,938	100	45,038
Other comprehensive income (loss), net of taxes:			
Foreign currency translation adjustments	(54,071)	(268)	(54,339)
Pension liability adjustments	2,081	0	2,081
Net unrealized gains (losses) on securities	(36)	-	(36)
Total other comprehensive income (loss)	(52,026)	(268)	(52,294)
Comprehensive income (loss)	(7,088)	(168)	(7,256)
Dividends	(10,103)	(105)	(10,208)
September 30, 2019	¥ 856,271	¥ 5,297	¥ 861,568

Net income attributable to TDK and transfers (to) from noncontrolling interests for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

	Yen (Millions)	
	Six-month ended September 30,	
	2018	2019
Net income attributable to TDK	¥ 41,076	¥ 44,938
Decrease in TDK's additional paid-in capital for purchase of Amperex Technology Ltd.'s common shares from third parties	(2,787)	(4,075)
Decrease in TDK's additional paid-in capital for purchase of Guangdong TDK Rising Rare Earth High Technology Material Co.,Ltd.'s common shares from third parties	(27)	-
Increase (decrease) in TDK's additional paid-in capital for purchase of SolidGear Corporation's common shares from third parties	3	(4)
Net transfers (to) from noncontrolling interests	(2,811)	(4,079)
Changes arising from net income attributable to TDK and transfers (to) from noncontrolling interests	¥ 38,265	¥ 40,859

12. Other Comprehensive Income (Loss)

The changes in the carrying amount of accumulated other comprehensive income (loss) for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

	Yen (Millions)			
	Foreign currency translation adjustments	Pension liability adjustments	Net unrealized gains (losses) on securities	Total
March 31, 2018	¥ (53,448)	¥ (69,292)	¥ 3,248	¥ (119,492)
Cumulative-effect from adoption of ASU 2016-01	-	-	(3,083)	(3,083)
Equity transaction of consolidated subsidiaries and other	10	-	-	10
Other comprehensive income (loss) before reclassifications	23,379	-	(1)	23,378
Amounts reclassified from accumulated other comprehensive income (loss)	958	2,137	-	3,095
Other comprehensive income (loss)	24,337	2,137	(1)	26,473
Other comprehensive income (loss) attributable to noncontrolling interests	(126)	(1)	-	(127)
September 30, 2018	¥ (28,975)	¥ (67,154)	¥ 164	¥ (95,965)
	Yen (Millions)			
	Foreign currency translation adjustments	Pension liability adjustments	Net unrealized gains (losses) on securities	Total
March 31, 2019	¥ (48,905)	¥ (75,640)	¥ 110	¥ (124,435)
Equity transaction of consolidated subsidiaries and other	(19)	-	-	(19)
Other comprehensive income (loss) before reclassifications	(59,310)	(109)	(33)	(59,452)
Amounts reclassified from accumulated other comprehensive income (loss)	4,971	2,190	(3)	7,158
Other comprehensive income (loss)	(54,339)	2,081	(36)	(52,294)
Other comprehensive income (loss) attributable to noncontrolling interests	(268)	0	-	(268)
September 30, 2019	¥ (102,995)	¥ (73,559)	¥ 74	¥ (176,480)

The reclassifications out of accumulated other comprehensive income (loss) for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

For the six-month ended September 30,	Yen (Millions)		Affected line items in consolidated statements of income
	Amount reclassified from accumulated other comprehensive income (loss) *1		
	2018	2019	
Foreign currency translation:			
	¥ 27	¥ -	Selling and general administrative expense
	(985)	(5,744)	Other - net of other income (deductions)
	-	773	Tax (expense) or Net of tax
	(958)	(4,971)	
Pension liability adjustments:			
	(2,459)	(2,550)	Other - net of other income (deductions)*2
	322	360	Tax (expense) or Net of tax
	(2,137)	(2,190)	
Net unrealized gains (losses) on securities:			
	-	3	Other - net of other income (deductions)
	-	-	Tax (expense) or Net of tax
	-	3	
Total amount reclassified, net of tax	¥ (3,095)	¥ (7,158)	

*1 Amounts in parentheses indicate losses in consolidated statements of income.

*2 This accumulated other comprehensive income (loss) component is included in the computation of net periodic benefit cost for TDK's employee retirement and severance defined benefit plans that is presented in Note 4.

The reclassifications out of accumulated other comprehensive income (loss) for the three-month ended September 30, 2018 and September 30, 2019 are as follows:

For the three-month ended September 30,	Yen (Millions)		Affected line items in consolidated statements of income
	2018	2019	
Foreign currency translation:	¥(985)	¥(5,744)	Other - net of other income (deductions)
	-	773	Tax (expense) or benefit
	<u>(985)</u>	<u>(4,971)</u>	Net of tax
Pension liability adjustments:	(1,233)	(1,198)	Other - net of other income (deductions)*2
	86	124	Tax (expense) or benefit
	<u>(1,147)</u>	<u>(1,074)</u>	Net of tax
Net unrealized gains (losses) on securities:	-	3	Other - net of other income (deductions)
	-	-	Tax (expense) or benefit
	<u>-</u>	<u>3</u>	Net of tax
Total amount reclassified, net of tax	¥(2,132)	¥(6,042)	

*1 Amounts in parentheses indicate losses in consolidated statements of income.

*2 This accumulated other comprehensive income (loss) component is included in the computation of net periodic benefit cost for TDK's employee retirement and severance defined benefit plans that is presented in Note 4.

Tax effects allocated to each component of other comprehensive income (loss) and reclassification adjustments for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

For the six-month ended September 30, 2018	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ 20,967	¥ 2,412	¥ 23,379
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	958	-	958
Net foreign currency translation adjustments	21,925	2,412	24,337
Pension liability adjustments:			
Amount arising during the period	-	-	-
Reclassification adjustments for amortization	2,459	(322)	2,137
Net pension liability adjustments	2,459	(322)	2,137
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	(1)	-	(1)
Reclassification adjustment	-	-	-
Net unrealized gains (losses)	(1)	-	(1)
Other comprehensive income (loss)	¥ 24,383	¥ 2,090	¥ 26,473

For the six-month ended September 30, 2019	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ (60,742)	¥ 1,432	¥ 59,310
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	5,744	(773)	4,971
Net foreign currency translation adjustments	(54,998)	659	(54,339)
Pension liability adjustments:			
Amount arising during the period	(116)	7	(109)
Reclassification adjustments for amortization	2,550	(360)	2,190
Net pension liability adjustments	2,434	(353)	2,081
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	(33)	-	(33)
Reclassification adjustment	(3)	-	(3)
Net unrealized gains (losses)	(36)	-	(36)
Other comprehensive income (loss)	¥ (52,600)	¥ 306	¥ 52,294

Tax effects allocated to each component of other comprehensive income (loss) and reclassification adjustments for the three-month ended September 30, 2018 and September 30, 2019 are as follows:

For the three-month ended September 30, 2018	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ 14,606	¥ 695	¥ 15,301
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	985	-	985
Net foreign currency translation adjustments	15,591	695	16,286
Pension liability adjustments:			
Amount arising during the period	-	-	-
Reclassification adjustments for amortization	1,233	(86)	1,147
Net pension liability adjustments	1,233	(86)	1,147
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	2	-	2
Reclassification adjustment	-	-	-
Net unrealized gains (losses)	2	-	2
Other comprehensive income (loss)	¥ 16,826	¥ 609	¥ 17,435

For the three-month ended September 30, 2019	Yen (Millions)		
	Before tax Amount	Tax (expense) or benefit	Net-of-tax Amount
Foreign currency translation adjustments:			
Gross foreign currency translation adjustments	¥ (22,372)	¥ 1,120	¥ (21,252)
Amount arising during the period from reclassification adjustment realized from liquidation of foreign entities	5,744	(773)	4,971
Net foreign currency translation adjustments	(16,628)	347	(16,281)
Pension liability adjustments:			
Amount arising during the period	-	-	-
Reclassification adjustments for amortization	1,198	(124)	1,074
Net pension liability adjustments	1,198	(124)	1,074
Unrealized gains (losses) on securities:			
Unrealized holding gains (losses) arising during the period	(19)	-	(19)
Reclassification adjustment	(3)	-	(3)
Net unrealized gains (losses)	(22)	-	(22)
Other comprehensive income (loss)	¥ (15,452)	¥ 223	¥ (15,229)

13. Net Income Attributable to TDK per Share

A reconciliation of the numerators and denominators of the basic and diluted net income attributable to TDK per share calculations is as follows:

	Yen (Millions)			
	Six-month ended September 30, 2018		Six-month ended September 30, 2019	
	Basic	Diluted	Basic	Diluted
Net income attributable to TDK	¥ 41,076	¥ 41,076	¥ 44,938	¥ 44,938
	Number of shares (Thousands)			
Weighted average common shares outstanding	126,271	126,271	126,298	126,298
Incremental shares arising from the exercise of stock option	-	326	-	283
Weighted average common shares outstanding – Total	126,271	126,597	126,298	126,581
	Yen			
Per common share:				
Net income attributable to TDK	¥ 325.30	¥ 324.46	¥ 355.81	¥ 355.01
	Yen (Millions)			
	Three-month ended September 30, 2018		Three-month ended September 30, 2019	
	Basic	Diluted	Basic	Diluted
Net income attributable to TDK	¥ 24,879	¥ 24,879	¥ 29,350	¥ 29,350
	Number of shares (Thousands)			
Weighted average common shares outstanding	126,271	126,271	126,306	126,306
Incremental shares arising from the exercise of stock option	-	299	-	275
Weighted average common shares outstanding – Total	126,271	126,570	126,306	126,581
	Yen			
Per common share:				
Net income attributable to TDK	¥ 197.03	¥ 196.56	¥ 232.37	¥ 231.87

The stock options issued by TDK Corporation that are vested when a certain performance condition is achieved were excluded from the diluted per share calculation of net income attributable to TDK for the three-month ended September 30, 2018 and September 30, 2019 as it was not probable that the performance condition would be achieved as of September 30, 2018 and September 30, 2019.

14. Impairment of Long-Lived Assets

For the six-month and the three-month ended September 30, 2018, impairment losses of ¥4,720 million were recorded. For the six-month and the three-month ended September 30, 2019, impairment losses of ¥242 million were recorded. These are the result of a reduction of the carrying value to the fair value because the carrying value of the long-lived assets were determined to be irrecoverable due to reduction in profitability derived from lower demand.

The impairment losses are included in other operating expense (income) in the consolidated statements of income.

For the six-month and three-month ended September 30, 2018, the impairment loss includes ¥9 million for the Passive Components segment and ¥4,711 million for the Magnetic Application Products segment.

For the six-month and three-month ended September 30, 2019, the impairment loss includes ¥8 million for the Passive Components segment, ¥227 million for the Magnetic Application Products segment and ¥7 million for the Other.

15. Sale of Business

On February 3, 2017, TDK transferred its high-frequency devices business to RF360 Holdings Singapore PTE. Ltd. (“RF360”) and its subsidiaries, and subsequently sold 51% of the common shares of RF360 held by TDK Electronics AG, a wholly owned subsidiary of TDK, to Qualcomm Global Trading PTE. Ltd. (“QGT”), which is a 100% indirect ownership subsidiary of Qualcomm Incorporated (“Qualcomm”) based on the business alliance agreement involving establishment of a joint venture concluded with Qualcomm on January 13, 2016. Contingent consideration to be recognized over several years is included in the total consideration amount, of which realized or realizable portion is recognized in other operating expense (income) of consolidated statement of income for the six-month ended September 30, 2019. An option to put and call the remaining common shares of RF360 (49%) after 30 months after the closing date was granted to TDK and QGT, respectively. TDK exercised the option on August 30, 2019 and sold 49% of the common shares on September 16, 2019. The sales price was U.S.\$1.15 billion as stated in the option and the sales did not have a material impact on the consolidated statements of income for the six-month and the three-month ended September 30, 2019.

16. Revenue

TDK disaggregates revenue by industry segment, product and geographic segment based on contracts with customers. The following table presents disaggregation of revenue. In accordance with the redefinition of product portfolio in this period, certain products of Inductive Devices were reclassified into Other Passive Components. The prior year's sales are also reclassified to conform to the new classification.

Detailed information of geographic segment is presented in Note 18.

	Yen (millions)					
	Six-month ended September 30, 2018					
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 8,042	¥ 14,848	¥ 23,551	¥ 28,951	¥ 12,952	¥ 88,344
Inductive Devices	9,865	8,529	23,312	27,843	8,867	78,416
Other Passive Components	5,760	4,297	15,249	24,968	7,788	58,062
Passive Components	23,667	27,674	62,112	81,762	29,607	224,822
Sensor Application Products	7,217	4,103	11,348	13,510	3,299	39,477
Magnetic Application Products	9,563	6,107	4,671	50,893	74,632	145,866
Energy Application Products	10,284	14,643	6,580	233,594	15,247	280,348
Other	5,485	4,351	1,057	18,804	1,730	31,427
Net Sales Total	¥ 56,216	¥ 56,878	¥ 85,768	¥ 398,563	¥ 124,515	¥ 721,940
	Six-month ended September 30, 2019					
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 9,187	¥ 13,889	¥ 19,312	¥ 23,828	¥ 12,706	¥ 78,922
Inductive Devices	9,879	7,436	20,172	24,569	7,755	69,811
Other Passive Components	5,303	4,590	12,807	20,980	7,727	51,407
Passive Components	24,369	25,915	52,291	69,377	28,188	200,140
Sensor Application Products	6,626	4,279	9,582	13,146	5,286	38,919
Magnetic Application Products	8,720	4,086	3,282	22,200	71,706	109,994
Energy Application Products	9,142	13,797	7,092	259,844	28,302	318,177
Other	4,808	1,797	1,467	29,627	2,100	39,799
Net Sales Total	¥ 53,665	¥ 49,874	¥ 73,714	¥ 394,194	¥ 135,582	¥ 707,029

Yen (millions)						
Three-month ended September 30, 2018						
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 4,099	¥ 7,309	¥ 11,278	¥ 14,687	¥ 6,510	¥ 43,883
Inductive Devices	4,902	4,062	11,399	14,626	4,489	39,478
Other Passive Components	2,890	2,222	7,428	12,475	3,724	28,739
Passive Components	11,891	13,593	30,105	41,788	14,723	112,100
Sensor Application Products	3,952	2,138	5,562	6,844	2,112	20,608
Magnetic Application Products	4,519	2,522	2,303	22,420	43,626	75,390
Energy Application Products	4,855	7,967	3,391	129,074	9,474	154,761
Other	2,822	2,300	681	9,531	679	16,013
Net Sales Total	¥ 28,039	¥ 28,520	¥ 42,042	¥ 209,657	¥ 70,614	¥ 378,872
Three-month ended September 30, 2019						
	Japan	Americas	Europe	China	Asia and others	Total
Capacitors	¥ 4,748	¥ 6,915	¥ 9,492	¥ 12,020	¥ 6,468	¥ 39,643
Inductive Devices	4,995	3,854	9,931	12,946	3,936	35,662
Other Passive Components	2,603	2,451	6,391	10,963	4,158	26,566
Passive Components	12,346	13,220	25,814	35,929	14,562	101,871
Sensor Application Products	3,569	2,107	4,780	7,410	2,911	20,777
Magnetic Application Products	4,228	1,804	1,745	10,396	36,292	54,465
Energy Application Products	4,394	6,125	3,430	148,456	11,259	173,664
Other	2,752	824	802	14,003	1,056	19,437
Net Sales Total	¥ 27,289	¥ 24,080	¥ 36,571	¥ 216,194	¥ 66,080	¥ 370,214

TDK sells passive components, sensor application products, magnetic application products and energy application products to global ICT related companies, manufacturers of automobile and automotive components, manufacturers of home electrical appliances and industrial equipment. For those product sales, TDK recognizes revenue when products are transferred to the customers as the customers will gain control over the products and performance obligation is satisfied accordingly.

Transaction price that TDK receives in exchange for products transferred may include variable consideration such as sales discounts, customer privileges, and rebates based on sales volume. Variable consideration is included in the transaction price when uncertainty over the variable consideration is resolved to the extent that a significant reversal in the amount of revenue is not expected. Variable consideration is estimated based on past trend or other elements which are already known as of the transaction date, and is updated on a regular basis.

For products sales based on each contract, TDK recognized the consideration received from customers for which the performance obligation to transfer goods or services has not been satisfied as advance receipt. Amounts of advance received as of March 31, 2019 and September 30, 2019 were ¥910 million and ¥1,289 million, respectively, and included in other current liabilities in the balance sheets. Out of the advance received as of March 31,

2019, ¥728 million was recognized as revenue in the statements for the six-month ended September 30, 2019, and ¥182 million was recognized as revenue in the statements for the three-month ended September 30, 2019. The amounts of revenue recognized from performance obligations for the six-month and the three-month ended September 30, 2019 that had been satisfied in previous periods were not material.

There are no unsatisfied or partially unsatisfied performance obligations as of September 30, 2019. Furthermore, there is no balance of contract assets as of September 30, 2019.

17. Other operating expense (income)

Other operating expense (income) for the six-month ended September 30, 2018 and 2019 are as follows:

	Yen (Millions)	
	Six-month ended September 30, 2018	Six-month ended September 30, 2019
Gain on sale of business (Note 15)	¥ (2,043)	¥ (1,585)
Impairment of long-lived assets (Note14)	4,720	242
Other operating expense (income) total	¥ 2,677	¥ (1,343)

Other operating expense (income) for the three-month ended September 30, 2018 and 2019 are as follows:

	Yen (Millions)	
	Three-month ended September 30, 2018	Three-month ended September 30, 2019
Gain on sale of business (Note 15)	¥ (1,080)	¥ (718)
Impairment of long-lived assets (Note14)	4,720	242
Other operating expense (income) total	¥ 3,640	¥ (476)

18. Segment Information

Business Segment Information

Operating segments are components of TDK for which discrete financial information is available and whose operating results are regularly reviewed by management to make decisions about resources to be allocated to the segment and assess its performance.

Multiple operating segments that have similarities, including type and nature of products, production process, market and so on, are aggregated into the Passive Components segment, the Sensor Application Products segment, the Magnetic Application Products segment and the Energy Application Products segment. Operating segments which are not reportable segments are included in Other.

Principal businesses of each segment are as follows:

Segment	Principal businesses
Passive Components	Ceramic Capacitors, Aluminum Electrolytic Capacitors, Film Capacitors, Inductive Devices (Coils/Ferrite Cores/Transformers), High-Frequency Devices, Piezoelectric Material Products, Circuit Protection Components
Sensor Application Products	Temperature and Pressure Sensors, Magnetic Sensors, MEMS Sensors
Magnetic Application Products	HDD Heads, HDD Suspension Assemblies, Magnets
Energy Application Products	Energy Devices (Rechargeable Batteries), Power Supplies
Other	Mechatronics (Production Equipment), Others

Intersegment transactions in operating segments are based on arm's-length prices.

The business segment information for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

Net sales

	Yen (Millions)	
	Six-month ended September 30,	
	2018	2019
Passive Components:		
External customers	¥ 224,822	¥ 200,140
Intersegment	1,692	1,456
	<u>226,514</u>	<u>201,596</u>
Sensor Application Products:		
External customers	39,477	38,919
Intersegment	40	58
	<u>39,517</u>	<u>38,977</u>
Magnetic Application Products:		
External customers	145,866	109,994
Intersegment	37	3,358
	<u>145,903</u>	<u>113,352</u>
Energy Application Products:		
External customers	280,348	318,177
Intersegment	7	-
	<u>280,355</u>	<u>318,177</u>
Other:		
External customers	31,427	39,799
Intersegment	14,637	13,853
	<u>46,064</u>	<u>53,652</u>
Intersegment eliminations	(16,413)	(18,725)
Total	<u>¥ 721,940</u>	<u>¥ 707,029</u>

Segment profit (loss)

	Yen (Millions)	
	Six-month ended September 30,	
	2018	2019
Passive Components	¥ 30,401	¥ 21,759
Sensor Application Products	(9,504)	(12,549)
Magnetic Application Products	4,407	6,748
Energy Application Products	54,348	68,950
Other	(2,756)	(319)
Sub total	<u>76,896</u>	<u>84,589</u>
Corporate and eliminations	(14,716)	(15,746)
Operating income	<u>62,180</u>	<u>68,843</u>
Other income (deductions), net	(4,381)	(195)
Income before income taxes	<u>¥ 57,799</u>	<u>¥ 68,648</u>

The business segment information for the three-month ended September 30, 2018 and September 30, 2019 are as follows:

Net sales

	Yen (Millions)	
	Three-month ended September 30,	
	2018	2019
Passive Components:		
External customers	¥ 112,100	¥ 101,871
Intersegment	891	692
	<u>112,991</u>	<u>102,563</u>
Sensor Application Products:		
External customers	20,608	20,777
Intersegment	7	43
	<u>20,615</u>	<u>20,820</u>
Magnetic Application Products:		
External customers	75,390	54,465
Intersegment	14	576
	<u>75,404</u>	<u>55,041</u>
Energy Application Products:		
External customers	154,761	173,664
Intersegment	-	-
	<u>154,761</u>	<u>173,664</u>
Other:		
External customers	16,013	19,437
Intersegment	7,826	7,215
	<u>23,839</u>	<u>26,652</u>
Intersegment eliminations	(8,738)	(8,526)
Total	<u>¥ 378,872</u>	<u>¥ 370,214</u>

Segment profit (loss)

	Yen (Millions)	
	Three-month ended September 30,	
	2018	2019
Passive Components	¥ 16,379	¥ 11,420
Sensor Application Products	(4,563)	(5,528)
Magnetic Application Products	939	3,450
Energy Application Products	33,323	42,481
Other	(1,716)	(634)
Sub total	<u>44,362</u>	<u>51,189</u>
Corporate and eliminations	(7,602)	(7,326)
Operating income	<u>36,760</u>	<u>43,863</u>
Other income (deductions), net	(2,696)	82
Income before income taxes	<u>¥ 34,064</u>	<u>¥ 43,945</u>

Segment profit (loss) consists of net sales less cost of sales, selling, general and administrative expenses and other operating expense (income) except for those attribute to Corporate.

Corporate mainly includes expenses associated with head office functions that are not allocated to operating segments.

Geographic Segment Information

The geographic segment information for the six-month ended September 30, 2018 and September 30, 2019 are as follows:

Net sales

	Yen (Millions)	
	Six-month ended September 30,	
	2018	2019
Japan	¥ 56,216	¥ 53,665
Americas	56,878	49,874
Europe	85,768	73,714
China	398,563	394,194
Asia and others	124,515	135,582
Total	¥ 721,940	¥ 707,029

The geographic segment information for the three-month ended September 30, 2018 and September 30, 2019 are as follows:

Net sales

	Yen (Millions)	
	Three-month ended September 30,	
	2018	2019
Japan	¥ 28,039	¥ 27,289
Americas	28,520	24,080
Europe	42,042	36,571
China	209,657	216,194
Asia and others	70,614	66,080
Total	¥ 378,872	¥ 370,214

Net sales are based on the location of the customers.

Major countries in each geographic area:

- (1) Americas United States of America
- (2) Europe Germany
- (3) Asia and others Philippines, Thailand, Vietnam, Korea