

#### Change in product classification

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#### Up to the fiscal year ended in March 2015

Product Classification	Main Products				
Capacitors	Multilayer ceramic capacitors				
Ferrite and applied products	Wire-wound inductors, Multilayer chip inductors				
Integrated modules & devices	FBAR/SAW device for mobile communications, Circuit modules (for power supply, high frequency), Embedded-parts multilayer wiring substrates				
Other electronic components	Energy devices, Varistors				
Optical media products	CD-R, DVD-R, BD-R				
Others	Mounting of print circuit boards done at a subsidiary company and others				

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Others	Energy devices, CD-R, DVD-R, BD-R, and others					

The Capacitors segment is the Group's core operation, develops high-value-added capacitors, with a focus on super high-end and high-reliability products for a wide variety of electronic devices.

#### **Business Performance in the Year Ended March 2015**

**Capacitors** 

**Review of** 

Operations

Net sales at the segment rose 8.3% year on year to ¥112,903 million supported by rising sales for consumer products, information equipment, communications equipment, automotive electronics, and industrial equipment.

#### **Key Initiatives in the Year Ended March 2015**

For multilayer ceramic capacitors, the Group is a leader in advancing dielectric materials technologies, thin-film and high-capacitance technologies, production technologies for ultra-small capacitors, and it established stable massproduction technology for dielectric layers at submicron levels of thinness (less than a micron).

Moreover, the Group has developed multilayering technology capable of over 1,000 layers and achieved massproduction of EIA 1812 size capacitors (4.5 mm × 3.2 mm) with 470  $\mu$ F capacitance as replacement products for the electrolytic capacitor market. In applications for smartphones and other growth device markets, it mass produces leading-edge capacitors of various sizes and capacitance, including EIA 01005 size capacitors (0.4 mm × 0.2 mm) with 0.22  $\mu$ F capacitance, EIA 0201 size (0.6 mm × 0.3 mm) with 2.2  $\mu$ F, EIA 0402 size (1.0 mm × 0.5 mm) with 22  $\mu$ F, and EIA 0603 size (1.6 mm × 0.8 mm) capacitors with 47  $\mu$ F.

With a focus on ultra-miniaturization and ultra-low-profile capacitors, we commenced mass production of 008004 size

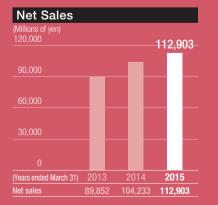
capacitors (0.25 mm  $\times$  0.125 mm), EIA 0201 size at 0.15 mm thinness, and EIA 0402 size at 0.11 mm thinness.

#### **Future Initiatives**

The Capacitors segment seeks to strengthen its lineup of ultra-small and ultra-low-profile multilayer ceramic capacitors and cutting-edge super high-end products for growth device markets such as smartphones.

It is also bolstering its lineup of high-quality, high-reliability products for focus markets such as automobile electronics, industrial equipment, healthcare, and environmental and energy. In the 100  $\mu$ F-plus high-capacitance zone, we will continue aggressively pushing out replacements for electrolytic capacitors to drive further growth for multilayer ceramic capacitors.

The production structure, soon to be augmented by the construction of a new plant at NIIGATA TAIYO YUDEN CO., LTD., will make the most of TAIYO YUDEN's overseas bases while stepping up the ongoing overseas expansion of highend products produced in Japan. In addition, the necessary investments will be made to enhance production efficiency with the aim of achieving high production efficiency across all production sites in Japan and overseas. We are working to reconfigure the production structure to meet rising demand for smartphones and other growth devices and in focus markets such as automotive electronics.



#### Main Products

Multilayer ceramic capacitors



008004 size (0.25 mm × 0.125 mm) ultra-small multilayer ceramic capacitors



EIA 0402 size (1.0 mm  $\times$  0.5 mm) low-profile multilayer ceramic capacitors with 0.11 mm thickness



EIA 1812 size (4.5 mm  $\times$  3.2 mm) small high-capacitance multilayer ceramic capacitors with 470  $\mu$ F capacitance

**Review of** Operations Ferrite and Applied Products

# The Ferrite and Applied Products segment focuses on developing the MCOIL<sup>™</sup> line of metal power inductors and high frequency inductors.

#### **Business Performance in the Year Ended March 2015**

Net sales at the segment rose 20.4% year on year to ¥41,834 million on sales growth for products for information, communications, automobiles, and industrial equipment while sales declined for consumer products.

#### Key Initiatives in the Year Ended March 2015

In multilayer chip inductors, we are reinforcing our lineup of MCOIL<sup>TM</sup> metal power inductors used in DC-DC converters for smartphones and other devices. In EIA 0603 size (1.6 mm  $\times$  0.8 mm) and EIA 0805 size (2.0 mm  $\times$  1.25 mm) inductors, mass production commenced of inductors with double the rated current of previous models and ultra-thin low-profile inductors at a thinness of 0.6 mm.

In high-frequency multilayer inductors for mobile device high-frequency circuits, the business started massproduction of EIA 0201 size (0.6 mm × 0.3 mm) and EIA 01005 size (0.4 mm × 0.2 mm) inductors with enhanced Q-values, while continuing to improve inductance values. We are also developing our EIA 0202 size (0.65 mm × 0.55 mm) small common-mode choke coils for noise suppression components in smartphones.

For our lineup of wire-wound inductors, we worked to

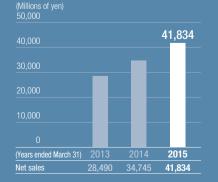
expand our MCOIL<sup>TM</sup> to lineup as well as to develop and commercialize the MA series of high-spec inductors for compact, larger rated current needs. In pace with the trend for low inductance products, we also improved and broadened our offerings of 1  $\mu$ H and under products.

#### **Future Initiatives**

We will accelerate development of super high-end products in line with customer needs for multilayer chip and wirewound inductors. In power inductors, the business will strengthen its lineup of MCOIL<sup>™</sup> products based on metallic materials that are more compact with higher rated currents, introduce uses for strategic markets, and expand production capacity. It will also enhance its lineups of high frequency, multilayer high-Q chip inductors and ultra-small multilayer chip inductors.

The production system will put overseas production bases to full use while working to achieve high production efficiency across all production sites in Japan and overseas. We are also working to reconfigure our production structure to meet rising demand for smartphones and other growth devices and in target markets such as automobile electronics.

### Net Sales



#### Main Products

MCOIL<sup>™</sup> metal power inductors, wire-wound inductors, multilayer chip inductors, and many other types of inductors



MCOIL<sup>™</sup> metal power inductors



High-Q multilayer chip inductors for high frequency applications



Ultra-small multilayer chip inductors

Integrated Modules & Devices

# At the Integrated Modules & Devices segment demand for our communication devices is growing on the spread of smartphones and other mobile communications tools and faster data transmission speeds.

#### **Business Performance in the Year Ended March 2015**

**Review of** 

Operations

Net sales at the segment increased 16.8% year on year to ¥49,510 million on higher sales of FBAR/SAW devices for mobile communications even as sales declined for power supply and high-frequency modules.

#### **Key Initiatives in the Year Ended March 2015**

In devices for mobile communications, core components for smartphone, products with SAW and LTCC as their core technologies were developed. As a response to rapid growth in use of long-term evolution (LTE) protocols, the business developed and marketed applications for compact, low energy-consumption filter devices and front-end modules with matching circuits. Developing products using FBAR technologies was also a focus.

In mixed-function modules, it progressed with the construction of power supply modules and mixed-function modules meeting strong demand for modules that are energy saving, smaller, and thinner, introducing many differentiated products. In particular, EOMIN<sup>™</sup>, an in-house developed embedded-parts wiring board, contributed substantially to making smaller and thinner camera modules for smartphones.

In wireless communication modules, compact, low-profile modules for the growing near field wireless communication

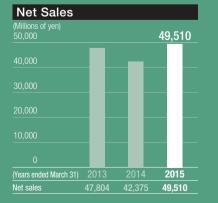
market along with various products, such as in-house developed modules with built-in antennas, meeting a wide range of needs were developed. Efforts were particularly focused on developing combination modules integrating Bluetooth<sup>®</sup>, wireless LAN, and other differing wireless communications standards into a unified module for rollout as products.

Moreover, to devise marketable solutions for new communication markets such as the digital consumer electronics and healthcare fields, modules with software support were developed and packaged into products.

#### **Future Initiatives**

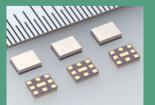
Among the initiatives we are moving forward with are a high-frequency module business centered on FBAR/SAW technologies, active rollout of super high-end products using EOMIN<sup>™</sup>, an embedded-parts wiring board born of the Group's original technology, and reinforcement of the power supply business with products for the energy market such as energy regeneration systems.

In FBAR/SAW devices for mobile communications, we are working to construct a production system that keeps pace with the rising built-in component count that has accompanied the spread of LTE, the main next-generation protocol.



#### Main Products

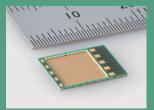
FBAR/SAW devices for mobile communications, power supply modules, high frequency modules and embedded-parts multilayer wiring substrate EOMIN<sup>™</sup>



FBAR/SAW devices for mobile communications



High frequency modules



Embedded-parts multilayer wiring substrate EOMIN™

# **Other Electronic Components**



The Other Electronic Components segment develops lithium-ion capacitors, polyacene capacitors, and other electronic components.

#### **Business Performance in the Year Ended March 2015**

Net sales at the segment declined 19.0% year on year to  $\pm$ 4,278 million.

#### **Key Initiatives in the Year Ended March 2015**

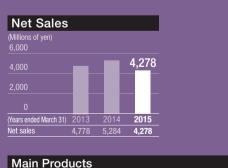
The segment expanded production of cylinder-type lithium-ion capacitors with electric double-layer capacitor and lithium-ion battery characteristics for the high reliability product market and continued its sampling activities for large lithium-ion capacitors. Sales of cylinder-type polyacene capacitors also increased.

#### **Future Initiatives**

The segment is developing product applications for advanced technology fields and expanding sales in the energy field. For large lithium-ion capacitors, marketing activities aimed mainly at the high reliability product market will also continue.

The capital and business alliance with ELNA Co., Ltd., which started in November 2014 and spans joint efforts in development, production, and materials procurement, will proceed as we work to improve our competitiveness and expand our businesses.

\* Energy devices will be categorized in the "Others" product classification beginning in the fiscal year ending in March 2016.



#### Wall Flouder

Energy devices





Cylinder type lithium ion capacitors

Thin-type polyacene capacitors

The Optical Media Products segment develops and produces optical media. The Others segment primarily comprises the mounting business of a subsidiary company.

#### Optical Media Products

## **Business Performance in the Year Ended March 2015**

Net sales at the segment declined 9.6% year on year to \$12,859 million.

#### **Future Initiatives**

Despite significant efforts to improve the profitability of this business, the Company has determined the greater-thananticipated market contraction, steep rises in raw material prices, and other factors will make it virtually impossible to achieve further improvement. As such, it has decided to completely withdraw from the optical media products business as of the end of December 2015.

\* Optical media products will be categorized in the "Others" product classification beginning in the fiscal year ending in March 2016.

#### Others

**Business Performance in the Year Ended March 2015** 

Net sales at the segment declined 22.3% year on year to ¥5,708 million.

\* The mounting business of a subsidiary will be categorized in the Integrated Modules & Devices product classification beginning in the fiscal year ending in March 2016.

♦ Optical Media Products			♦ Others				
Net Sales				Net Sales			
(Millions of yen) 20,000				(Millions of yen) 8,000			
		1	2,859				5,708
			2,005				
(Years ended March 31)	2013	2014	2015	(Years ended March 31)	2013	2014	2015
Net sales			12,859	Net sales		7,349	5,708
Main Prod	ucts						

CD-R, DVD-R, BD-R



DVD-R, BD-R, CD-R