

# Electronic Components Capacitors



#### Net sales



#### **Business Overview**

The TAIYO YUDEN Group has been developing and producing capacitors since the Company's founding. The Capacitors Business is currently the Group's core operation, generating roughly half of the total consolidated net sales. This segment is actively developing super high-end products and other high-quality products for a wide variety of electronic devices.

#### **Business Performance in the** Year Ended March 2014

Net sales rose 16.0% year over year to ¥104,233 million supported by across the broad growth in all product categories compared with the previous year.

#### Key Initiatives in the Year Ended March 2014

The Group continued developing dielectric materials technology, thinfilm and high capacity technology, production technology for ultra-small capacitors, and other technologies to further enhance the performance of its multilayer ceramic capacitors. The Group also advanced the development of multi-layering technology capable of over 1,000 layers and successfully realized mass production of EIA1210size (3.2 mm x 2.5 mm) units with 330 µF capacitance as a possible substitute of electrolytic capacitors widespread in the market. These advances also enabled the Group to begin mass production of EIA01005 (0.4 mm  $\times$  0.2 mm) capacitors with 0.22  $\mu$ F capacitance, EIA0201 (0.6 mm × 0.3 mm) capacitors with 2.2 µF, EIA0402 (1.0 mm  $\times$  0.5 mm) with 22  $\mu$ F, and EIA0603 (1.6 mm × 0.8 mm) capacitors with 47 µF. Mass production is also being readied for ultra-small EIA008004  $(0.25 \text{ mm} \times 0.125 \text{ mm})$  capacitors and was started for low-profile 0.15 mm thick EIA0201 capacitors and 0.11 mm thick EIA0402 capacitors.

#### **Initiatives Ahead**

The TAIYO YUDEN Group will sustain its market leading position in ultra-small and ultra-low profile multilayer ceramic capacitors, providing all sizes of cutting-edge super high-end products to create a framework for expansion that is in tandem with demand for smartphones, tablet devices, and other growing product categories.

The Group will also strengthen its lineup of high quality, high reliability products for the automotive electronics, industrial equipment, medical and healthcare, environmental and energy target markets. In the high capacitance zone of 100 µF and higher, we are aggressively developing our position in the electrolytic capacitor market to stimulate market growth for multilayer ceramic capacitors. The production structure will be strengthened by accelerating the shift of production of high-end products from Japan to our existing overseas production facilities while maximizing the overseas base use and taking steps to achieve high production efficiency at all production bases worldwide.

#### Main Products

#### Multilayer ceramic capacitors



EIA008004 (0.25 mm x 0.125 mm) ultra-small multilayer ceramic capacitors



EIA1210 (3.2 mm x 2.5 mm) small high-capacitance multilayer ceramic capacitors with 330  $\mu F$  capacitance



EIA0402 (1.0 mm x 0.5 mm) low-profile multilayer ceramic capacitors with 0.11 mm thickness

# Electronic Components Ferrite and Applied Products



#### Net sales



#### **Business Overview**

The Ferrite and Applied Products segment develops products used in power circuits and high frequency circuits with a primary focus on products using ferrite materials and the MCOIL<sup>™</sup> metal power inductors using metallic magnetic materials.

## **Business Performance in the** Year Ended March 2014

Net sales increased 22.0% year over year to ¥34,745 million as sales growth of products for tablets and other information equipment, for smartphones and other communications equipment, and for automotive and industrial equipment, which more than offset a decline in product sales for TVs and other consumer products.

#### Key Initiatives in the Year Ended March 2014

In multilayer chip inductors, the Group reinforced its lineup of multilayer MCOIL<sup>™</sup> metal power inductors for use in smartphone and tablet devices amid the expanding markets and began preparations for mass production of EIA0805 (2.0 mm × 1.25 mm) inductors. We continued improving the inductance properties of our high-frequency multilayer inductors for mobile devices, including massproducing the industry's highestlevel EIA0201 (0.6 mm x 0.3 mm) and EIA01005 (0.4 mm x 0.2 mm) inductors with enhanced Q factor. We also commercialized EIA0202 (0.65

mm × 0.55 mm) small common-mode choke coils for noise suppression components in smartphones.

We expanded our lineup of wirewound chip inductors with wire-wound MCOIL<sup>TM</sup> inductors with low inductance of 1  $\mu$ H or lower and high inductance up to 10  $\mu$ H. The addition of EIA0603 (1.6 mm × 0.8 mm) and EIA0805 products expanded this product offering to 14 different inductor sizes.

#### **Initiatives Ahead**

The Group will accelerate development of super high-end products to better meet customer needs. We are particularly focusing on power inductors, where we will enhance the lineup of MCOIL<sup>™</sup> products, advancing strategic market introductions and expanding production capacity. We are also preparing to add EIA01005size products to the lineup of high frequency, high-Q multilayer chip inductors and ultra-small multilayer chip inductors. As with the capacitors production and similar to capacitor operations, we will maximize the use of and enhance production efficiency at overseas bases.

#### Main Products

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



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



High-Q multilayer chip inductors for high frequency applications



Ultra-small multilayer chip inductors

# Electronic Components Integrated Modules & Devices



## **Business Overview**

The Integrated Modules & Devices segment handles communications devices, power modules, and other equipment with our high reliability electronic components to meet the specific needs of various markets.

## **Business Performance in the** Year Ended March 2014

Segment net sales decreased 11.4% year over year to ¥42,375 million due to year-over-year declines in sales of SAW/FBAR devices for mobile communications and power supply modules.

## Key Initiatives in the Year Ended March 2014

During the term, the Group developed products centered on SAW technology, which is used as the fundamental mobile communications devices in smartphones. We also developed and submitted product proposals for products including miniaturized, low energy-consumption filter devices for long-term evolution, or LTE, transmission method that has been gaining usage in recent years, and front-end modules with matching circuits. In addition, a key focus remains on the development of products using FBAR technology to provide solutions for devices with higher functionality.

In mixed-function modules, EOMIN™, an embedded-parts multilayer wiring

substrate, contributed substantially to making smaller and thinner camera modules for smartphones.

In wireless communication modules, we concentrated on developing and commercializing combination modules with universal compatibility with Bluetooth<sup>®</sup>, wireless LAN, and other communications standards.

#### **Initiatives Ahead**

The Group is developing a high frequency module business centered on SAW/FBAR technology, aggressively introducing super highend products using the Group's original embedded-parts multilayer wiring substrate EOMIN<sup>™</sup> technology, and strengthening the power supply business with recovery systems and other products for the energy market. We will also construct production systems for mobile communications devices to keep pace with the rising number of built-in components accompanying broadening use of the next-generation LTE transmission method.

#### Net sales



Main Products

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







Wireless modules



Embedded-parts multilayer wiring substrate EOMIN™

# Electronic Components Other Electronic Components



#### **Business Overview**

The Other Electronic Components segment develops polyacene capacitors and lithium ion capacitors used for peak current assistance and backup up power supply in electronic devices.

## Business Performance in the Year Ended March 2014

Segment net sales increased 10.6% year over year to ¥5,284 million.

# Key Initiatives in the Year Ended March 2014

The Group expanded production of cylinder-type lithium ion capacitors that take advantage of both the characteristics of electric double-layer capacitors and lithium ion batteries to provide the high reliability functionality required by the industrial equipment and other markets. We also proceeded and proposed products for large lithium ion capacitors and continued marketing focus on cylinder-type polyacene capacitors.

#### **Initiatives Ahead**

The Group will develop product applications in advanced technology fields and expand sales in the energy field. We are enhancing our product offerings for applications in the smart meter and storage server backup power supply markets, which are expected to expand in the future, and advancing marketing activities for large lithium ion capacitors in markets for equipment requiring high reliability functionality.

#### Net sales



# Main Products

Energy devices



Cylinder type lithium ion capacitors



Thin-type polyacene capacitors

# Optical Media and Others Optical Media Products



Review of Operations Optical Media and Others Others

# Net sales



#### **Business Overview**

After successfully developing the world's first CD-R in 1988, the Group has continued developing and producing CD-Rs, DVD-Rs and BD-Rs. The Optical Media Products segment's current main target is the market for information archiving (long-term storage of digital data).

## Business Performance in the Year Ended March 2014

Net sales declined 7.7% year over year to ¥14,232 million.

# Key Initiatives in the Year Ended March 2014

The Group continued development of high-quality CD-R, DVD-R, and BD-R format products and next-generation high-density archiving media in line with the growing demand for optical recording

#### Main Products





DVD-R, BD-R, CD-R

# **Business Overview**

The Other segment is primarily comprised of a subsidiary's printed circuit board design and mounting business.

Business Performance in the Year Ended March 2014 Net sales increased 11.9% year over year to ¥7,349 million.

#### media for archiving applications.

#### **Initiatives Ahead**

The Group will continue transforming its business model with the aim of establishing steady and positive earnings. We will also seek to create and cultivate markets for archiving applications by proposing system solutions highlighting TAIYO YUDEN's strength and reputation in the market for high quality products.