Electronic components that bring *Innovation* into equipment

By downsizing electronic equipment and adding new functions, electronic components transform equipment from within.

Communications

Mobile phones link you with your future, your security

—With Murata, connection takes up a brand new meaning—

Mobile phones are presently in use all around the world. Higher speed, higher capacity communication services are constantly being introduced and the trend for even more multifunctional and even smarter products is accelerating. Small, highly functional, high frequency parts and sensors, along with functional modules, contribute to their evolution and diffusion.

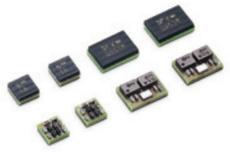
Key Murata products used in mobile phones

Monolithic Ceramic Capacitor

The world's smallest 0402-size micro-capacitors help reduce the size and thickness of smartphones. These high capacity parts also support the stable operation of smartphone APUs and provide even greater efficiency than conventional mobile phones.

SAW Filter and Duplexer

SAW filters and duplexers, which separate the necessary signal from all radio frequency signals, are key devices in radio frequency circuits. With its unique miniaturization technology, Murata helps RF circuit downsizing.



SWITCHPLEXER®

SWITCHPLEXER® is used for noise filtering and switching between reception and transmission. Murata's innovative multilayer module technology allows the achievement of compact size and high reliability.

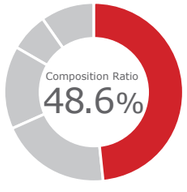
Connectivity Module

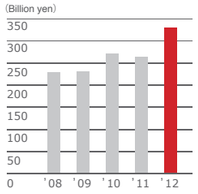
Enabling mobile phones to access the Internet via wireless LAN, these modules lead the trend towards increasing multifunctionality in those phones.

The spread of sophisticated mobile phones drives the growth of Murata components.

Mobile phones account for the largest portion of the demand for Murata's electronic components. In addition to the rapid increase in the number of units in use, the spread of such sophisticated models as LTE terminals and smartphones is advancing and there has been a sharp rise in the number of components used in handsets, such as capacitors, SAW filters and connectivity modules, allowing us to expect continued and rapid market growth in the future.

■ Net sales share and net sales for the communication market





Figures estimated by Murata

Computers

Ubiquitous computing in the true sense

—Murata makes things "simple" with not-so-simple technologies—

Easy to carry and simple to connect, highly mobile PCs and tablet computers are drawing attention with the spread of high-speed wireless communications and cloud computing services. Murata is supporting new-age computing by downsizing electronic components, enabling them to accommodate higher-frequency signals, reducing power consumption to make them more battery-friendly, and offering sensors and other products that deliver high reliability and operating comfort.

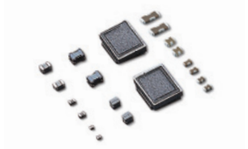
Key Murata products used in computers

Shock Sensor

In addition to their role in protecting hard disks from impact, these sensors contribute to higher density and greater capacity by returning vibration to the magnetic head control as an electrical signal.

Monolithic Ceramic Capacitor and Low-ESL Capacitor

These capacitors stabilize the power supply circuit to MPU, helping reduce size and thickness of mobile PCs.



EMI filter (Chip EMIFIL®)

With the spread of mobile devices like smartphones that offer multiple digital functions in a single package, internal anti-noise measures have become even more important. These small noise suppression parts can be used in a variety of applications to solve noise issues.

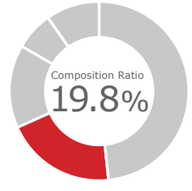
Connectivity Module

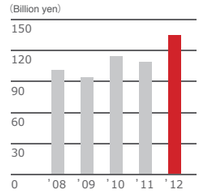
Enabling tablet computers to access the Internet via wireless LAN, these modules lead the trend towards increasing multifunctionality in tablet PCs.

Mobile computing now in a new phase of growth.

Market demand for capacitors and noise suppression parts is growing in line with the performance gains in onboard CPUs. Murata also commands an overwhelming share in the shock sensor market for hard disk drives. As more and more tablet PCs that contain wireless communication functions become available, Murata can also expect further growth in its strongholds, i.e., high-frequency products and functional modules.

■ Net sales share and net sales for the computers and peripherals market





Figures estimated by Murata

Automotive Electronics

Automotive technology is going through transformation for our Earth and people

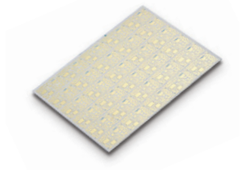
—Thus, Murata's missions abound...—

In pursuit of people- and environment-friendly performance,
cars are being increasingly computerized and electrified.
Maximizing the heat resistance of ceramics, Murata's highly reliable electronic components demonstrate their worth even under difficult conditions, and our MEMS sensors are used for safer, more reliable cars.

Key Murata products used in automobiles

MEMS Accelerometer

Developed through micro electro mechanical (MEMS) technology, these sensors can measure gravity, vibration, motion, and shock, and can be used in various automotive applications such as Electronic Stability Control (ESC) and Anti-lock Brake Systems (ABS).



LTCC Multilayer Substrate

This low-temperature co-fired ceramic substrate contributes greatly to improving automotive performance, such as with miniaturized and more reliable power train control ECUs, improving safety with radar modules, and improving mileage through the adoption of idling stop systems.

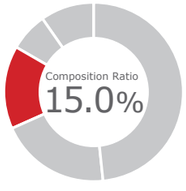
Metal terminal type monolithic ceramic capacitor

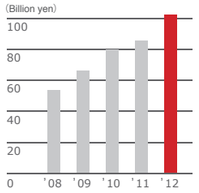
These high reliability capacitors employ metal terminals that absorb vibration and stress to prevent cracks in the ceramic. Also effective in noise countermeasures, they play an active role in the world of automotive electronics.

Murata enjoys a growing demand for various electronic components that ensure environmental friendliness, safety, and comfort in cars.

As environmentally friendly cars go mainstream, automobiles are fitted with more electronics, causing a rapid growth in demand for capacitors and other electronic components from Murata. Various sensors used for safety equipment as well as Bluetooth® modules are also successful. We expect to continue to achieve high growth in the sales of components for automobile applications.

■ Net sales share and net sales for the automotive electronics market





Figures estimated by Murata

Audio and Visual / Home Appliances

At home, there's your family, and then there's Murata...

—Smart and economical; the epitome of stylish —

The television remembers your favorite program. The air-conditioner cools only those areas with people in them. Murata's sensors and high conversion efficiency power supply modules support a new "smart" and "eco" lifestyle.

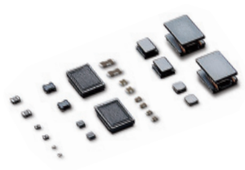
Key Murata products used in audio-visual equipment and home appliances

Ionizer (Ionissimo®)

Ion generators provide anti-mold, anti-virus, air cleansing and skin-moisturizing effects. We can now propose a new aspect to our lifestyle, the control of air quality.

Electrical Double Layer Capacitor

Making peak load reduction in mobile equipment batteries and compact power supplies possible, these capacitors are characterized by their small size, low profile, and low resistance, thus contributing to even smaller devices.



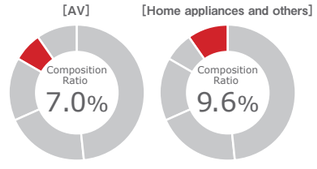
EMI filter (Chip EMIFIL®)

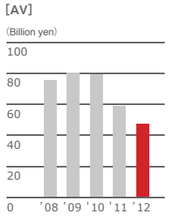
Digitization of audio-visual equipment is advancing and the high-speed clock signal that flows inside those devices may sometimes have a negative influence as electromagnetic noise. EMI filters prevent such malfunctions caused by noise and other factors, and simultaneously contribute to the high definition and high-quality sound in audio-visual equipment.

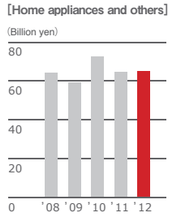
Flat-screen TV sets represent a core market for Murata.

In addition to larger screens and higher definition, functions that link with peripheral devices and the fusion of communications services result in televisions not only being something to watch and enjoy, but such innovation is turning them into vital information terminals. Flat-screen TVs are thus driving the demand for Murata components like capacitors and inductors.

■ Sales distribution ratio and net sales for the audio-visual, home appliance, and other markets







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