



## What Murata creates



Founder  
Akira Murata

### Murata Philosophy

**We contribute to the advancement of society by enhancing technologies and skills applying scientific approach creating innovative products and solutions being trustworthy and, together with all our stakeholders, thankful for the increase in prosperity.**

### Murata Philosophy - The joy and pride of contributing to society

In 1954, ten years after the foundation of the company, founder Akira Murata decided that the company needed a clear direction in order to survive, grow and evolve amid crisis and established the basic management philosophy as the behavior guidelines for employees.

The Murata Philosophy reflects the company's mission to contribute to cultural development, its attitude to pursue innovative manufacturing and the underpinning significance of scientific management, as well as Akira's management ideology that he gained through his work experience, which includes importance of trust and gratitude.

At Murata, all employee share and cherish the passion embodied in the Murata Philosophy and engage in day-to-day business.

### The origin of the foundation – taking on the challenge of innovative manufacturing

Akira Murata suggested to his father, who was making and selling insulators, that they should expand their customer base. His father was usually calm but became furious and opposed. "Getting more orders means stealing customers from others. They will be in trouble and we will have to cut our prices. Never do it." He said. His angry face was stuck in Akira's mind and he was not able to forget it.

The Murata Philosophy states, "creating innovative products and solutions." It implies that the company not only competes on price but also carries out business through unique innovation. That's the management ideology that Akira developed from his father and his own experience.



Production of titanium-dioxide ceramic capacitors



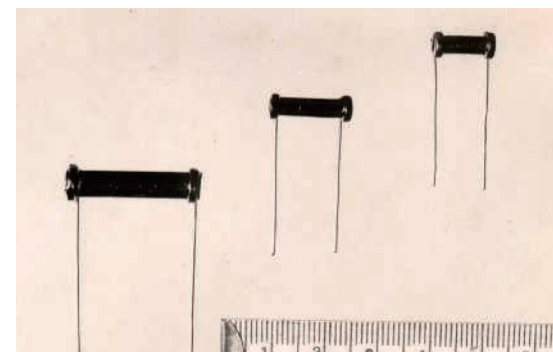
The head office and plant in Hinooka, Yamashina, Higashiyama-ku, Kyoto City. (May 1952)

### Management by complete scientific approach

When the company was founded (around 1944), it was a common practice to give a quote based on intuition. However, founder Akira Murata gathered necessary information to provide quotes by generating reports in which employees were asked to fill in the product name, process, time required and the volume created. He stood next to them, looking at his watch and measuring the time one by one. Because it was so unusual at that time and no other competitor was doing it, employees were not happy. He weighed products with a small scale, checked how many products would fit in a case, how deep the case should be, and how much it would cost to produce.

The Murata Philosophy also states, "applying scientific approach." This means that in order to create innovative products, it is necessary to analyze scientifically, calculate thoroughly without omission, identify each problem and investigate the cause and operate the business scientifically. These are principles Akira learned from the challenges he experienced while working on special ceramics and practical application of titanium-dioxide ceramic capacitors.

"Applying scientific approach" also means systematizing the business. At Murata, technology development, human resources, accounting and medium- to long-term management plans are all managed on the same platform, and regardless of the department or product, everything is managed based on the same principles.



Titanium-dioxide ceramic capacitors

### The Murata Philosophy and the pioneering spirit "Innovator in Electronics" that have been inherited

Founder Akira Murata stated in 1961, "Gratitude and the pioneering spirit have enabled Murata to overcome all kinds of hardship, and that has been the foundation of its rapid growth." He also told employees, "To innovate is to pioneer. We must always proactively drive things forward with a pioneering spirit. And in doing so, we must implement the Murata Philosophy, the basic principles of the company. The meaning of the company's existence lies in realization of the Murata Philosophy." He emphasized the importance of the Murata Philosophy and the pioneering spirit.

The Murata Philosophy and the pioneering spirit have been inherited from the founder. In 1994, the 50th anniversary of the company's foundation, the second president Yasutaka Murata employed the slogan "Innovator in Electronics" reflecting the company's aim to become a leading innovator in the electronics industry. The Murata Philosophy and the slogan have been the foundation of where we are today and enable us to bring passion to achieve our vision.

Today, in accordance with changes in the world, changes in social values for the company's social responsibilities, and changes in the influence Murata has on society in line with business growth, the company is expected more than ever to operate business in harmony with society. In order to realize a sustainable society, the company is required to contribute to resolving various social issues including environmental issues, human rights and health. Murata is committed to tackling these issues through the business and contributing to the realization of a sustainable society.

The Murata Philosophy and the pioneering spirit "Innovator in Electronics" embodies the company's aim to not only become the leading innovator but also work toward a better environment and society, creating values through the innovative development of electronics. The company has contributed to cultural development through the provision of innovative products to the telecommunication market and the automotive market under the Murata Philosophy and the slogan. We will continue to operate business from a broader perspective in view of changes in society and contribute to cultural development through management based on unique innovation and a scientific approach.

What Murata creates

Murata’s value creation driven by the inherited pioneering spirit

Contributed to creating market for automatic thermostat.  
PTC thermistors “POSISTOR”

PTC thermistors used for current-limiting elements is the semiconductor ceramics that Murata Technology Research Laboratory Co. (at that time) succeeded in productizing for the first time in the world. Back then, there were neither competitors nor a market. After consideration, the company filed a patent application for a thermostat with heating function, temperature sensor and power controller. The company started selling the product under the name “POSISTOR” in 1959. Since then, the use of POSISTOR has been extended. It has been applied in electric footwarmers, electric rice-cookers, futon dryers as well as degaussing circuits of color CRT TV, creating new markets. It was selected as one of the “Ten Biggest Inventions” in 1962 by *The Nikkan Kogyo Shimbun* newspaper.

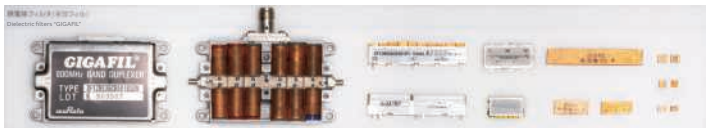


PTC thermistors “POSISTOR”

The miniaturization of the product greatly contributed to the spread of mobile communication.  
Dielectric filters “GIGAFIL”

The “GIGAFIL” dielectric filters were developed by combining microwave dielectric material and evaluation technology with filter design technology and was applied in car phones in Japan in 1979 and in the U.S. in 1982. It reduced the size of car phones, which used to be the size of a trunk, to one-eighth. Its miniaturizing technology greatly contributed to the spread of mobile communication.

By the 2000’s, integration enabled further downsizing and weight saving. The know-how including basic technologies and production technologies gained in the process has been applied to the development of other high-frequency products and modules.



“GIGAFIL” dielectric filters

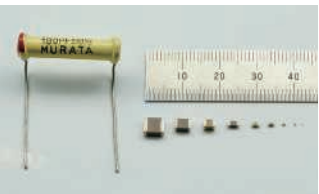
Contributed to miniaturization and increased functionality of electronic components, supporting evolution of all kinds of electronics.  
Multilayer ceramic capacitors (MLCC)

Multilayer ceramic capacitors (MLCC) enabled miniaturization and increased functionality of all kinds of electronics that are essential for daily life, including smartphones and automobiles. Specifically, by pursuing both miniaturization and increased capacity (increased functionality) of MLCC, the space required for MLCC as well as the number of MLCC required in electronic devices have been minimized, thereby contributing to the miniaturization of electronic devices. Miniaturization and weight reduction of smartphones were made possible by super small multilayer ceramic capacitors, and the portability of mobile phones has significantly improved since the time of release.

The growth of Murata from past to present has been driven by the development of MLCC which started around 1963, as per the instructions from Akira Murata, who came back from visiting the U.S. The demand for MLCC increased dramatically around

1970, since it was mounted on small portable radios and it has become the major product of Murata through in-house development of the materials and the production facilities, and innovation. Since then, the capacity of MLCC has been increased and the size has been reduced from 9.5 × 6.3mm, 0.68μF to “0201 (0.25 × 0.125mm),” which Murata achieved in 2012 for the first time in the world.

Murata has built an integrated system of manufacturing from raw materials of MLCC to finished products, as well as a global sales and supply system. Murata will continue to contribute to the electronics society by responding to the rapidly increasing demand.



Size comparison of a cylindrical capacitor at the time of the company foundation and multilayer ceramic capacitors

History of Murata

