

## Multilayer varistors

### High surge current capability in a very compact design

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- High surge current capability of up to 5000 A
- Compact designs from case size EIA1210 to EIA2220
- Operating temperature up to +125 °C without derating

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TDK Corporation presents the new high-surge series of EPCOS multilayer varistors. These are characterized by their high surge current capability, ranging from one surge of up to 5000 A to ten surges of up to 3500 A, with a pulse of 8/20  $\mu$ s and an operating voltage of up to 65 V DC. In addition, the new SMD components are very compact: They are available in case sizes EIA1210 through EIA2220 and require significantly less space than wired types or semiconductor-based solutions, while offering the same performance and reliability.

A new high-performance ceramic material set and an improved component design have made the further miniaturization possible. This means that, in comparison with conventional technologies, current densities of three times higher can be achieved. On this basis, TDK now manufactures protection components in the EIA 1210 case size that offer the same performance as existing EIA 2220 types, which are three times larger. Despite their compact design, the maximum energy absorption for EIA 2220 components is about 15 J for a pulse of 2 ms.

In addition, the rugged new EPCOS multilayer varistors are highly resistant to thermo-mechanical stress. They offer an extremely high surge current capability even at 125 °C, a temperature at which other technologies can only be operated with derating. The protection components are designed for a lead-free reflow soldering process. Applications for the new EPCOS multilayer varistors include power supplies for telecommunication systems and power-over-Ethernet (PoE) systems.

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#### Main applications

- Power supplies for telecommunication systems
- Power-over-Ethernet (PoE)

#### Main features and benefits

- High surge current capability of up to 5000 A
- Compact designs from EIA 1210 to EIA 2220
- Operating temperature up to +125 °C without derating
- Lead-free

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## TDK Corporation

TDK Corporation is a leading electronics company based in Tokyo, Japan. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's portfolio includes electronic components, modules and systems\* marketed under the product brands TDK and EPCOS, power supplies, magnetic application products as well as energy devices, flash memory application devices, and others. TDK focuses on demanding markets in the areas of information and communication technology and consumer, automotive and industrial electronics. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2015, TDK posted total sales of USD 9.0 billion and employed about 88,000 people worldwide.

\* The product portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites, inductors, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors.

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