Over-voltage protection

TDK offers varistors in SMD design with high surge current capability

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TDK Corporation (TSE:6762) presents two new varistor series in SMD design. The types of both series are available for a wide range of operating voltages from 175 V_{RMS} to 460 V_{RMS}, corresponding to 225 V_{DC} to 615 V_{DC}. While the B72210M* series of surge devices, which are equivalent to S14 leaded disk varistors, offers a surge current capability of 6000 A, the B72214M* series types, which are equivalent to S20 leaded disk varistors, have a high surge current capability of 10,000 A. All types are designed for a high operating temperature of a maximum of +125 °C and extremely damp heat environment (85% relative humidity at +85 °C).

The new SMD high surge series is qualified to AEC-Q200. In terms of designs, all types are available in a horizontal as well as vertical version, which offers higher design flexibility. The horizontal version of the B72210M* series has dimensions of 22 x 15 x 11 mm, while the B72214M* series has dimensions of 27 x 18 x 11 mm, (L x W x H). The vertical types have dimensions of 15 x 10 x 20 mm and 18 x 10 x 25.5 mm, respectively. This results in space saving compared to leaded varistors with the same performance.

Typical applications of SMD surge protection components are on-board chargers, power supplies, frequency converters, photovoltaic systems and household appliances.

Main applications

- On-board chargers, power supplies, frequency converters, photovoltaic systems and household appliances

Main features and benefits

- Wide range of operating voltages from 175 V_{RMS} to 460 V_{RMS}
- High surge current capability of 6000 A or 10,000 A
- Horizontal and vertical designs
- Qualified according to AEC-Q200
- Space saving compared to leaded disk varistors with the same performance

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About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK‘s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2023, TDK posted total sales of USD 16.1 billion and employed about 103,000 people worldwide.

You can download this text and associated images from www.tdk-electronics.tdk.com/en/240130
Further information on the products can be found at https://www.tdk-electronics.tdk.com/en/smd_varistors

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