

Use case

Eaton SMD fuses for primary circuit protection



Eaton SMD solutions provide reliable primary circuit protection



With increasing power requirements in modern electronic applications, circuit protection is more critical than ever to protect sensitive components and modules from damage as well as prevent costly downtime on operations. Surge or transient overvoltages, overcurrent, and short-circuiting are the most common power challenges. High-peak inrush/surge currents are usually generated during the switching action of power supplies, turning on inductive and capacitive loads, etc. Electronic components, such as surface mount (SMD) fuses and metal oxide varistors (MOVs), are essential for ensuring primary circuit protection in a wide range of consumer, computer, energy, and industrial applications.

The main challenges of primary

circuit protection include access to multiple voltage ratings for global distribution voltage as well as compact and cost-effective components. Surface-mount circuit protection devices provide overcurrent and overvoltage protection with significant benefits over through-hole types, including broad current and voltage ratings, smaller footprints, and lower assembly costs.

For overcurrent and overload protection in electronic applications, Eaton offers both time delay and fast-acting SMD fuses rated up to 250 Vac. Both of these fuse families are suitable for use in electronic applications, where the 2410FA offers fast-acting performance to quickly open during overload and short circuit events. The 2410FA is ideal for electronic applications that experience

acceptable transient overloads and surge currents and where high-performance short circuit protection is needed. Eaton's 2410TD, on the other hand, offers time-delay characteristics for applications that experience inrush or surge currents during turn-on or normal operation where the fuse is not intended to open. Both time-delay and fast-acting fuses are ideal for use in a wide range of applications (e.g., consumer, computer, energy, and industrial).

Eaton also offers MOVs in 2825 and 4032 EIA SMD footprints for reliable overvoltage protection in electronic applications. Eaton's surface mount MOVs offer the widest operating voltage range (up to 510 Vac and 670 Vdc) and high surge current protection of up to 1200 A. Applications include Vac COB LED (driverless LED), smart meters, home

appliances, industrial equipment, test and measurement, and power supplies.

Eaton's portfolio of overcurrent and overvoltage protection components includes a broad range of SMD fuses and MOVs in the widest ratings and common industry footprints. Used together, Eaton's solutions offer full circuit protection, including the capability for coordinated protection. For example, during surge events, the SMD fuse opens during an overcurrent event while the MOV protects against damaging voltage transients. Eaton circuit protection products are designed using the highest-grade eco-friendly materials for optimum durability as well as to minimize carbon waste.

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