TVS components protect power, AC/DC and telecom devices

ProTek Devices made available three new transient voltage suppressor (TVS) components to provide voltage surge circuit protection in power supplies, AC/DC devices and telecommunications equipment. The SMAJ5.0CA and SMAJ36A are 400 Watt TVS diodes. The SMBJ5.0A and SMBJ33CA are 600 Watt TVS diodes. And, the SMCJ5.0C and SMCJ33A are 1,500 Watt TVS diodes.

Key features

All the new devices are delivered with IEC standards compatibility for 61000-4-2 (ESD), 61000-4-4 (EFT), and 61000-4-5 (Surge). The TVS diodes are glass passivated chips and deliver 400, 600 and 1,500 Watts peak pulse power per line (typical = 10/1000µs), respectively. They provide low leakage current and bidirectional and unidirectional configurations. In addition, all the TVS components offer excellent clamping capabilities and very fast response times. The components are all RoHS and REACH compliant.

The SMAJ5.0CA and SMAJ36A provide power dissipation on an infinite heat sink - at lead temperature = 75 degrees Celsius - of 1.0 Watts. It has a peak forward surge current - 8.3ms single half sinewave, unidirectional only - of 40 amps. Its maximum instantaneous forward voltage at 25A - unidirectional only - is 3.5/5.0 Volts. The SMBJ5.0A and SMBJ33CA deliver power dissipation on an infinite heat sink - at lead temperature = 75 degrees Celsius - of 5.0 Watts. Its peak forward surge current -

8.3ms single half sinewave, unidirectional only - is 100 amps. The maximum instantaneous forward voltage at 50A - unidirectional only - is 3.5/5.0 Volts. The SMCJ5.0C and SMCJ33A provide power dissipation on an infinite heat sink - at lead temperature = 75 degrees Celsius - of 6.5 Watts. The peak forward surge current - 8.3ms single half sinewave, unidirectional only - is 200 amps. And, the maximum instantaneous forward voltage at 100A - unidirectional only - is 3.5/5.0 Volts.

Key mechanical characteristics

The TVS diodes are provided in three molded packages with lead-free pure-tin plating (annealed). The SMAJ5.0CA and SMAJ36A are in DO-214AC package. The SMBJ5.0A and SMBJ33CA are provided in a DO-214AA package and the SMCJ5.0C and SMCJ33A are in a DO-214AB package. The solder reflow temperature is (pure-tin - Sn) 100: 260-270 degrees Celsius. The terminals are solder-able per MIL-STD-750, Method 2026 and the components carry a flammability rating of UL 94V-0. The SMAJ5.0CA and SMAJ36A have an approximate weight of 0.06 grams. The SMBJ5.0A and SMBJ33CA have an approximate weight of 0.103 grams while the SMCJ5.0C and SMCJ33A have an approximate weight of 0.248 grams.

Pricing and availability

The SMAJ5.0CA, SMAJ36A, SMBJ5.0A and SMBJ33CA are provided in 12mm tape and reel per EIA standard 481. The SMCJ5.0C and SMCJ33A are provided in 16mm tape and reel per EIA standard 481. The SMAJ5.0CA and SMAJ36A have a starting price of $0.08 in minimum quantities starting at 10,000 units. The SMBJ5.0A and SMBJ33CA have a starting price of $0.10 in minimum quantities of 10,000 units. Meanwhile, the SMCJ5.0C and SMCJ33A have a starting price of $0.14 in minimum quantities of 10,000units. Data sheets for these new TVS diodes can be searched for by part number and downloaded at http://www.protekdevices.com [1].

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