

**BI-DIRECTIONAL TRANSIENT
VOLTAGE SUPPRESSORS**

DESCRIPTION

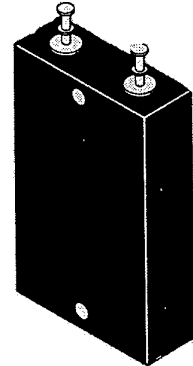
These devices are bidirectional Transient Voltage Suppressors (TVSs) for shipboard equipment and power servicing equipment where large voltage transients endanger voltage sensitive components. It meets all applicable environmental requirements of MIL-S-19500 and is consistent with MIL-E-16400. Designed with MIL-STD-1399 Section 300A (Interface standard for shipboard systems, Electrical power, alternating current) as the controlling specification. The subassembly components can also be tested or screened for military requirements prior to encapsulation into the complete module. The screening would consist of 100% TX level environmental testing per MIL-PRF-19500/507A (Par. 4.3). For ordering these options, use the following suffix:

- H1 – Submodule Screening
- H2 – Submodule and Module Screening
- H3 – Submodule and Module Screening
& Module Group B & C lot testing

The individual submodules can also be selected for lower or higher voltage as well as increased power capability compared to the example 200 volt 60 and 90 kW herein.

IMPORTANT: For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

APPEARANCE



FEATURES

- Designed for military or commercial applications
- 200 Volt Bidirectional
- Exceeds MIL-STD-1399 requirements
- Can be supplied with JANTX subassemblies
- Module subassemblies are packaged in a hermetically sealed glass-to-metal package
- Moisture classification is Level 1 (no dry pack required)

MAXIMUM RATINGS

- 60,000 watts @ 1.2/50 μ s Peak Pulse Power (P_{PP}) dissipation at 25°C for 60KS200C.
- 90,000 watts @ 1.2/50 μ s Peak Pulse Power (P_{PP}) dissipation at 25°C for 90KS200C.
- Steady State power dissipation: 10 watts.
- Operating and Storage temperatures: -65°C to +150°C.
- $t_{clamping}$ (0 volts to $V_{(BR)}$): Less than 1×10^{-8} seconds

APPLICATIONS / BENEFITS

- Protection from switching transients and induced RF
- Protection from ESD and EFT per IEC 61000-4-2 and IEC 61000-4-4
- Secondary lightning protection per IEC61000-4-5 with 42 Ohm source impedance up to class 5
- Secondary lightning protection per IEC61000-4-5 with 12 Ohm source impedance up to class 4
- Secondary lightning protection per IEC61000-4-5 with 2 Ohm source impedance up to class 4

MECHANICAL AND PACKAGING

- CASE: Molded case.
- TERMINAL: Silver-plated brass.
- POLARITY: Bidirectional.
- WEIGHT (60KS200C): 65 grams (approximate)
(90KS200C): 80 grams (approximate)
- CAPACITANCE: 170 pF @ 0 Volts (typical)
- Maximum Torque For Mounting: 15 in-lbs

ELECTRICAL CHARACTERISTICS @ 25°C (Test Both Polarities)*

| MICROSEMI PART NUMBER | REVERSE STANDOFF VOLTAGE* | MAXIMUM REVERSE CURRENT | BREAKDOWN VOLTAGE* | | MAXIMUM CLAMPING VOLTAGE | PEAK PULSE CURRENT (Fig. 2) |
|-----------------------------|---------------------------------|--------------------------------|-----------------------------|------|--------------------------------|-----------------------------------|
| | V_{WM} VOLTS | @ V_{WM} I_D μ A | $V_{(BR)}$ VOLTS MIN. | MAX. | @ I_{PP} V_C VOLTS | I_{PP} A |
| 60KS200C | 180 | 10 | 200 | 225 | 335 | 180 |
| 90KS200C | 180 | 0.5 | 200 | 225 | 280 | 180 |
| 90KS200C | 180 | 0.5 | 200 | 225 | 335 | 270 |

* Consult factory for other available voltages.

GRAPHS

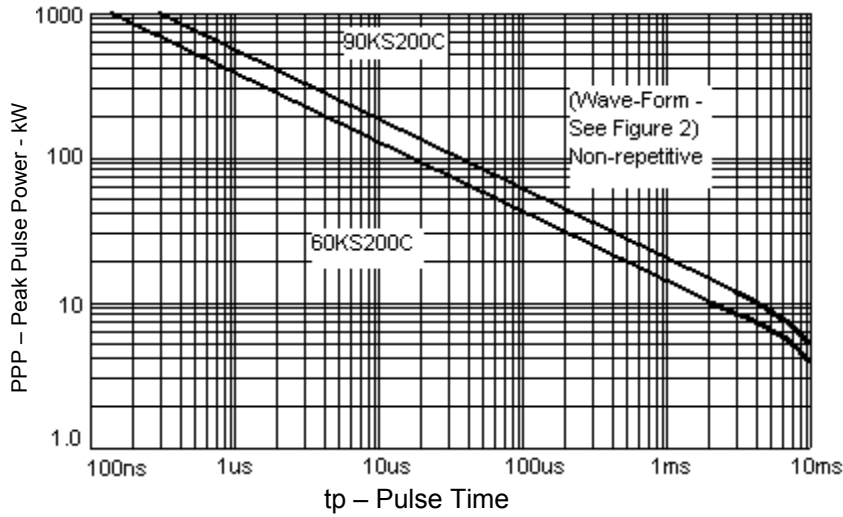


FIGURE 1
Peak Pulse Power vs. Pulse Time

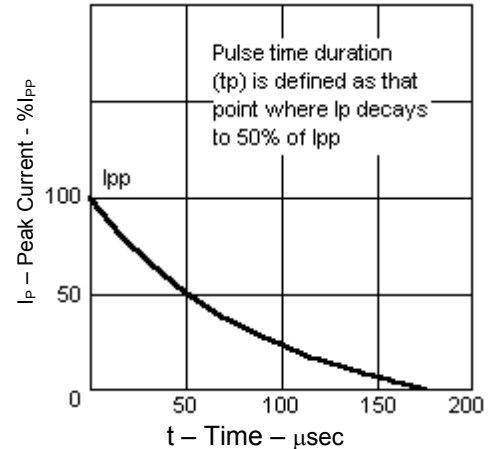


FIGURE 2
Pulse Wave Form (1.2 x 50μs)
NOTE: In MIL-STD-1399, Section 300A the source impedance is assumed to be 5ohms at 100 to 200kHz of shipboard electrical power systems.

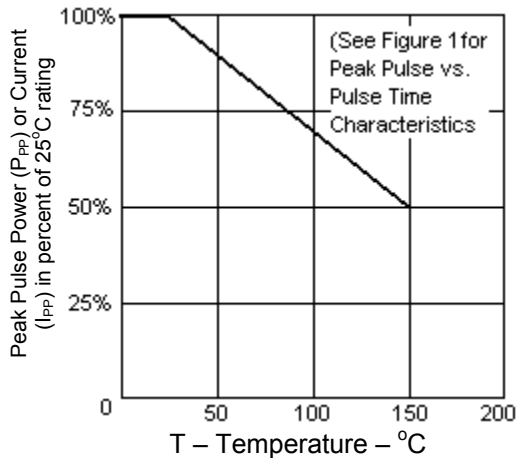


FIGURE 3
Derating Curve
NOTE: Maximum operating and storage temperature is 150°C.

PACKAGE DIMENSIONS

