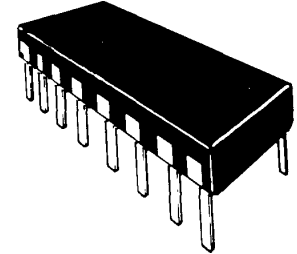


DESCRIPTION

This series of Transient Voltage Suppressor (TVS) devices is packaged in a ceramic, dual-in-line, hermetically sealed package. These components offer 15 protective devices, unidirectional or bidirectional, common buss connections, per package. The dual-in-line is designed specifically for data line protection, at the PC board level. TTL and MOS voltage levels are available for protection of input/output data circuits. Microsemi also offers numerous other TVS products to meet higher and lower power demands and special applications.

APPEARANCE



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

FEATURES

- Multiple TVS array
- Ceramic dual-in-line, 16 PIN hermetic package
- Common-buss configuration
- Optional 100% **screening for avionics grade** is available by adding MA prefix to part number for added 100% temperature cycle -55°C to +125°C (10X) as well as surge (3X) and 24 hours HTRB with post test V_Z & I_R (in the operating direction for unidirectional or both directions for bidirectional)
- Options for screening in accordance with MIL-PRF-19500 for JAN, JANTX, JANTXV, and JANS are also available by adding MQ, MX, MV, or MSP prefixes respectively to part numbers.

APPLICATIONS / BENEFITS

- Protects up to 15 lines
- Provides electrically isolated protection
- Unidirectional or Bidirectional selections
- Voltage range of 5 V to 30 V available
- Protects sensitive components such as IC's, CMOS, Bipolar, BiCMOS, ECL, DTL, T²L, etc.
- Protection from switching transients & induced RF
- Compliant to IEC61000-4-2 and IEC61000-4-4 for ESD and EFT protection respectively
- Inherently radiation hard as described in Microsemi MicroNote 050

MAXIMUM RATINGS

- 500 Watts Peak Pulse Power/Position @ 8x20 μ s (see figure 1 and 2)
- $t_{clamping}$ (0 volts to $V_{(BR)}$ min.): < 100 ps theoretical for unidirectional and < 5 ns for bidirectional
- Operating and Storage temperatures: -55°C to +150°C.
- Forward Surge Rating: 10 Amps, 1/120 sec. @ 25°C (unidirectional)
- Repetition Rate (duty cycle): .01%

MECHANICAL AND PACKAGING

- CASE: Ceramic, 16 pin dual-in-line (.300" row spacing)
- POLARITY: Pin No. 1 marked with a flag on lead and a dot on top of package.
- MARKING: Body marked with part number
- WEIGHT: 3.5 grams (approximate)

ELECTRICAL CHARACTERISTICS

| MICROSEMI PART NUMBER | REVERSE STAND-OFF VOLTAGE V_{WM} VOLTS | MINIMUM BREAKDOWN VOLTAGE @ 1 mA $V_{(BR)}$ VOLTS | MAXIMUM CLAMPING VOLTAGE @ $I_{PP2} = 1A$ (8 X 20 μs) V_{C1} VOLTS | MAXIMUM CLAMPING VOLTAGE @ $I_{PP2} = 10A$ (8 X 20 μs) V_{C2} VOLTS | MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D μA | MAXIMUM CAPACITANCE @ OV 1MHz C pF | MAXIMUM VOLTAGE TEMPERATURE VARIATION OF $V_{(BR)}$ mV/C |
|-----------------------|--|--|--|---|---|---|--|
| Unidirectional | | | | | | | |
| DLTS-5 | 5 | 6.0 | 10.2 | 12.5 | 200 | 880 | 5 |
| DLTS-5A | 5 | 6.0 | 9.5 | 10.6 | 200 | 880 | 5 |
| DLTS-12 | 12 | 13.3 | 21.1 | 26.0 | 2 | 440 | 18 |
| DLTS-12A | 12 | 13.3 | 19.1 | 23.5 | 2 | 440 | 18 |
| DLTS-17 | 17 | 19.2 | 30.4 | 37.4 | 2 | 330 | 20 |
| DLTS-17A | 17 | 19.2 | 27.5 | 33.9 | 2 | 330 | 20 |
| DLTS-24 | 24 | 26.7 | 42.3 | 52.1 | 2 | 275 | 31 |
| DLTS-24A | 24 | 26.7 | 38.3 | 47.2 | 2 | 275 | 31 |
| DLTS-30 | 30 | 33.3 | 52.8 | 65.0 | 2 | 220 | 39 |
| DLTS-30A | 30 | 33.3 | 47.8 | 58.8 | 2 | 220 | 39 |
| Bidirectional | | | | | | | |
| DLTS-8C | 8 | 8.5 | 13.4 | 16.6 | 10 | 440 | 9 |
| DLTS-8CA | 8 | 8.5 | 12.2 | 15.0 | 10 | 440 | 9 |
| DLTS-13C | 13 | 14.4 | 22.8 | 28.1 | 4 | 385 | 18 |
| DLTS-13CA | 13 | 14.4 | 20.6 | 25.4 | 4 | 385 | 18 |
| DLTS-19C | 19 | 21.6 | 34.2 | 42.1 | 4 | 275 | 24 |
| DLTS-19CA | 19 | 21.6 | 31.0 | 38.1 | 4 | 275 | 24 |
| DLTS-30C | 30 | 33.3 | 52.8 | 65.0 | 4 | 165 | 39 |
| DLTS-30CA | 30 | 33.3 | 47.8 | 58.8 | 4 | 165 | 39 |

"C" suffix denotes bidirectional and "A" suffix provides a lower selected clamping voltage tolerance

NOTE 1: A TVS is normally selected according to the reverse "Stand Off Voltage" V_{WM} which should be equal to or greater than the dc or continuous peak operating voltage level.

GRAPHS

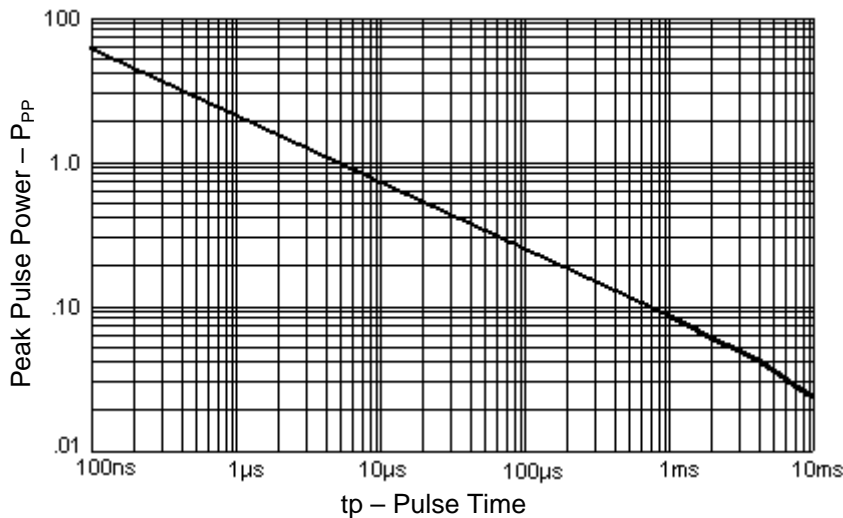


FIGURE 1
Peak Pulse Power vs. Pulse Time (per position)

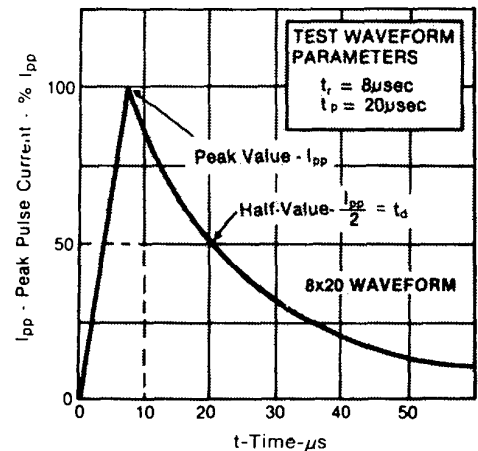


FIGURE 2
Pulse Waveform

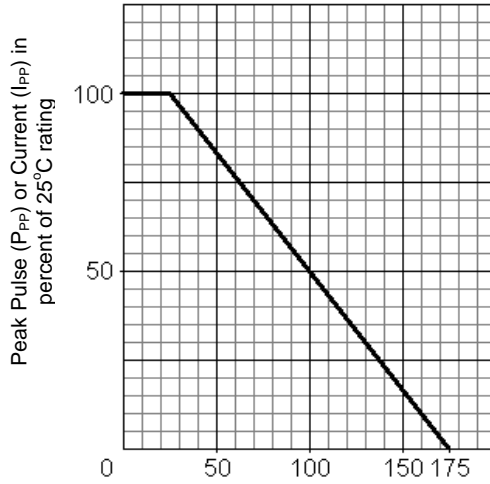


FIGURE 3
Derating Curve

