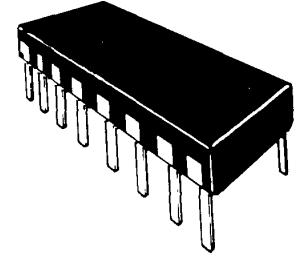


**DESCRIPTION**

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, T<sup>2</sup>L, 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  $\mu$ 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)

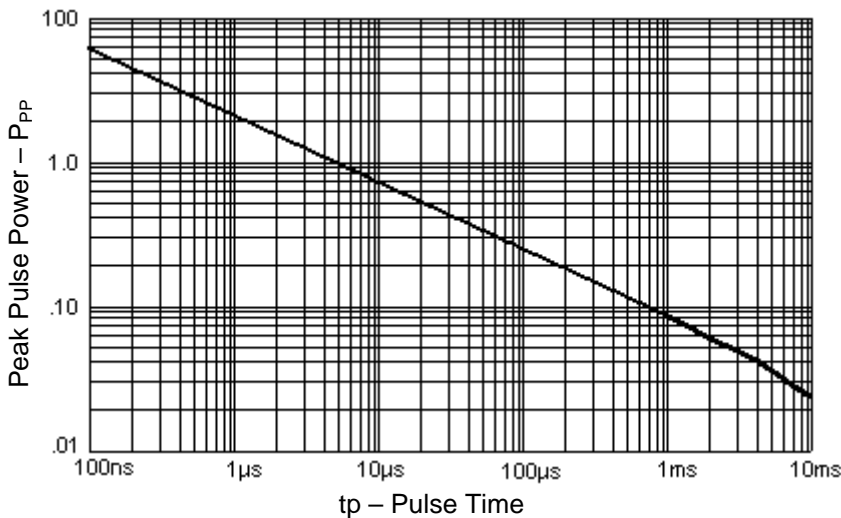
**ELECTRICAL CHARACTERISTICS**

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 $\mu s$ ) $V_{C1}$ VOLTS	MAXIMUM CLAMPING VOLTAGE @ $I_{PP2} = 10A$ (8 X 20 $\mu s$ ) $V_{C2}$ VOLTS	MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$ $\mu A$	MAXIMUM CAPACITANCE @ OV 1MHz C pF	MAXIMUM VOLTAGE VARIATION OF $V_{(BR)}$ mV/C
<b>Unidirectional</b>							
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
<b>Bidirectional</b>							
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

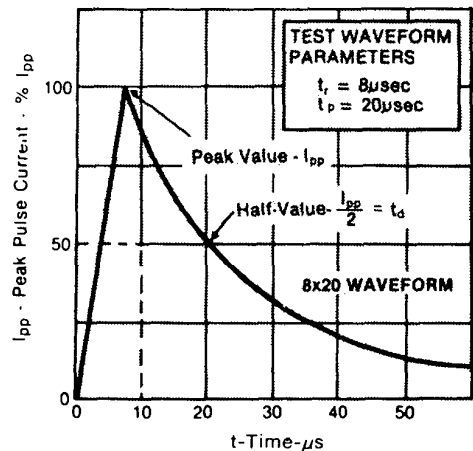
"C" suffix denotes bidirectional and "A" suffix provides a lower selected clamping voltage tolerance

**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.

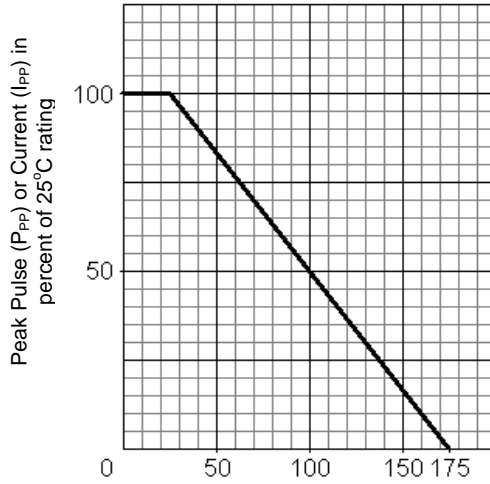
**GRAPHS**



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



**FIGURE 2**  
Pulse Waveform



**FIGURE 3**  
Derating Curve

