

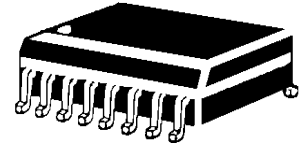
DESCRIPTION

This 16 pin one-line pair, bidirectional, LOW CAPACITANCE array is designed for use in applications where protection is required at the board level. The SO-16W package design provides protection from voltage transients caused by electrostatic discharge (ESD) as defined in IEC 61000-4-2, electrical fast transients (EFT) per IEC 61000-4-4 and effects of secondary lightning as stated by IEC 61000-4-5.

These TRANSIENT VOLTAGE SUPPRESSOR (TVS) arrays have a peak pulse power rating of 1500 watts for a 10/1000 μ sec pulse and are designed to be used for secondary surge protection on high-speed telecommunications lines. This device can be used in either common or differential mode applications. It is typically used between Tip and Ring. Applications include T1/E1 and DSL interfaces in base stations, routers, and long-haul transient immunity requirement per Bellcore 1089, FCC Part 68 (type A and B surges and IEC 61000-4-5

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

TVSARRAY™



FEATURES

- 1500 watts peak pulse power
- Protects one-line pair
- Provides electrically isolated protection
- SO-16W package
- UL 94V-0 flammability classification
- **LOW CAPACITANCE 50 pF per line pair**

APPLICATIONS / BENEFITS

- T1/E1 line cards
- Base stations
- WAN interfaces
- XDSL interfaces
- CSU/DSU equipment
- Secondary lightning protection per IEC61000-4-5 up to Class 4 with 12 & 42 Ohms source impedance, and up to Class 3 protection with 2 Ohms source impedance

MAXIMUM RATINGS

- Operating temperature: -55°C to +150°C
- Storage temperature: -55°C to +150°C
- Peak pulse power: 1500 watts (10/1000 μ s, Fig 1)
- Pulse repetition rate: < .01%
- Thermal resistance: < 30°C/watt (junction-to-case)
- Lead soldering temperature: 260°C, 10s maximum

MECHANICAL AND PACKAGING

- Molded SO-16W Surface Mount
- Weight 0.25 grams (approximate)
- Marking: Logo, device marking code, date code
- Pin #1 defined by dot on top of package
- Tape & Reel per EIA Standard 481
- 13 inch reel; 2,500 pieces (OPTIONAL)
- Carrier tubes; 45 pcs (STANDARD)

ELECTRICAL CHARACTERISTICS PER LINE PAIR @ 25°C Unless otherwise specified

PART NUMBER	DEVICE MARKING	STAND OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE V_{BR} @1 mA	CLAMPING VOLTAGE V_C @ 100 Amp (Figure 2) VOLTS	CLAMPING VOLTAGE V_C @ 200 Amp (Figure 3) VOLTS	STANDBY CURRENT I_b @ V_{WM}	CAPACITANCE (f=1 MHz) C_C @0V
		VOLTS	VOLTS	VOLTS	VOLTS	μ A	pF
		MAX	MIN	MAX	MAX	MAX	TYP
LC01-6	LC01-6	6.0	8.0	15	16	25	50

Note: Transient Voltage Suppressor (TVS) product is normally selected based on its stand off voltage V_{WM} . Product selected voltage should be equal to or greater than the continuous peak operating voltage of the circuit to be protected.

SYMBOLS & DEFINITIONS

Symbol	Definition
V_{WM}	Stand Off Voltage: Maximum dc voltage that can be applied over the operating temperature range. V_{WM} must be selected to be equal or be greater than the operating voltage of the line to be protected
V_{BR}	Minimum Breakdown Voltage: The minimum voltage the device will exhibit at a specified current
V_C	Clamping Voltage: Maximum clamping voltage across the TVS device when subjected to a given current at a pulse time, t_d .
I_D	Standby Current: Leakage current at V_{WM} .
C	Capacitance: Capacitance of the TVS as defined @ 0 volts at a frequency of 1 MHz and stated in picofarads.

OUTLINE AND CIRCUIT

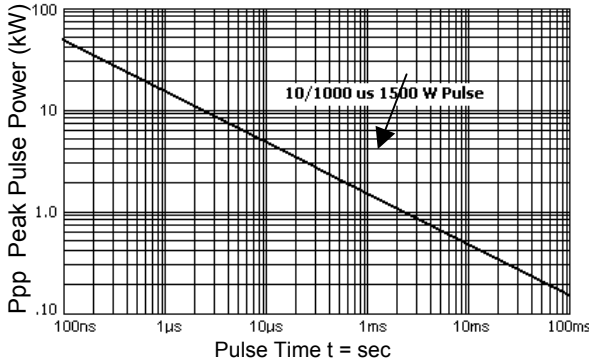


Figure 1
Peak Pulse Power Vs Pulse Time t = sec

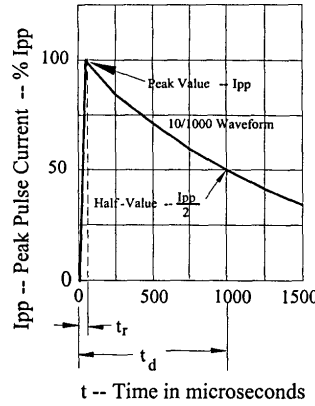


Figure 2
Pulse Wave Form

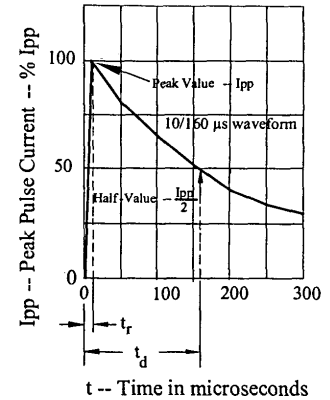
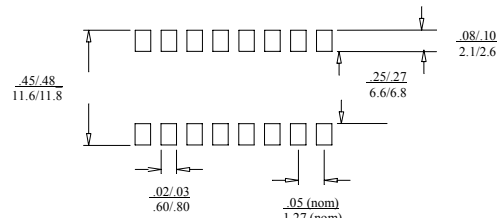
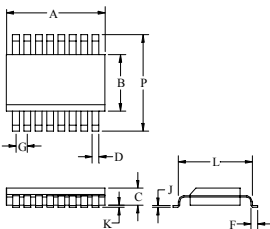


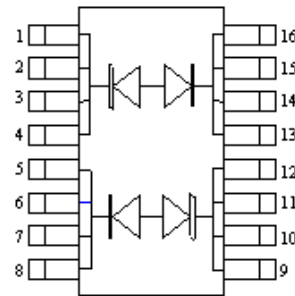
Figure 3
Pulse Wave Form

DIMENSIONS AND SCHEMATIC



PAD LAYOUT

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.397	0.413	10.08	10.49
B	0.291	0.299	7.39	7.60
C	0.081	0.104	2.06	2.64
D	0.013	0.020	0.33	0.51
F	0.016	0.050	0.41	1.27
G	0.050 BSC		1.27 BSC	
J	0.009	0.012	0.23	0.30
K	0.001	0.004	0.03	0.10
L	0.344	0.387	7.47	9.79
P	0.394	0.419	10.01	10.64



SCHEMATIC