1 LINE PAIR BIDIRECTIONAL TVSarray ™

PRODUCT PREVIEW

DESCRIPTION

This diode Series array is packaged in a SOIC-08 configuration giving protection to 1 line bi-directional or 1 line pair differential mode. It is designed for use in applications were protection is required at the board level from voltage transients caused electrostatic discharge (ESD) as defined in IEC 61000-4-2, electrical transients (EFT) per IEC 61000-4-4 and effects of secondary lighting.

The MLC496 TVS array has a peak power rating of 500 watts for an 8/20 µsec pulse. This array is suitable for protecting sensitive circuitry consisting of TTL, DRAM's SRAM's CMOS, HCMOS, HSIC, microprocessors, and low voltage interfaces. It provides protection for ***UNIVERSAL SERIAL BUS (USB)*** and I/O transceivers. Because of its ***LOW STANDBY CURRENT*** it provides superb component protection for battery-operated equipments. Because of the physical size, weight and protection capabilities, this product is ideal for use in but not limited to miniaturized electronic equipment such as hand held instruments, computers, computer peripherals and cell phones.

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

TVSarray™ SERIES

APPLICATIONS

- EIA-RS232 data rates 19.6kbs
- EIA-RS422 data rates 10Mbs
- EIA-RS423 data rates 100kbs

FEATURES

- Protects 1 line bi-directional, protects line pair differential mode
- Surge protection Per IEC 1000-4-2, IEC 1000-4-4
- Provides electrically isolated protection
- ***ULTRA LOW CAPACITANCE 1.5 pF @ 0v @1 MHz***
- ***LOW STANDBY CURRENT LESS THAN 20 µA***

PACKAGING

- Tape & Reel per EIA Standard 481-1-A
- Carrier tubes 95 pcs per (STANDARD)
- 2,500 pieces per 13 inch reel (OPTIONAL)

MECHANICAL

- Molded SOIC-8 Surface Mount
- Weight .066 grams (approximate)
- Marking: Logo, device marking, data code
- Pin one defined by DOT on top of package

MAXIMUM RATINGS

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Peak Pulse power 500 watts (8/20 µs Figure 2)
- Pulse repetition rate: <.01%

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless otherwise specified

PART NUMBER	DEVICE MARKING	STAND OFF VOLTAGE V_{WM} VOLTS	BREAKDOWN VOLTAGE V_{BR} @1 mA VOLTS	CLAMPING VOLTAGE V_C @ 1 Amp (FIGURE 2) VOLTS	CLAMPING VOLTAGE V_C @ 5 Amp (FIGURE 2) VOLTS	STANDBY CURRENT I_D @ V_{WM} µA	CAPACITANCE (f=1 MHz) @0V C pF
		MAX	MIN	MAX	MAX	MAX	TYP
MLC496	496	1.0	2.5	6	12	20	1.5

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.

Microsemi
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MLC496

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PRODUCT PREVIEW

SYMBOLS & DEFINITIONS

Symbol	DEFINITION
V_{WM}	Rated stand off voltage: Maximum dc voltage that can be applied over the operating temperature range. Vwm 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 of 20 µs.
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 Pico Farads.

GRAPHS

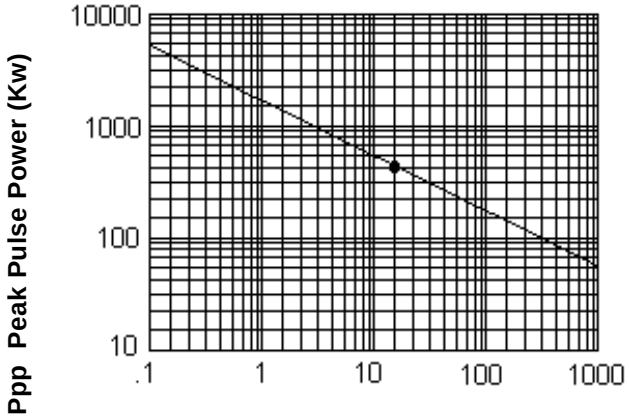


FIGURE 1
Peak Pulse Power Vs Pulse Time t=µsec

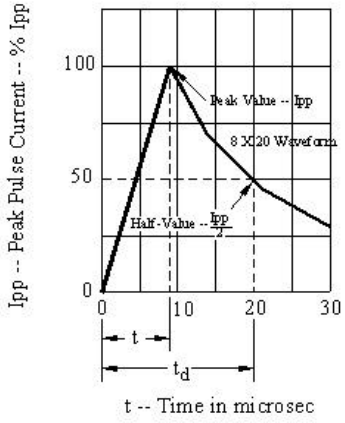
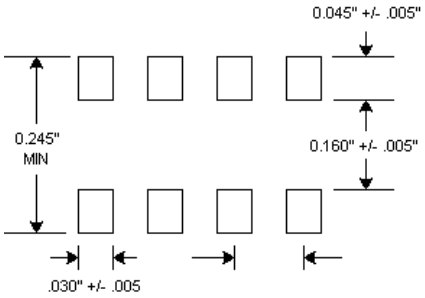
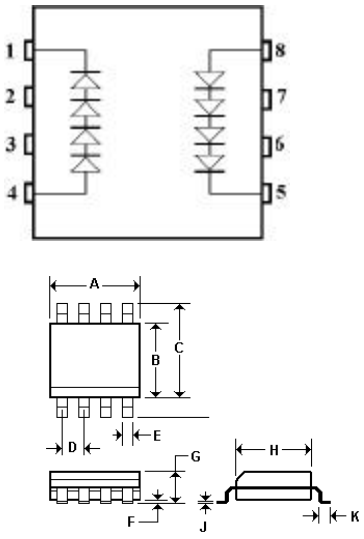


FIGURE 2
Pulse Wave Form

PACKAGING AND SCHEMATIC



	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.188	0.197	4.775	5.004
B	0.150	0.158	3.810	4.013
C	0.228	0.244	5.791	6.198
D	0.050 BSC		1.270 BSC	
E	0.014	0.018	0.356	0.457
F	0.004	0.008	0.102	0.203
G	0.053	0.069	1.346	1.753
H	0.189	0.206	4.801	5.232
J	0.007	0.009	0.178	0.229
K	0.016	0.049	0.406	1.245



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