



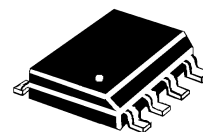
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USB0803 THRU USB0824

TVSarray[®] Series



DESCRIPTION (500 watt)

This TRANSIENT VOLTAGE SUPPRESSOR (TVS) array is packaged in an SO-8 configuration giving protection to 2 Unidirectional data or interface lines. It is designed for use in applications where protection is required at the board level from voltage transients caused by electrostatic discharge (ESD) as defined in IEC 1000-4-2, electrical fast transients (EFT) per IEC 1000-4-4 and effects of secondary lighting.

These TVS arrays have a peak power rating of 500 watts for an 8/20 μ sec pulse. This array is suitable for protection of sensitive circuitry consisting of TTL, CMOS DRAM's, SRAM's, HCMOS, HSIC microprocessors, **UNIVERSAL SERIAL BUS (USB)** and I/O transceivers. The USB08XX product provides board level protection from static electricity and other induced voltage surges that can damage or upset sensitive circuitry.

FEATURES

- Protects up to 2 unidirectional lines
- Surge protection Per IEC 1000-4-2, IEC 1000-4-4
- Provides electrically isolated protection
- SO-8 Packaging
- **ULTRA LOW CAPACITANCE 3 pF per line pair**
- **ULTRA LOW LEAKAGE**

MECHANICAL

- Molded SO-8 Surface Mount
- Weight: 0.066 grams (approximate)
- Marking: Logo, device number, date code
- Pin #1 defined by DOT on top of package

MAXIMUM RATINGS

- Operating Temperatures: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Peak Pulse Power: 500 Watts (8/20 μ sec, Figure 1)
- Pulse Repetition Rate: <.01%

PACKAGING

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

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless otherwise specified

PART NUMBER	DEVICE MARKING	STAND OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE V_{BR} @1 mA	CLAMPING VOLTAGE V_C @ 1 Amp (FIGURE 2)	CLAMPING VOLTAGE V_C @ 5 Amp (FIGURE 2)	LEAKAGE CURRENT I_D @ V_{WM}	CAPACITANCE (f=1 MHz) @0V C	TEMPERATURE COEFFICIENT OF V_{BR} α_{VBR}
		VOLTS	VOLTS	VOLTS	VOLTS	μ A	pF	mV/°C
			MIN	MAX	MAX	MAX	TYP	MAX
USB0803		3.3	4	8	11	200	5	-5
USB0805		5.0	6.0	10.8	13	20	5	1
USB0812		12.0	13.3	19	26	1	5	8
USB0815		15.0	16.7	25	32	1	5	11
USB0824		24.0	26.7	44	57	1	5	28

NOTE: 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.

Application: The USB08XX product is designed for transient voltage suppression protection of ESD sensitive components at the board level. It is an ideal product to be used for protection of I/O Transceivers.

WAVE FORMS

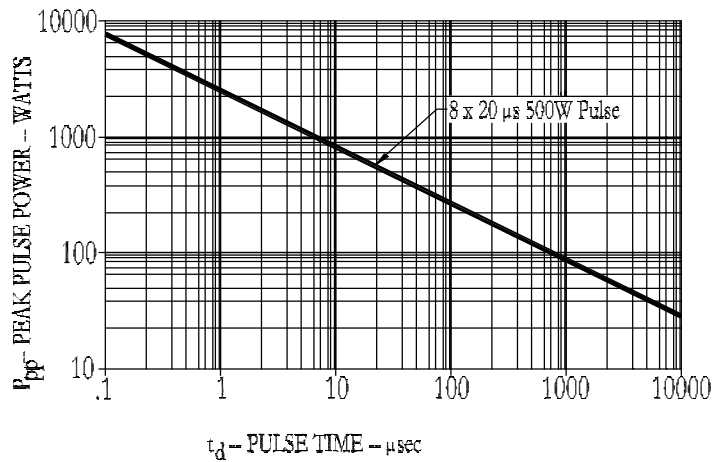


FIGURE 1
Peak Pulse Power Vs Pulse Time

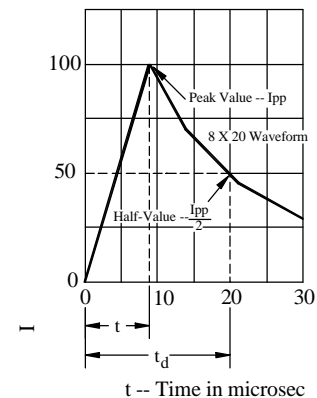
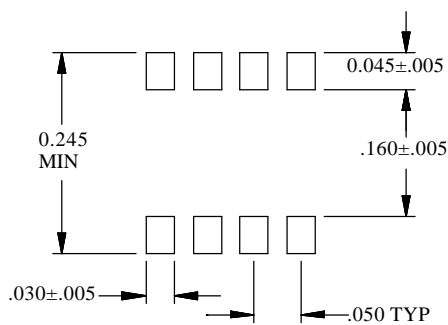
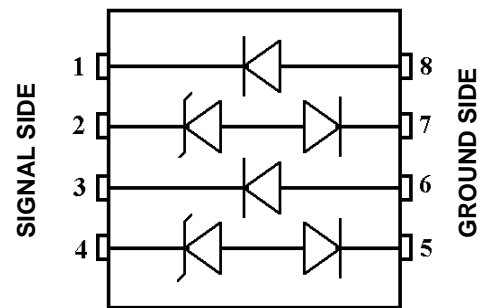


FIGURE 2
Pulse Wave Form

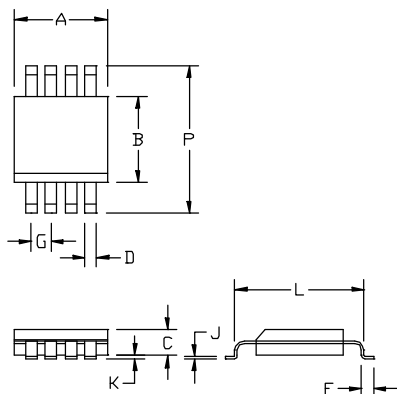
MOUNTING PAD SO-8



CIRCUIT DIAGRAM



SO-8 PACKAGE



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.188	0.197	4.77	5.00
B	0.150	0.158	3.81	4.01
C	0.053	0.069	1.35	1.75
D	0.011	0.021	0.28	0.53
F	0.016	0.050	0.41	1.27
G	0.050 BSC		1.27 BSC	
J	0.006	0.010	0.15	0.25
K	0.004	0.008	0.10	0.20
L	0.189	0.206	4.80	5.23
P	0.228	0.244	5.79	6.19