

USB50812C: Bidirectional TVSarray™

Features

- Protects up to 2 bidirectional lines
- Surge protection per IEC 6100-4-2, IEC 61000-4-4
- Provides electrically isolated protection
- UL 94V-0 flammability classification
- Ultra low capacitance 3 pF per line pair
- Ultra low leakage

Typical Applications

- EIA-Rs485 data rate: 5 Mbs
- 10 Base T Ethernet
- USB data rate: 900 Mbs

Packaging

- Tape & reel per EIA Standard 481
- 13 inch reel; 2,500 pieces (optional)
- Carrier tubes; 95 pcs (standard)

Product Feature Sheet

Device Overview

This TRANSIENT VOLTAGE SUPPRESSOR (TVS) array is packaged in an SO-8 configuration giving protection to 2 bidirectional 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 61000-4-2, electrical fast transients (EFT) per IEC 61000-4-4 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, HCMOS, HSIC microprocessors, Universal Serial Buss (USB) and I/O transceivers. The USB508XXC product provides board level protection from static electricity and other induced voltage surges that can damage or upset sensitive circuitry.

Electrical Characteristics Per Line @ 25°C Unless otherwise specified

PART NUMBER	DEVICE MARKING	STAND OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE V_{BR} @ 1mA	CLAMPING VOLTAGE V_C @ 1 Amp	CLAMPING VOLTAGE V_C @ 5 AMP	STANDBY CURRENT I_D @ V_{WM}	CAPACITANCE (f=1 MHz) C @ 0V	TEMPERATURE COEFFICIENT OF V_{BR} @ V_{BR}
		VOLTS	VOLTS	VOLTS	VOLTS	μ A	pF	mV/°C
		MAX	MIN	MAX	MAX	MAX	MAX	MAX
USB50803C	3C	3.3	4	8	11	200	3	-5
USB5005C	5C	5.0	6.0	10.	13	4	3	1
USB50812C	12C	12.0	13.3	19	26	1	3	8
USB50815C	15C	15.0	16.7	24	32	1	3	11
USB50824C	24C	24.0	26.7	43	57	1	3	28

Absolute Maximum Ratings:

Operating Temperature	-55 °C to 125 °C
Storage Temperature	-55 °C to 150 °C
Peak Pulse Power	500 watts (8/20 μ s)
Pulse Repetition Rate	< .01%