



**THE DATASHEET OF
SM1612E3/TR13**

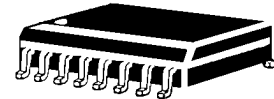




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SM1603-03C thru SM1624-24C

TVSarray[®] Series



DESCRIPTION (300 watt)

This 16 pin 8 line Unidirectional or Bidirectional array 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 TRANSIENT VOLTAGE SUPPRESSOR (TVS) Diode Arrays have a peak power of 300 watts for an 8/20 μ sec pulse and are designed to protect 3.0/3.3 volt components such as DRAM's, SRAM's, CMOS, HCMOS, HSIC, and low voltage interfaces up to 24 volts.

FEATURES

- Protects 3.0/3.3 up through 24V Components
- Protects 8 lines Unidirectional or Bidirectional
- Provides electrically isolated protection
- SO-16 Packaging

MECHANICAL

- Molded SO-16 Surface Mount
- Weight: 0.128 grams (approximate)
- Body Marked with Logo, and device number
- Pin #1 defined by DOT on top of package
- Encapsulation meets UL 94V-0

MAXIMUM RATINGS

- Operating Temperatures: -55^oC to +150^oC
- Storage Temperature: -55^oC to +150^oC
- Peak Pulse Power: 300 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 48 pcs per (STANDARD)

ELECTRICAL CHARACTERISTICS PER LINE @ 25^oC 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_T @ V_{WM}	CAPACITANCE (f=1 MHz) @ 0V C	TEMPERATURE COEFFICIENT OF V_{BR} ΔV_{BR}
		VOLTS	VOLTS	VOLTS	VOLTS	μ A	pF	mV/ ^o C
		MAX	MIN	MAX	MAX	MAX	TYP	MAX
SM1603	MBA	3.3	4	7	9	125	850	-3
SM1603C	MBB	3.3	4	7	9	200	425	-5
SM1605	MBC	5.0	6	9.8	11	20	880	3
SM1605C	MBD	5.0	6	9.8	11	40	440	1
SM1612	MBE	12	13.3	19	24	1	440	10
SM1612C	MBF	12	13.3	19	24	1	220	8
SM1615	MBG	15	16.7	24	30	1	400	13
SM1615C	MBH	15	16.7	24	30	1	200	11
SM1624	MBK	24	26.7	43	55	1	275	30
SM1624C	MBL	24	26.7	43	55	1	137	28

Part numbers with a "C" suffix are bidirectional devices

NOTE: Transient Voltage Suppression (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 SM16XX/XXC product is designed for transient voltage suppression protection of components at the board level. It is an ideal product to be used for protection of I/O Transceivers.

WAVE FORMS

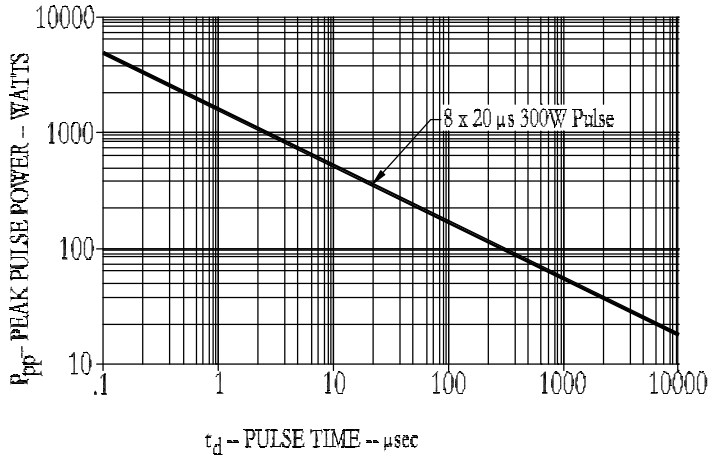


FIGURE 1
Peak Pulse Power Vs Pulse Time

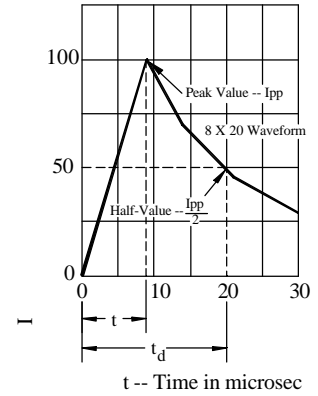
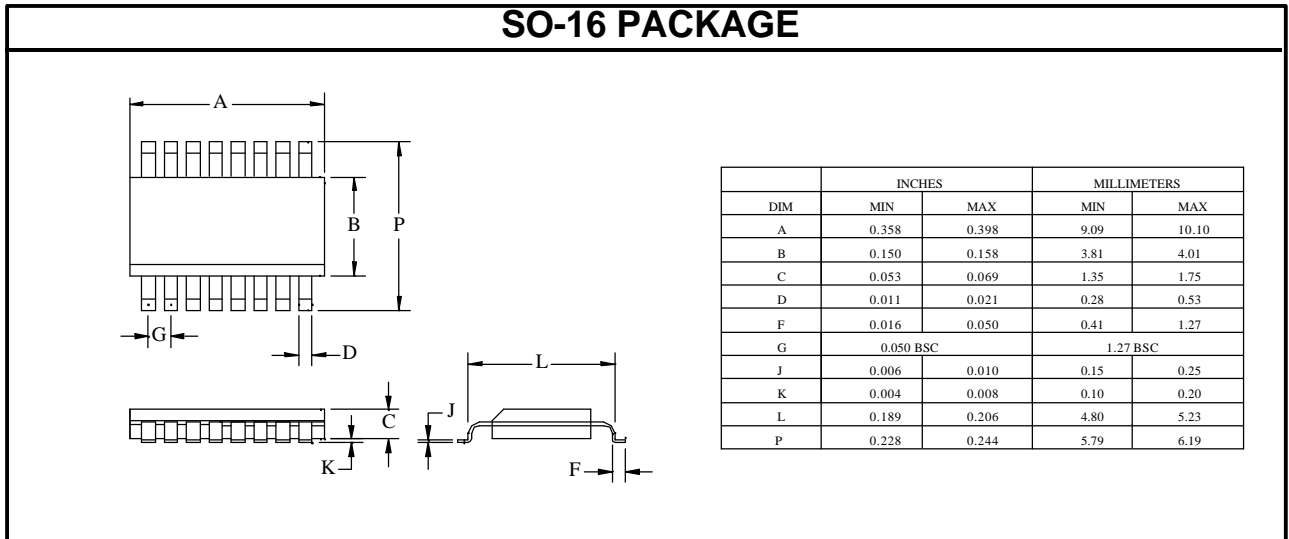
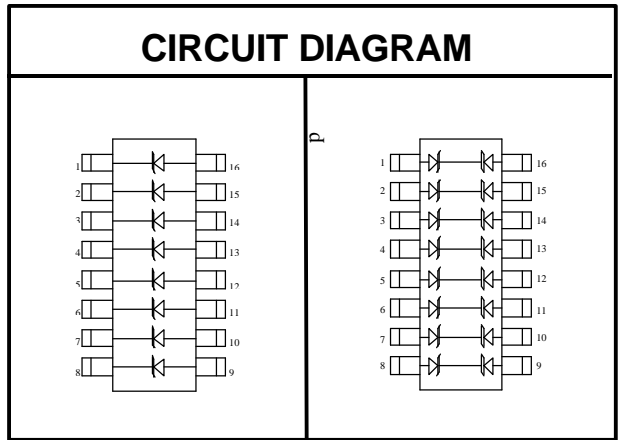
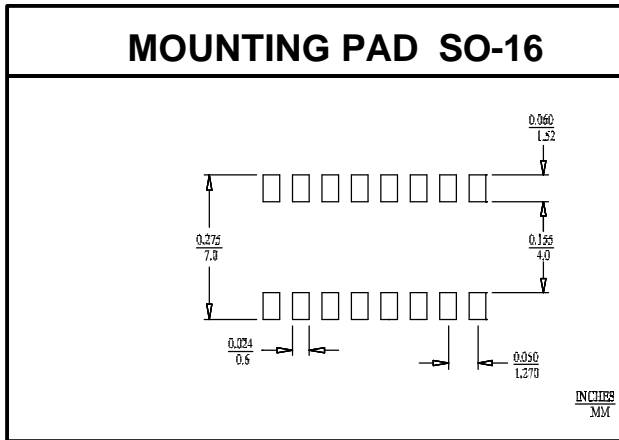


FIGURE 2
Pulse Wave Form



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