

STANDARD TVS ARRAYS

APPLICATIONS

- ✓ Wireless Communication Circuits
- ✓ RS-422, RS-432 & RS-485
- ✓ Low Voltage ASICs
- ✓ Portable Electronics

IEC COMPATIBILITY (EN61000-4)

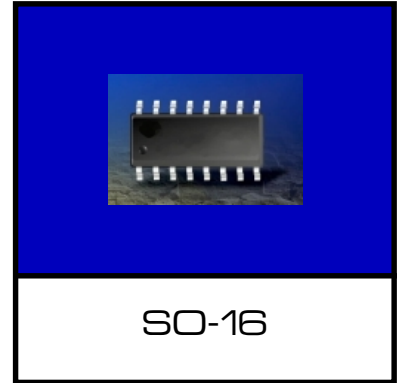
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 12A, 8/20 μ s - Level 1 (Line-Gnd) & Level 2 (Line-Line)

FEATURES

- ✓ 500 Watts Peak Pulse Power per Line (8/20 μ s)
- ✓ Unidirectional & Bidirectional Configurations
- ✓ ESD Protection > 40 kilovolts
- ✓ Available in 6 Voltage Types: 3.3V to 24V
- ✓ **PROTECTS UP TO EIGHT (8) LINES**

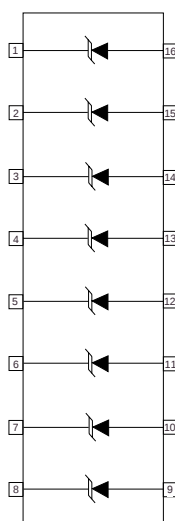
MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-16 Package
- ✓ Weight 0.15 grams (Approximate)
- ✓ Flammability rating UL 94V-0
- ✓ 16mm Tape and Reel Per EIA Standard 481-1-A
- ✓ Marking: Logo, Part Number & Pin One Defined By Dot on Top of Package

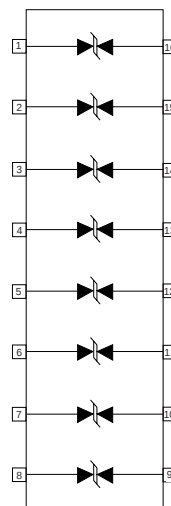


CIRCUIT DIAGRAMS

UNIDIRECTIONAL



BIDIRECTIONAL



SM1603

thru

SM1624C

DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	500	Watts
Operating Temperature	T_J	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (Notes 1 & 2)	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_p = 1 A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_b μA	MAXIMUM CAPACITANCE @ 0V, 1 MHz C pF	TEMPERATURE COEFFICIENT OF $V_{(BR)}$ $qV_{(BR)}$ mV/°C
SM1603	3.3	4.0	7.0	10.9V @ 43A	125	800	-3
SM1603C	3.3	4.0	7.0	10.9V @ 43A	125	450	-3
SM1605	5.0	6.0	9.8	13.5V @ 42A	20	550	3
SM1605C	5.0	6.0	9.8	13.5V @ 42A	20	310	3
SM1608	8.0	8.5	13.4	16.9V @ 34A	10	500	9
SM1608C	8.0	8.5	13.4	16.9V @ 34A	10	280	9
SM1612	12.0	13.3	19.0	25.9V @ 21A	2	185	16
SM1612C	12.0	13.3	19.0	25.9V @ 21A	2	105	16
SM1615	15.0	16.7	25.5	30.0V @ 17A	2	140	17
SM1615C	15.0	16.7	25.5	30.0V @ 17A	2	80	17
SM1624	24.0	26.7	40.0	49.0V @ 12A	2	88	26
SM1624C	24.0	26.7	40.0	49.0V @ 12A	2	50	26

Note 1: Part numbers with a "C" suffix are bidirectional devices.

Note 2: $V_F = 1.5$ Volts @ 100mA, 300 μs (square wave) unidirectional devices only.

GRAPHS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

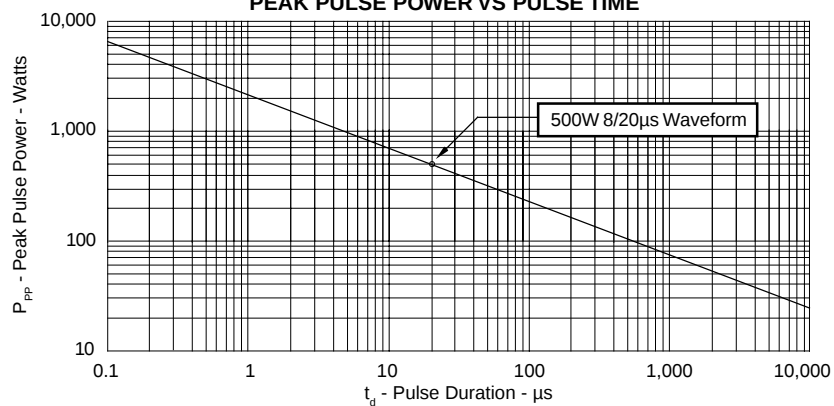


FIGURE 2
PULSE WAVE FORM

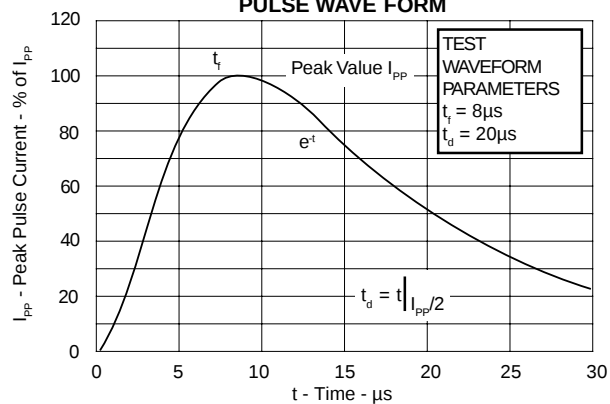
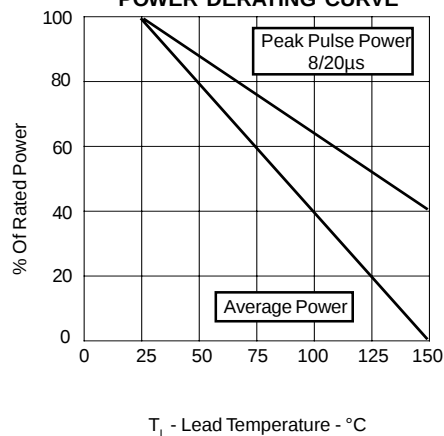
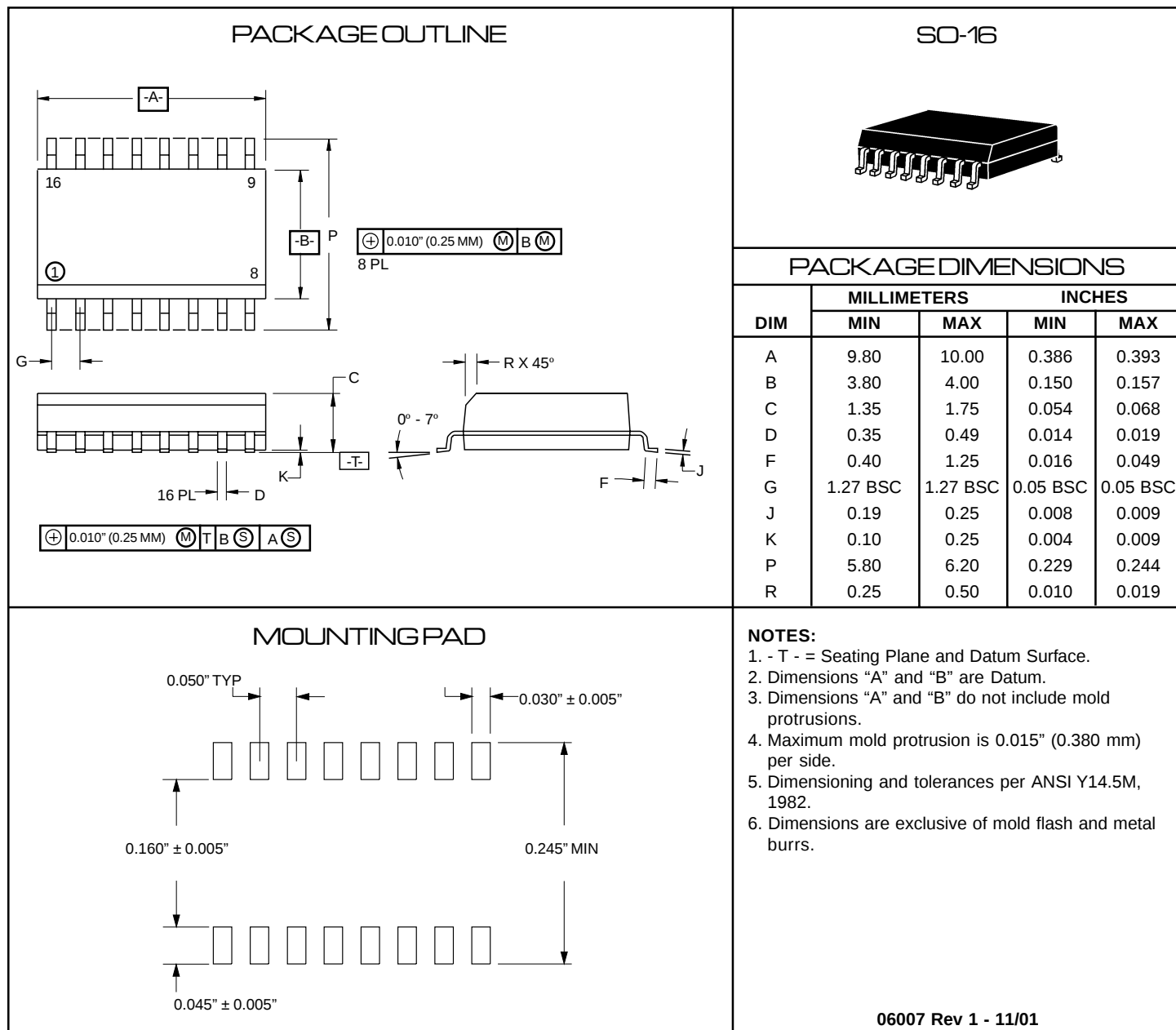


FIGURE 3
POWER DERATING CURVE



SM1603 thru SM1624C

PACKAGE OUTLINE & DIMENSIONS



TAPE & REEL PACKAGING:

Surface mount product is taped and reeled in accordance with EIA-481, reel quantities and sizes are as follows:

7 Inch Reel - 1,000 pieces per reel; 13 Inch Reel - 2,500 pieces per reel

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