

## STANDARD CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ Parallel Port
- ✓ RS-232, RS-422 & RS-423 Data Lines
- ✓ Industrial & Instrumentation Equipment
- ✓ Board Level Interface Protection
- ✓ I/O Port Protection

### IEC COMPATIBILITY (EN61000-4)

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 $\mu$ s - Level 2(Line-Gnd) & Level 3(Line-Line)

### FEATURES

- ✓ 1500 Watts Peak Pulse Power per Line (tp=8/20 $\mu$ s)
- ✓ ESD Protection > 40 kilovolts
- ✓ Protection for 8 or 9 Bidirectional Data Lines
- ✓ Externally Low Clamping Voltage
- ✓ Available in 4 Voltage Types Ranging From 5V to 24V
- ✓ Bidirectional Configuration
- ✓ Monolithic Design
- ✓ RoHS Compliant in Lead-Free Versions

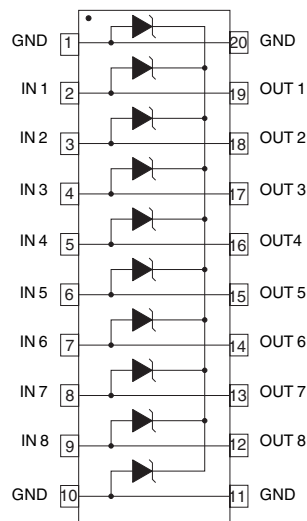
### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-20WB (Wide Body) Package
- ✓ Weight 0.5 grams (Approximate)
- ✓ Available in Tin-Lead or Lead-Free Pure-Tin Plating (Annealed)
- ✓ Solder Reflow Temperature:
  - Tin-Lead - Sn/Pb, 85/15: 240-245°C
  - Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability rating UL 94V-0
- ✓ 24mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Part Number, Date Code & Pin One Defined By Dot on Top of Package

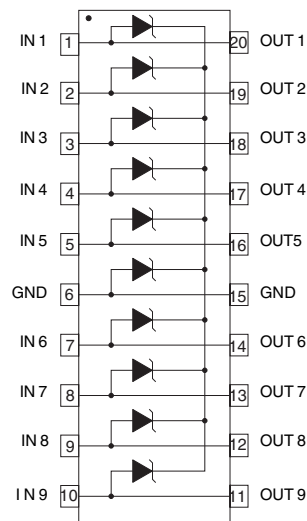


## PIN CONFIGURATIONS

EQUAL TO 8 BIDIRECTIONAL TVS DEVICES



EQUAL TO 9 BIDIRECTIONAL TVS DEVICES



# SM20MT05C thru SM20MT24C

## DEVICE CHARACTERISTICS

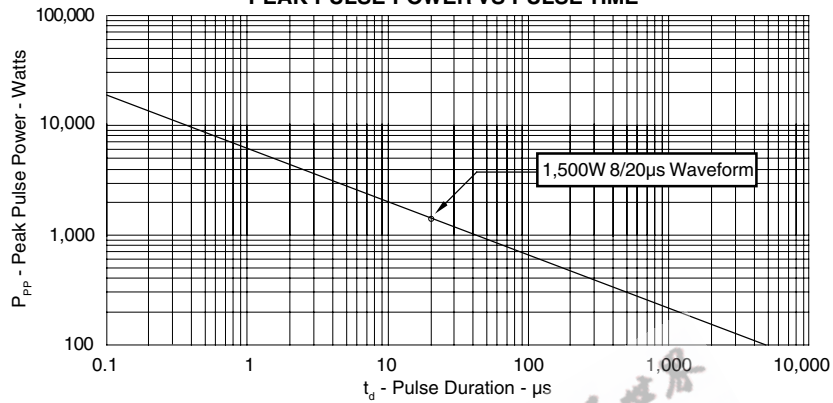
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	1500	Watts
Operating Temperature	$T_J$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER (See Note 1)	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $I_{PP} = 10A$ $V_C$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $I_{PP} = 25A$ $V_C$ VOLTS	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_D$ $\mu A$	MAXIMUM CAPACITANCE  @ $V_{WM}$ , 1 MHz $C$ pF
SM20MT05C	5.0	6.5	9.5	11.0	50	700
SM20MT08C	8.0	10.0	13.0	17.0	10	360
SM20MT15C	15.0	18.0	23.0	26.0	4	250
SM20MT24C	24.0	25.0	31.0	36.0	4	140

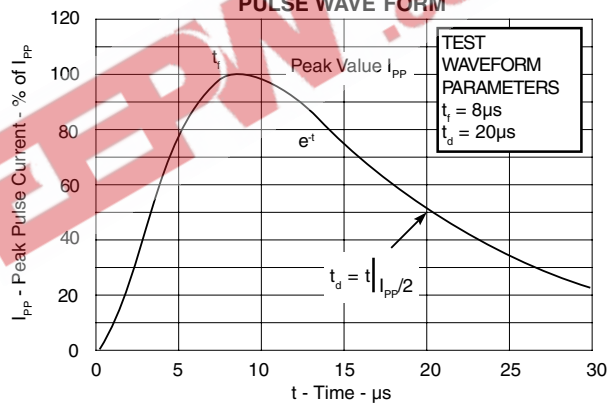
**Note 1:** These devices are bidirectional only. Electrical characteristics apply in both directions. The monolithic TVS array is based on 10 unidirectional P/N junctions with a common cathode and can be configured to offer 8 to 9 bidirectional lines of protection. The inputs are symmetrical and can be reversed for specific application layout requirements.

GRAPHS

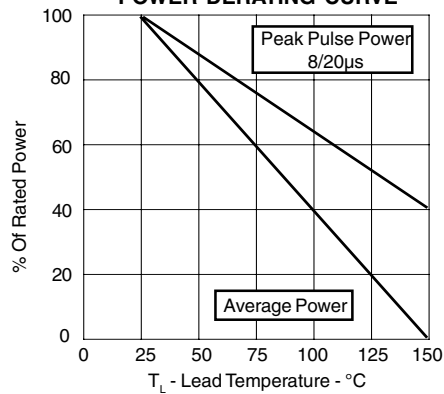
**FIGURE 1**  
**PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2**  
**PULSE WAVE FORM**

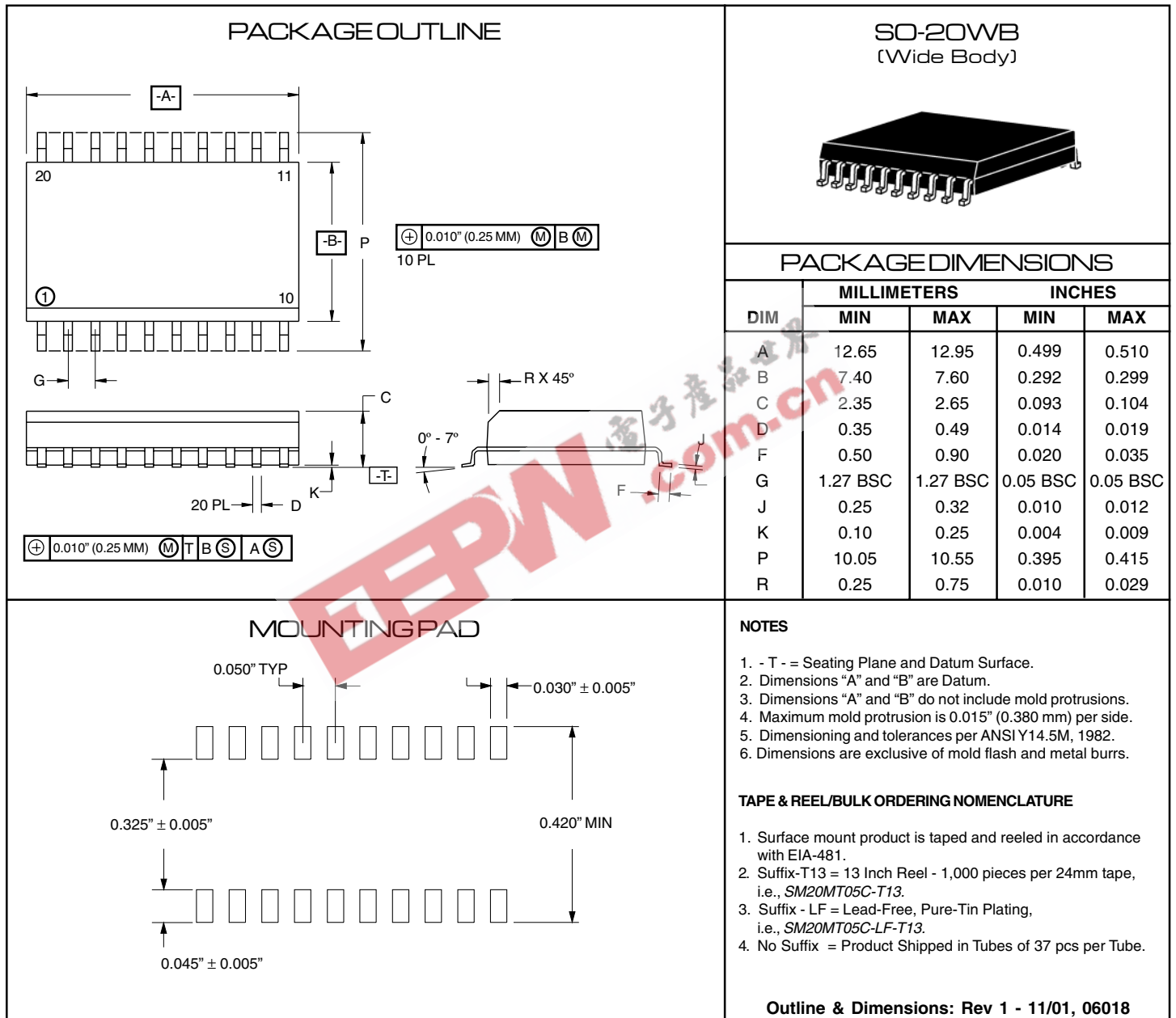


**FIGURE 3**  
**POWER DERATING CURVE**



# SM20MT05C thru SM20MT24C

## PACKAGE OUTLINE & DIMENSIONS



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