

## STANDARD CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ RS-232, RS-422 & RS-423 Data Lines
- ✓ Cellular Phones
- ✓ Audio/Video Inputs
- ✓ Portable Electronics
- ✓ Wireless Network Systems
- ✓ Sensor Lines

### 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

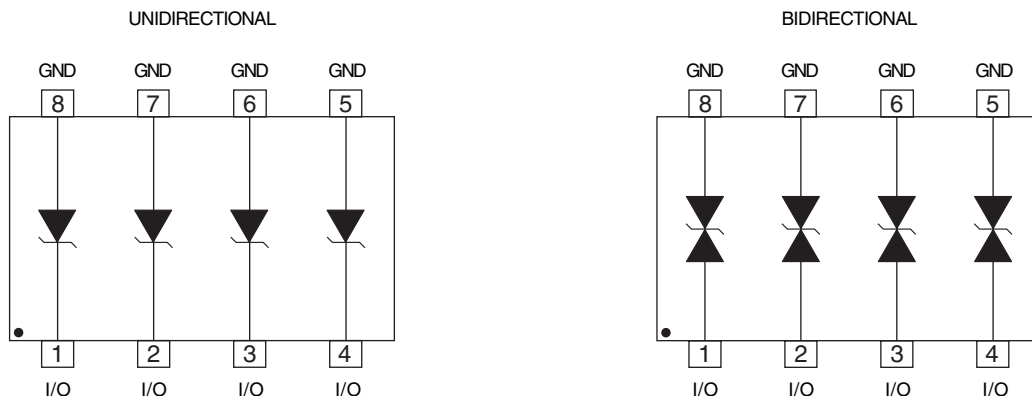
- ✓ 800 Watts Peak Pulse Power per Line ( $t_p=8/20\mu$ s)
- ✓ Unidirectional & Bidirectional Configurations
- ✓ Available in Voltage Types Ranging From: 5V to 24V
- ✓ Protects Up to Four (4) Lines
- ✓ ESD Protection > 40 kilovolts
- ✓ RoHS Compliant on Lead-Free Versions

### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-8 Package
- ✓ Weight 70 milligrams (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
- ✓ 12mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Marking Code, Date Code & Pin One Defined By Dot on Top of Package



### PIN CONFIGURATIONS



**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 | $P_{PP}$  | 800            | Watts |
| Operating Temperature                                 | $T_J$     | -55°C to 150°C | °C    |
| Storage Temperature                                   | $T_{STG}$ | -55°C to 150°C | °C    |
| Forward Voltage @ 100mA, 300μs - Square Wave (Note 1) | $V_F$     | 1.5            | Volts |

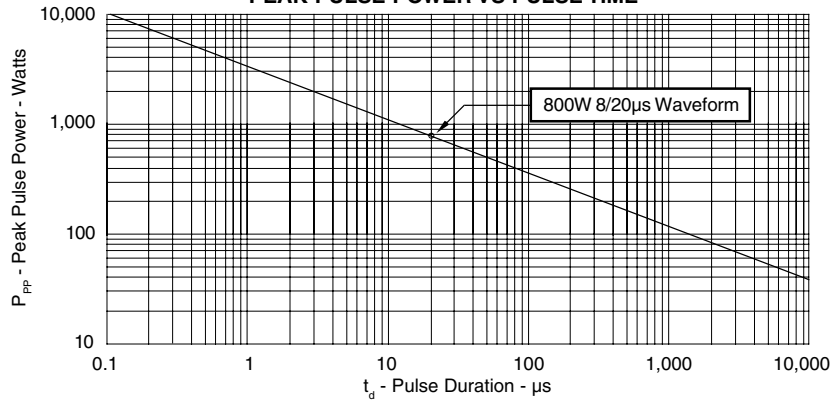
**Note 1:** Only applies to unidirectional devices.

| ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified |                     |  |   |  |  |  |  |
|---|---------------------|--|---|--|--|--|--|
| PART NUMBER<br>(See Note 1)   | DEVICE MARKING CODE | RATED STAND-OFF VOLTAGE<br><br>$V_{WM}$<br>VOLTS | MINIMUM BREAKDOWN VOLTAGE<br><br>@ 1mA<br>$V_{(BR)}$<br>VOLTS | MAXIMUM CLAMPING VOLTAGE<br>(See Fig. 2)<br><br>@ $I_p = 1A$<br>$V_C$<br>VOLTS | MAXIMUM CLAMPING VOLTAGE<br>(See Fig. 2)<br><br>@ 8/20μs<br>$V_C @ I_{PP}$ | MAXIMUM LEAKAGE CURRENT<br><br>@ $V_{WM}$<br>$I_d$<br>μA | MAXIMUM CAPACITANCE PER LINE<br><br>@ 0V, 1 MHz<br>C<br>pF |
| SMDB05  | PDA                 | 5.0  | 6.0   | 9.8  | 24.6V @ 45.0A  | 200  | 880  |
| SMDB05C   | PDB                 | 5.0  | 6.0   | 9.8  | 24.6V @ 45.0A  | 200  | 493  |
| SMDB08  | PDJ                 | 8.0  | 8.5   | 13.4   | 25.5V @ 40.0A  | 10   | 800  |
| SMDB08C   | PDK                 | 8.0  | 8.5   | 13.4   | 25.5V @ 40.0A  | 10   | 450  |
| SMDB12  | PDC                 | 12.0   | 13.3  | 19.0   | 32.9V @ 34.0A  | 2  | 440  |
| SMDB12C   | PDD                 | 12.0   | 13.3  | 19.0   | 32.9V @ 34.0A  | 2  | 248  |
| SMDB15  | PDE                 | 15.0   | 16.7  | 24.0   | 38.5V @ 27.0A  | 2  | 400  |
| SMDB15C   | PDF                 | 15.0   | 16.7  | 24.0   | 38.5V @ 27.0A  | 2  | 225  |
| SMDB24  | PDG                 | 24.0   | 26.7  | 40.0   | 48.5V @ 20.0A  | 2  | 275  |
| SMDB24C   | PDH                 | 24.0   | 26.7  | 40.0   | 48.5V @ 20.0A  | 2  | 155  |

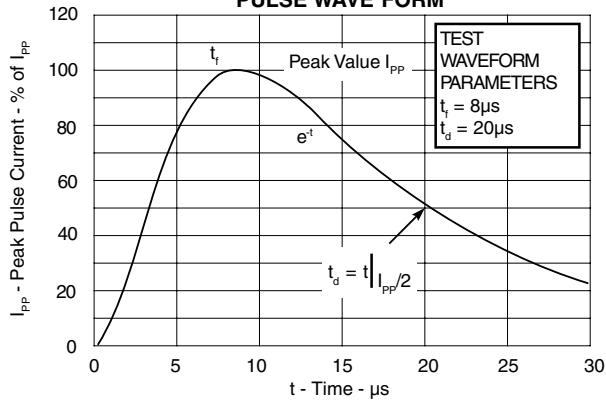
**Note 1:** Part numbers with a "C" suffix are bidirectional devices, i.e., SMDB05C.

GRAPHS

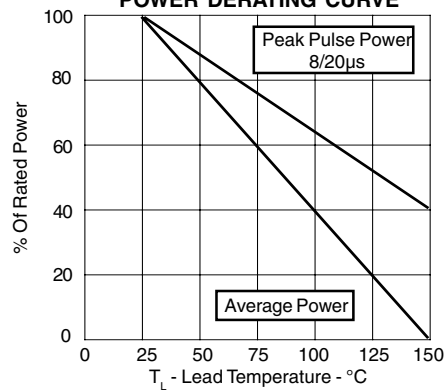
**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



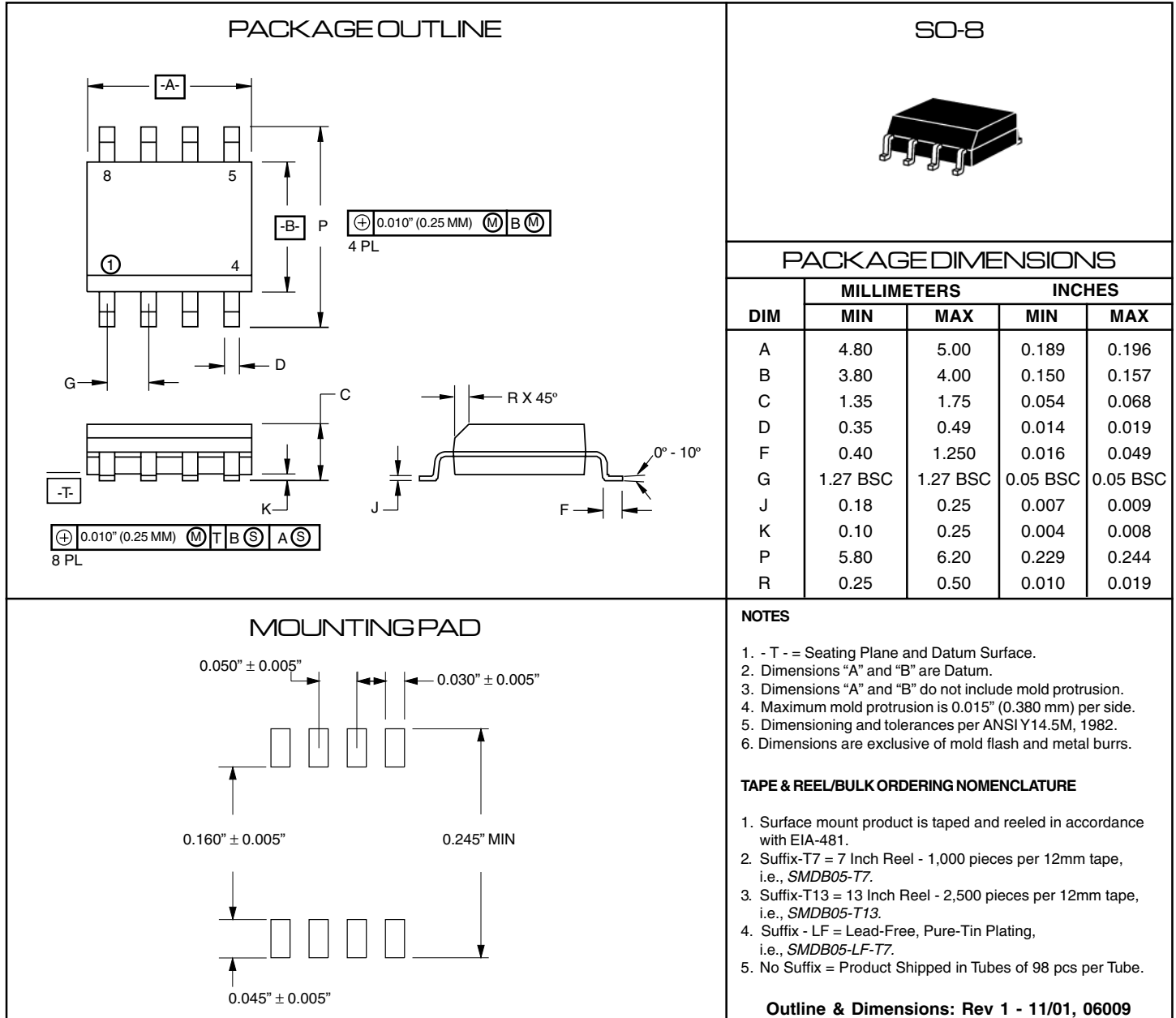
**FIGURE 2  
PULSE WAVE FORM**



**FIGURE 3  
POWER DERATING CURVE**



## PACKAGE OUTLINE & DIMENSIONS



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