

## STANDARD CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ RS-232, RS-422 & RS-423
- ✓ Cellular Phones
- ✓ Control & Monitoring Systems
- ✓ Portable Electronics
- ✓ Wireless Bus Protection

### IEC COMPATIBILITY (EN61000-4)

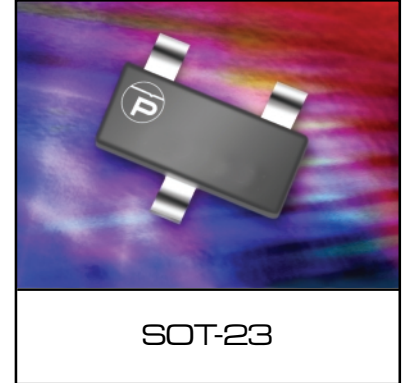
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20μs - Level 2(Line-Ground) & Level 3(Line-Line)

### FEATURES

- ✓ ESD Protection > 40 kilovolts
- ✓ 500 Watts Peak Pulse Power per Line (tp = 8/20μs)
- ✓ Low Clamping Voltage
- ✓ Available in Multiple Voltage Types Ranging from 3V to 36V
- ✓ Unidirectional & Bidirectional Configurations

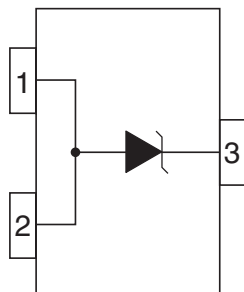
### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-23
- ✓ Weight 0.6 grams (Approximate)
- ✓ Flammability rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Device Marking: Marking Code

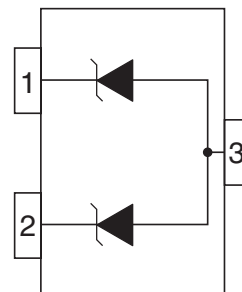


### PIN CONFIGURATION

UNIDIRECTIONAL



BIDIRECTIONAL



## 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    |
| Forward Voltage @ 100mA, 300μs - Square Wave (Note 1) | $V_F$     | 1.5            | Volts |

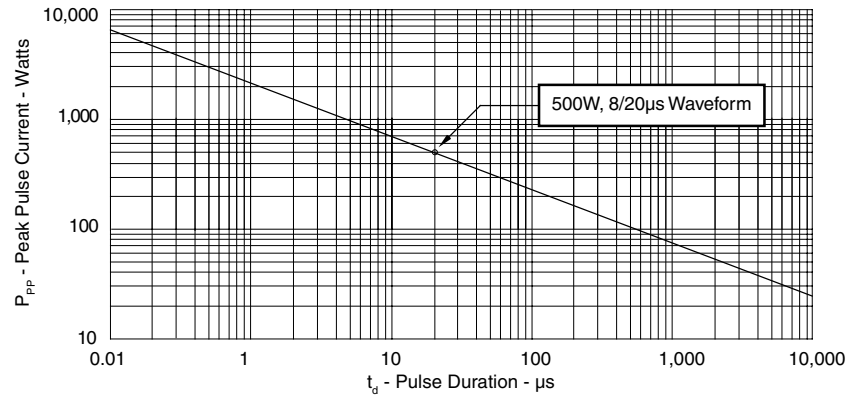
**Note 1:** Applies to unidirectional devices only.

| ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified |                |                                                  |                                                               |                                                                                |                                                                              |                                                          |                                                       |
|-----------------------------------------------------------------------|----------------|--------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------|
| PART NUMBER<br>(See Note 1)                                           | DEVICE MARKING | 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 | TYPICAL CAPACITANCE<br><br>@ 0V, 1 MHz<br>$C_J$<br>pF |
| PSOT03                                                                | 03             | 3.3                                              | 4.0                                                           | 6.5                                                                            | 10.9V @ 43.0A                                                                | 125                                                      | 500                                                   |
| PSOT03C                                                               | 03C            | 3.3                                              | 4.5                                                           | 7.0                                                                            | 10.9V @ 43.0A                                                                | 125                                                      | 500                                                   |
| PSOT05                                                                | 05             | 5.0                                              | 6.0                                                           | 9.8                                                                            | 13.5V @ 42.0A                                                                | 20                                                       | 500                                                   |
| PSOT05C                                                               | 05C            | 5.0                                              | 6.0                                                           | 9.8                                                                            | 13.5V @ 42.0A                                                                | 20                                                       | 500                                                   |
| PSOT08                                                                | 08             | 8.0                                              | 8.5                                                           | 13.4                                                                           | 16.9V @ 34.0A                                                                | 10                                                       | 500                                                   |
| PSOT08C                                                               | 08C            | 8.0                                              | 8.5                                                           | 13.4                                                                           | 16.9V @ 34.0A                                                                | 10                                                       | 500                                                   |
| PSOT12                                                                | 12             | 12.0                                             | 13.3                                                          | 19.0                                                                           | 25.9V @ 21.0A                                                                | 2                                                        | 500                                                   |
| PSOT12C                                                               | 12C            | 12.0                                             | 13.3                                                          | 19.0                                                                           | 25.9V @ 21.0A                                                                | 2                                                        | 500                                                   |
| PSOT15                                                                | 15             | 15.0                                             | 16.7                                                          | 24.0                                                                           | 30.0V @ 17.0A                                                                | 1                                                        | 500                                                   |
| PSOT15C                                                               | 15C            | 15.0                                             | 16.7                                                          | 24.0                                                                           | 30.0V @ 17.0A                                                                | 1                                                        | 500                                                   |
| PSOT24                                                                | 24             | 24.0                                             | 26.7                                                          | 43.0                                                                           | 49.0V @ 12.0A                                                                | 1                                                        | 500                                                   |
| PSOT24C                                                               | 24C            | 24.0                                             | 26.7                                                          | 43.0                                                                           | 49.0V @ 12.0A                                                                | 1                                                        | 500                                                   |
| PSOT36                                                                | 36             | 36.0                                             | 40.0                                                          | 51.0                                                                           | 76.8V @ 9.0A                                                                 | 1                                                        | 500                                                   |
| PSOT36C                                                               | 36C            | 36.0                                             | 40.0                                                          | 51.0                                                                           | 76.8V @ 9.0A                                                                 | 1                                                        | 500                                                   |

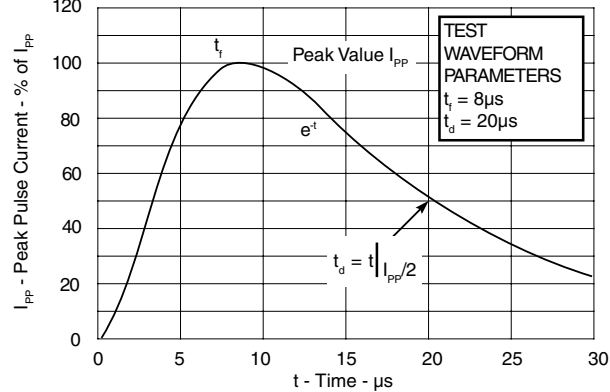
**Note 1:** Part numbers with an additional "C" suffix are bidirectional devices, i.e., PSOT05C.

GRAPHS

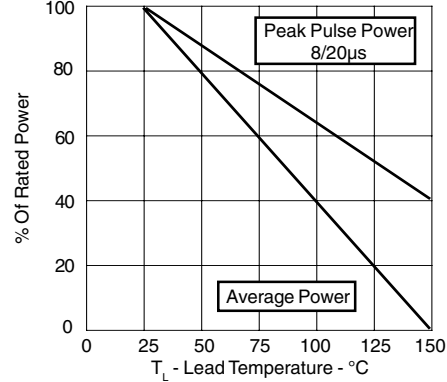
**FIGURE 1**  
**PEAK PULSE POWER VS PULSE TIME**



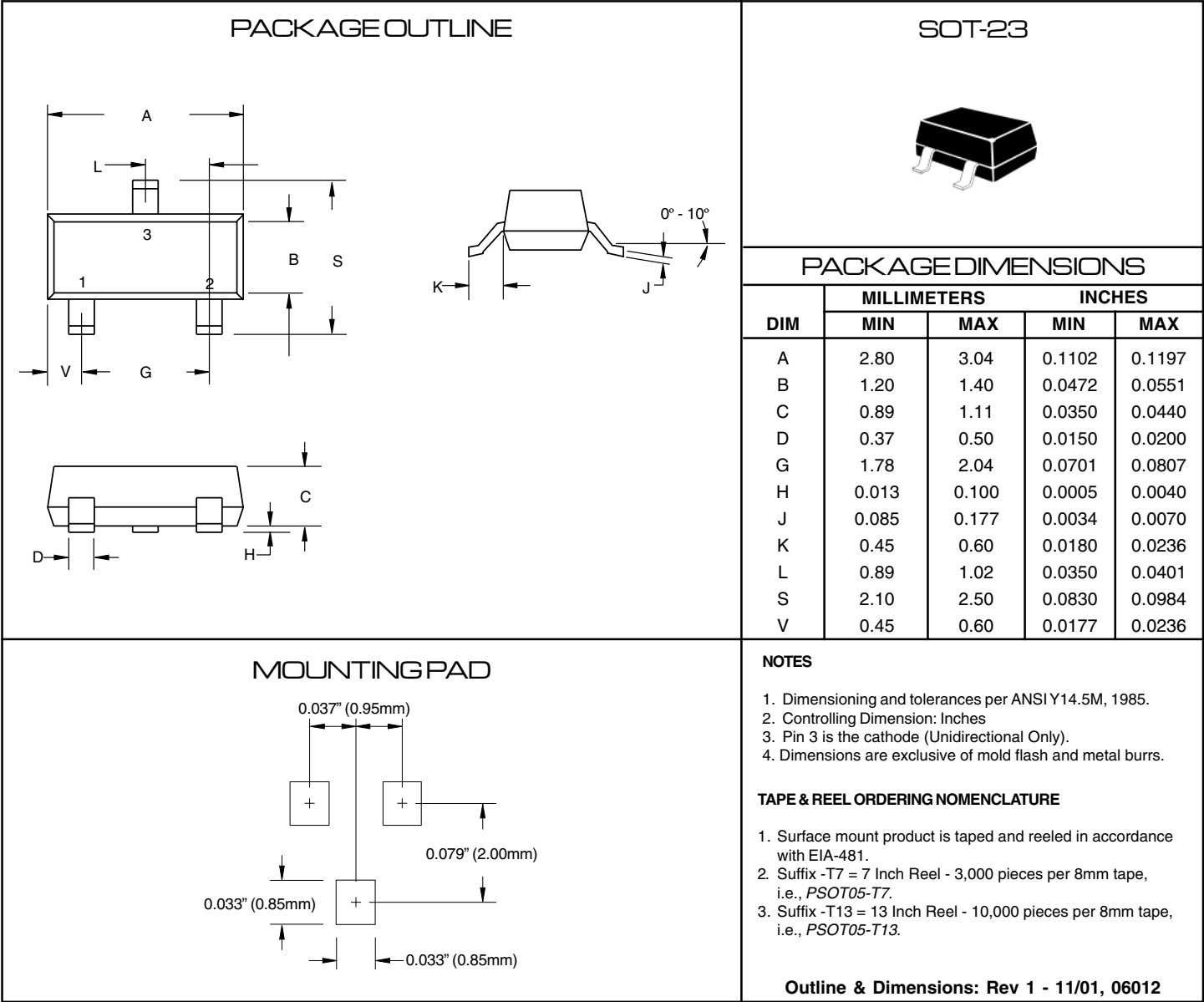
**FIGURE 2**  
**PULSE WAVE FORM**



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



PACKAGE OUTLINE & DIMENSIONS



**COPYRIGHT © ProTek Devices 2003**  
SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice (except JEDEC).

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice, and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance, ProTek assumes no responsibility with respect to the selection or specifications of such products.

**ProTek Devices**  
2929 South Fair Lane, Tempe, AZ 85282  
Tel: 602-431-8101 Fax: 602-431-2288  
E-Mail: [sales@protekdevices.com](mailto:sales@protekdevices.com)  
Web Site: [www.protekdevices.com](http://www.protekdevices.com)