



# PSOT03 thru PSOT36C

## 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)

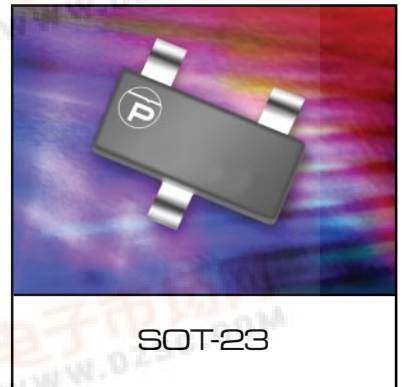
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20µs - Level 2(Line-Ground) & Level 3(Line-Line)

### FEATURES

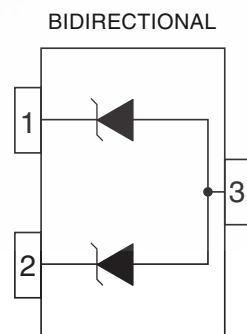
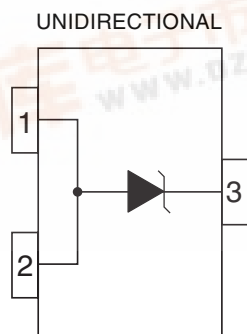
- ✓ ESD Protection > 40 kilovolts
- ✓ 500 Watts Peak Pulse Power per Line (tp = 8/20µs)
- ✓ Low Clamping Voltage
- ✓ Available in Multiple Voltage Types Ranging from 3V to 36V
- ✓ Unidirectional & Bidirectional Configurations
- ✓ RoHS Compliant in Lead-Free Versions

### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-23
- ✓ Weight 8mg (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
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Device Marking: Marking Code



### PIN CONFIGURATION



**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

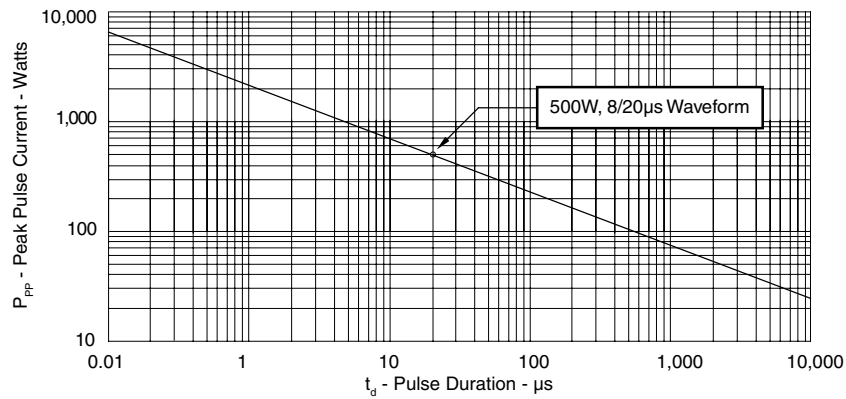
**Note 1:** Applies to unidirectional devices only.

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Note 1)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $I_P = 1A$ $V_C$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ 8/20μs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_D$ μA	TYPICAL CAPACITANCE  @ 0V, 1 MHz C pF
PSOT03C	03C	3.3	4.0	7.0	10.9V @ 43.0A	125	300
PSOT05	05	5.0	6.0	9.8	13.5V @ 42.0A	20	350
PSOT05C	05C	5.0	6.0	9.8	13.5V @ 42.0A	20	210
PSOT08	08	8.0	8.5	13.4	16.9V @ 34.0A	10	250
PSOT08C	08C	8.0	8.5	13.4	16.9V @ 34.0A	10	150
PSOT12	12	12.0	13.3	19.0	25.9V @ 21.0A	2	150
PSOT12C	12C	12.0	13.3	19.0	25.9V @ 21.0A	2	90
PSOT15	15	15.0	16.7	24.0	30.0V @ 17.0A	1	100
PSOT15C	15C	15.0	16.7	24.0	30.0V @ 17.0A	1	60
PSOT24	24	24.0	26.7	43.0	49.0V @ 12.0A	1	88
PSOT24C	24C	24.0	26.7	43.0	49.0V @ 12.0A	1	63
PSOT36	36	36.0	40.0	51.0	76.8V @ 9.0A	1	80
PSOT36C	36C	36.0	40.0	51.0	76.8V @ 9.0A	1	60

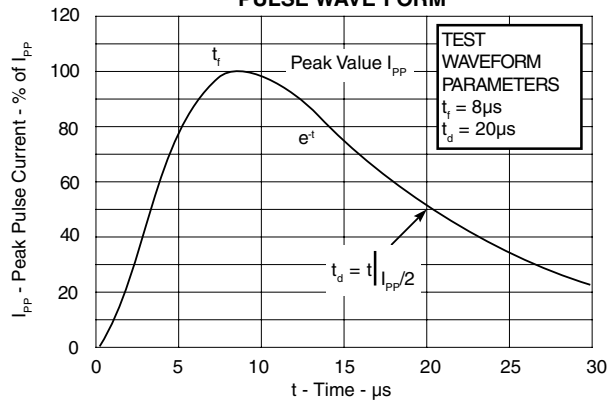
**Note 1:** Part numbers with an additional "C" suffix are bidirectional devices, i.e., PSOT05C.

GRAPHS

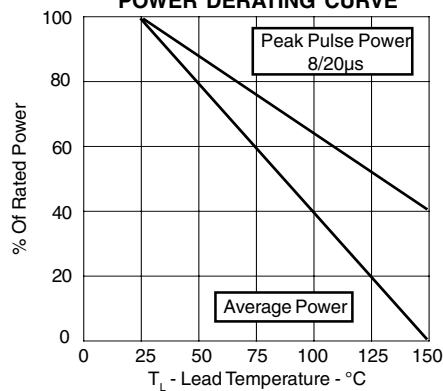
**FIGURE 1**  
**PEAK PULSE POWER VS PULSE TIME**



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



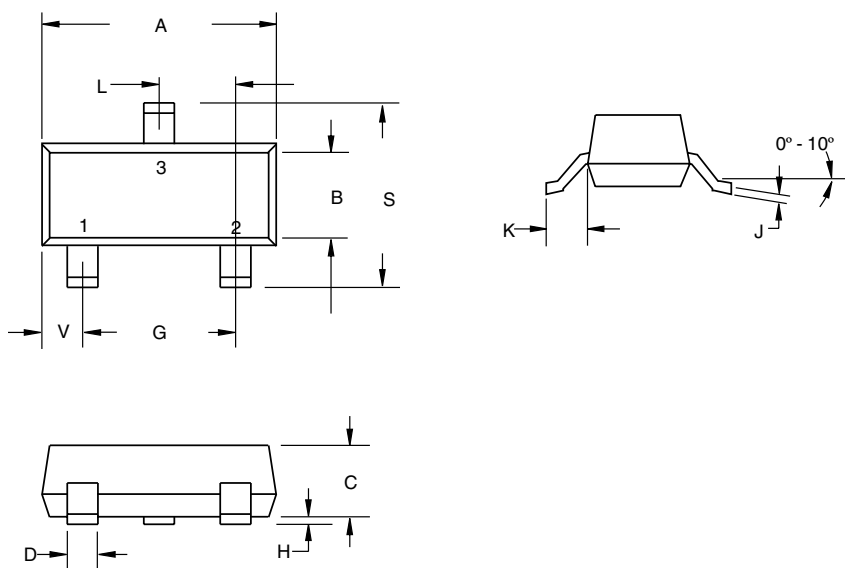
**FIGURE 3**  
**POWER DERATING CURVE**



# PSOT03 thru PSOT36C

## PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE



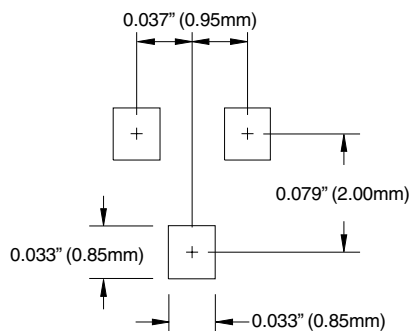
### SOT-23



### PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	0.89	1.11	0.0350	0.0440
D	0.37	0.50	0.0150	0.0200
G	1.78	2.04	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.45	0.60	0.0180	0.0236
L	0.89	1.02	0.0350	0.0401
S	2.10	2.50	0.0830	0.0984
V	0.45	0.60	0.0177	0.0236

### MOUNTING PAD



### NOTES

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

### TAPE & REEL ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., PSOT05-T7.
3. Suffix -T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, i.e., PSOT05-T13.
4. Suffix -LF = Lead-Free, Pure Tin Plating, i.e., PSOT24C-LF-T7.

Outline & Dimensions: Rev 1 - 11/01, 06012

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