

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)

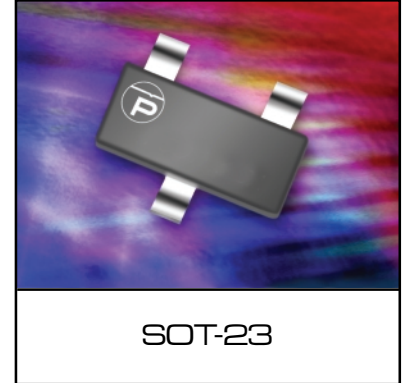
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 μ s - Level 2(Line-Ground) & Level 3(Line-Line)

FEATURES

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

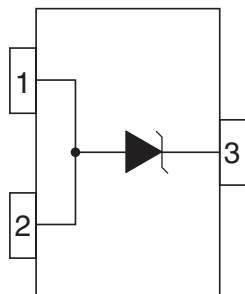
MECHANICAL CHARACTERISTICS

- ✓ 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

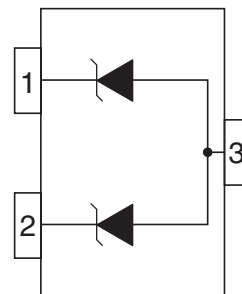


PIN CONFIGURATION

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 (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_J 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

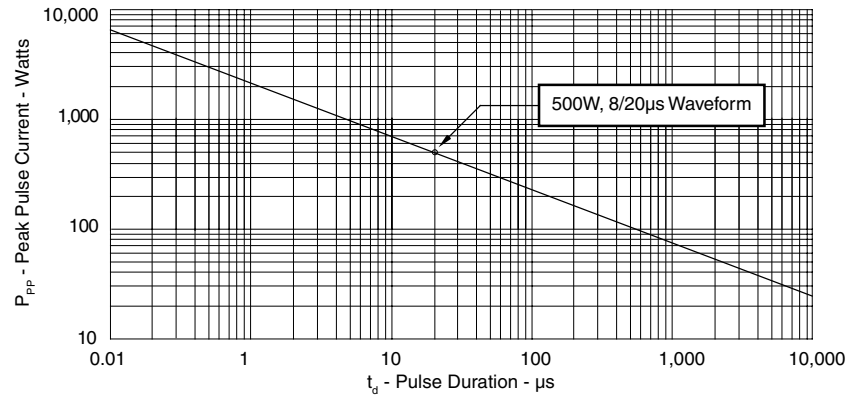


FIGURE 2
PULSE WAVE FORM

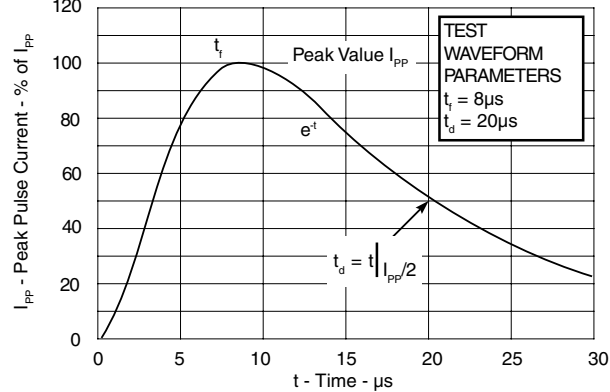
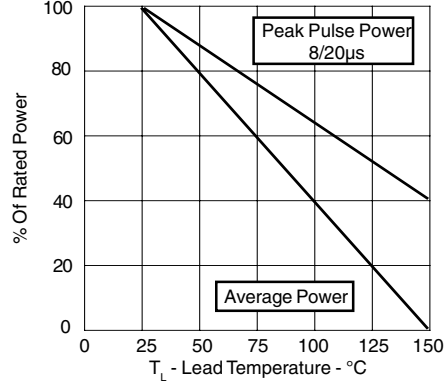
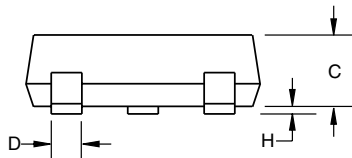
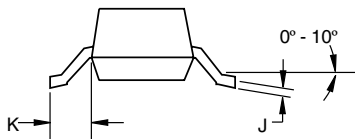
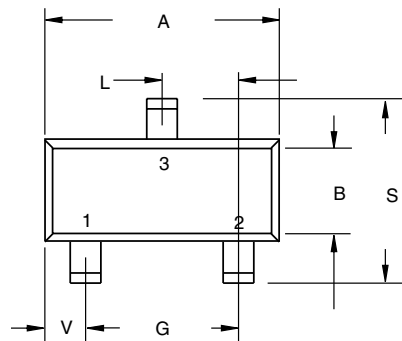
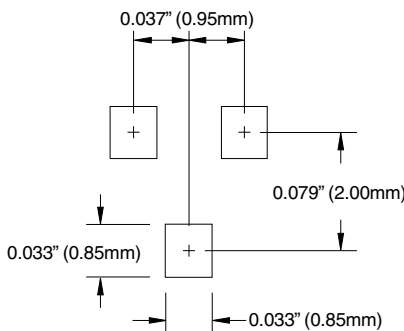


FIGURE 3
POWER DERATING CURVE



PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE 	SOT-23  <table><tr><th colspan="5">PACKAGE DIMENSIONS</th></tr><tr><th rowspan="2">DIM</th><th colspan="2">MILLIMETERS</th><th colspan="2">INCHES</th></tr><tr><th>MIN</th><th>MAX</th><th>MIN</th><th>MAX</th></tr><tr><td>A</td><td>2.80</td><td>3.04</td><td>0.1102</td><td>0.1197</td></tr><tr><td>B</td><td>1.20</td><td>1.40</td><td>0.0472</td><td>0.0551</td></tr><tr><td>C</td><td>0.89</td><td>1.11</td><td>0.0350</td><td>0.0440</td></tr><tr><td>D</td><td>0.37</td><td>0.50</td><td>0.0150</td><td>0.0200</td></tr><tr><td>G</td><td>1.78</td><td>2.04</td><td>0.0701</td><td>0.0807</td></tr><tr><td>H</td><td>0.013</td><td>0.100</td><td>0.0005</td><td>0.0040</td></tr><tr><td>J</td><td>0.085</td><td>0.177</td><td>0.0034</td><td>0.0070</td></tr><tr><td>K</td><td>0.45</td><td>0.60</td><td>0.0180</td><td>0.0236</td></tr><tr><td>L</td><td>0.89</td><td>1.02</td><td>0.0350</td><td>0.0401</td></tr><tr><td>S</td><td>2.10</td><td>2.50</td><td>0.0830</td><td>0.0984</td></tr><tr><td>V</td><td>0.45</td><td>0.60</td><td>0.0177</td><td>0.0236</td></tr></table>	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
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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. Outline & Dimensions: Rev 1 - 11/01, 06012																																																																					

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