

## STANDARD CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ Laptop Computers
- ✓ Cellular Phones
- ✓ Digital Cameras
- ✓ Personal Digital Assistant (PDA)

### IEC COMPATIBILITY (EN61000-4)

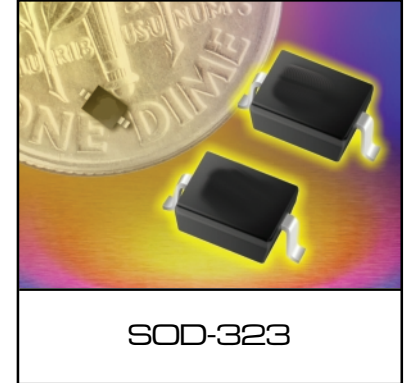
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 $\mu$ s - Level 2(Line-Ground) & Level 3(Line-Line)

### FEATURES

- ✓ Unidirectional: 500 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu$ s)
- ✓ Bidirectional: 400 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu$ s)
- ✓ Unidirectional & Bidirectional Configurations
- ✓ Replacement for MLV (0805)
- ✓ Protects One Power or I/O Port
- ✓ ESD Protection > 40 kilovolts
- ✓ Low Clamping Voltage
- ✓ Available in Multiple Voltage Types Ranging from 3V to 24V

### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOD-323
- ✓ Weight 10 milligrams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Device Marking: Marking Code & Polarity Band (*Unidirectional Only*)



### PIN CONFIGURATIONS



## DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Unidirectional: Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Fig. 1	$P_{PP}$	500	Watts
Bidirectional: Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Fig. 1	$P_{PP}$	400	Watts
Operating Temperature	$T_J$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C

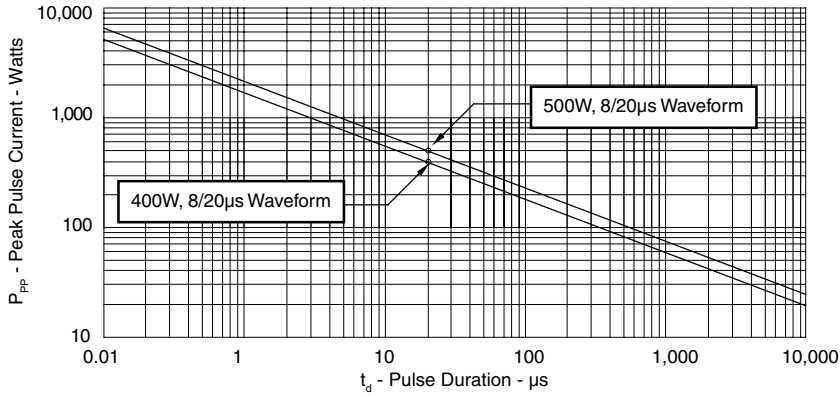
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Notes 1-2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		$V_{WM}$ VOLTS	@ 1mA $V_{(BR)}$ VOLTS	@ $I_p = 1A$ $V_C$ VOLTS	@ 8/20 $\mu s$ $V_C @ I_{PP}$	@ $V_{WM}$ $I_D$ $\mu A$	@ 0V, 1 MHz $C_J$ pF
PSD03	A	3.3	4.0	6.5	10.9V @ 43.0A	125	500
PSD03C	G	3.3	4.0	7.0	10.9V @ 39.0A	125	200
PSD05	B	5.0	6.0	9.8	13.5V @ 42.0A	10	350
PSD05C	H	5.0	6.0	9.8	14.5V @ 28.0A	10	175
PSD08	C	8.0	8.5	13.4	16.9V @ 34.0A	10	250
PSD08C	J	8.0	8.5	13.4	18.5V @ 17.0A	10	150
PSD12	D	12.0	13.3	19.0	25.9V @ 21.0A	1	150
PSD12C	K	12.0	13.3	19.0	29.5V @ 14.0A	1	50
PSD15	E	15.0	16.7	24.0	30.0V @ 17.0A	1	100
PSD15C	L	15.0	16.7	24.0	33.0V @ 12.0A	1	40
PSD18	G	18.0	20.0	29.0	40.0V @ 9.0A	1	90
PSD18C	N	18.0	20.0	29.0	40.0V @ 9.0A	1	40
PSD24	F	24.0	26.7	43.0	49.0V @ 12.0A	1	88
PSD24C	M	24.0	26.7	43.0	46.2V @ 9.0A	1	40
PSD36	R	36.0	40.0	60.0	75.0V @ 5.0A	1	75
PSD36C	T	36.0	40.0	60.0	75.0V @ 5.0A	1	35

**Note 1:** Part numbers with an additional "C" suffix are bidirectional devices, i.e., PSD05C.

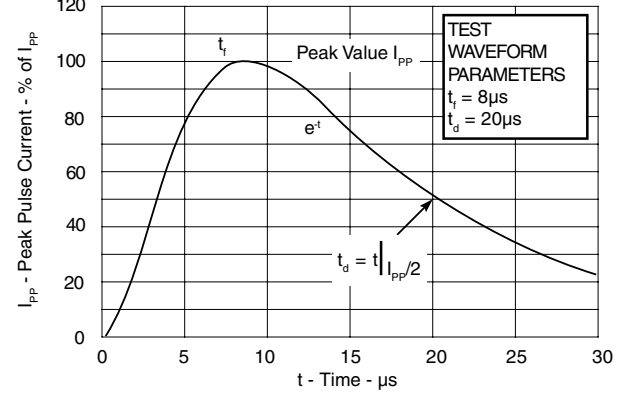
**Note 2:** For Bidirectional Devices Only: Electrical characteristics apply in both directions.

**GRAPHS**

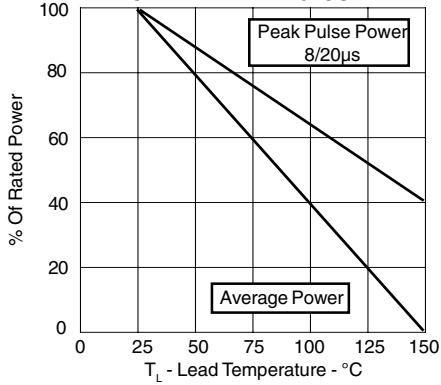
**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



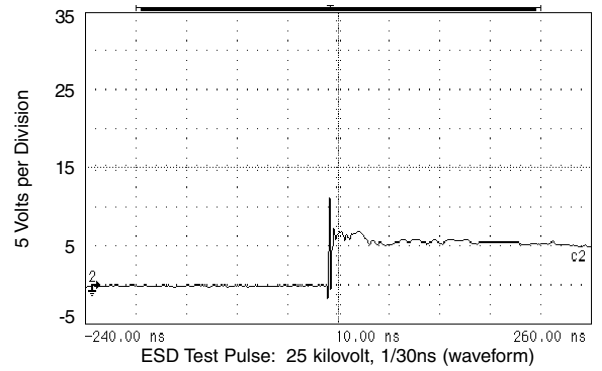
**FIGURE 2  
PULSE WAVE FORM**



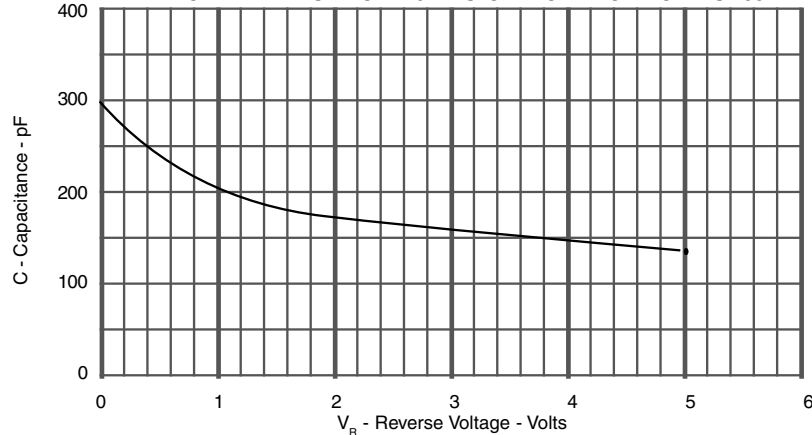
**FIGURE 3  
POWER DERATING CURVE**



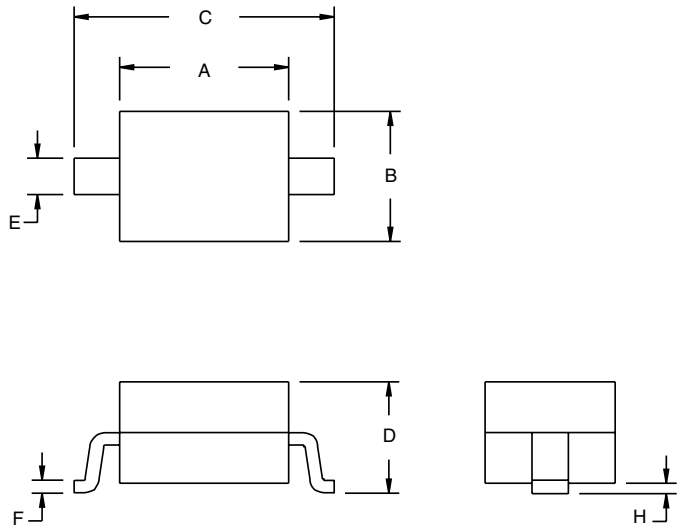

**FIGURE 4  
OVERSHOOT & CLAMPING VOLTAGE FOR PSD03**



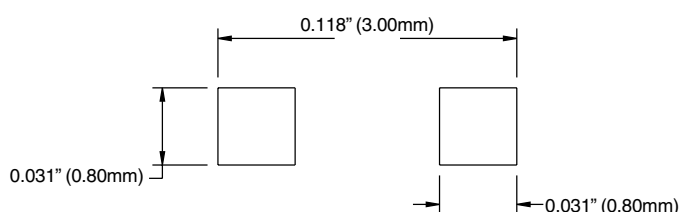
**FIGURE 5  
TYPICAL REVERSE VOLTAGE VS CAPACITANCE FOR PSD05**



**PACKAGE OUTLINE & DIMENSIONS**

<p style="text-align: center;"><b>PACKAGE OUTLINE</b></p> 	<p style="text-align: center;"><b>SOD-323 PACKAGE</b></p> 			
<b>PACKAGE DIMENSIONS</b>				
<b>DIM</b>	<b>MILLIMETERS</b>		<b>INCHES</b>	
	<b>MIN</b>	<b>MAX</b>	<b>MIN</b>	<b>MAX</b>
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.39	2.70	0.094	0.106
D	0.92	1.10	0.036	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004

**MOUNTING PAD**



**NOTES**

- Controlling Dimensions in Millimeters.
- Dimensions are exclusive of mold flash and metal burrs.

**TAPE & REEL ORDERING NOMENCLATURE**

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., PSD05C-T7.

**Outline & Dimensions: Rev 1 - 11/01, 06010**

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