

### Features

- Small SOD-323 package
- Protects one data or power line
- Working Voltage: 4.5V
- High peak pulse current capability
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 80A (5/50ns)
  - IEC61000-4-5 (Lightning) 130A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Applications

- Mobile Phones and Accessories
- Battery Protection
- USB VBus
- Power Line Protection
- Hand Held Portable Applications

### Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Sn
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000pcs
- Reel Size: 7 inch
- Device Marking: 47D

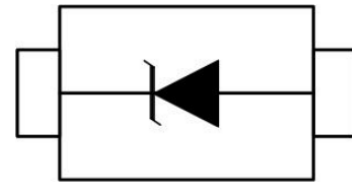
### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	P <sub>pp</sub>	2200	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	°C

### Dimensions SOD-323



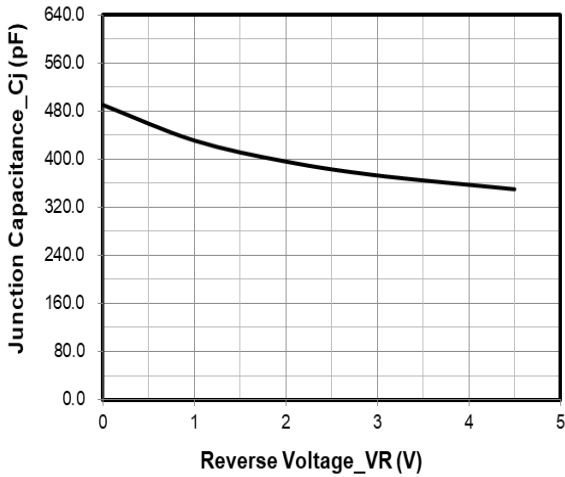
### Pin Configuration



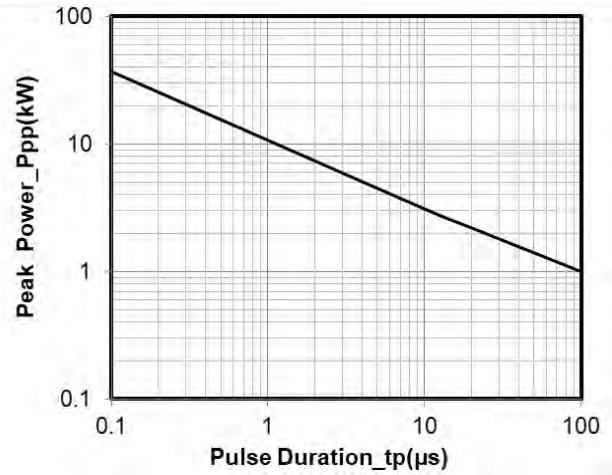
**Electrical Characteristics** (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$				4.5	V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	4.7			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 4.5\text{V}$			1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 20\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			8.5	V
Clamping Voltage	$V_C$	$I_{PP} = 130\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			17	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$		500		pF

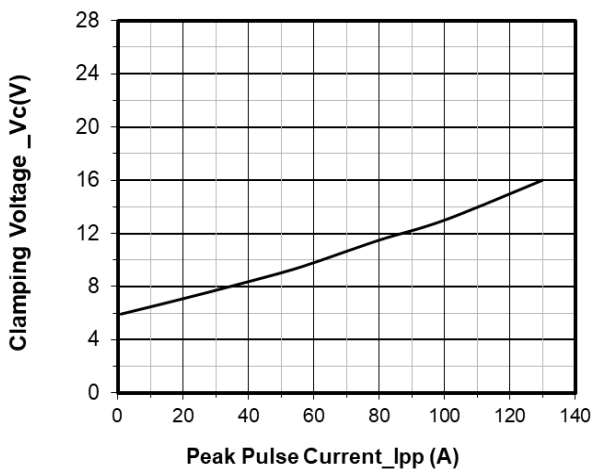
**Typical Performance Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise specified)



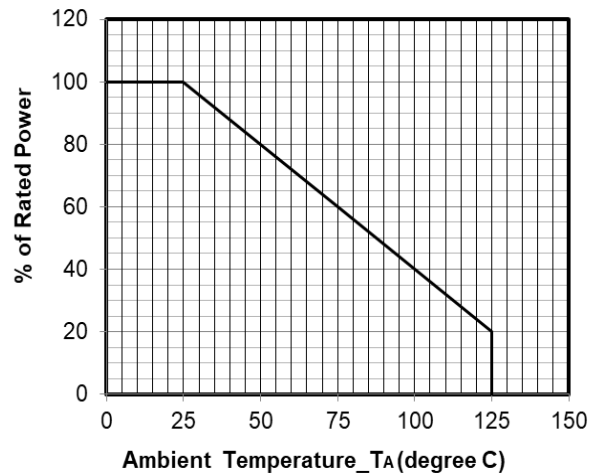
**Junction Capacitance vs. Reverse Voltage**



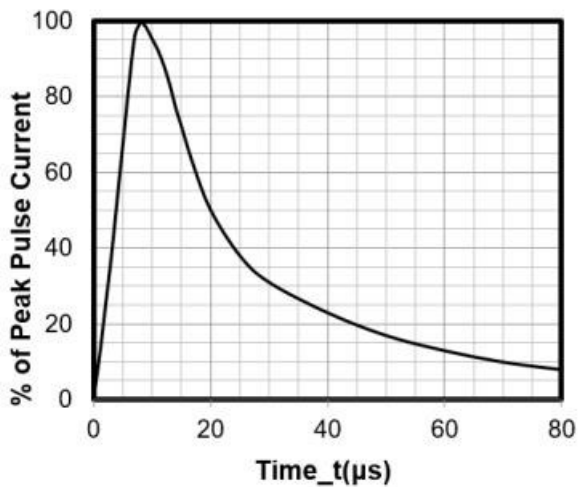
**Peak Pulse Power vs. Pulse Time**



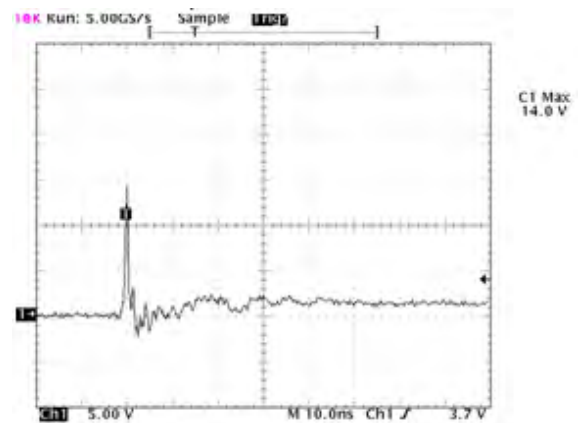
**Clamping Voltage vs. Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )**



**Power Derating Curve**



**8 X 20μs Pulse Waveform**

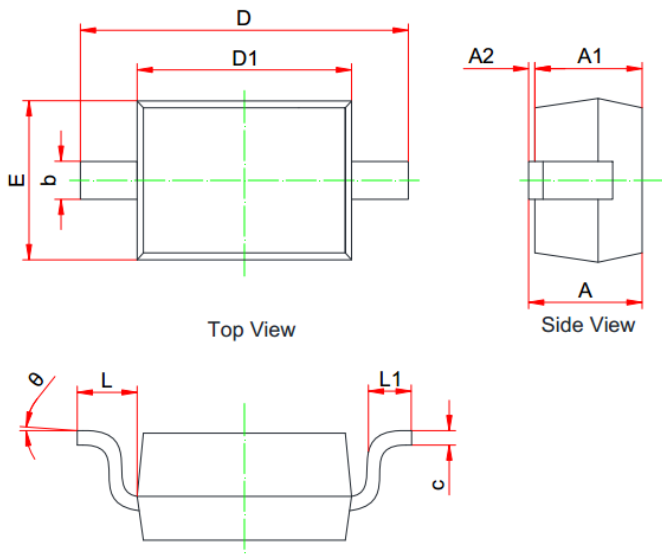


Note: Data is taken with a 10x attenuator

**ESD Clamping Voltage**

**8 kV Contact per IEC61000-4-2**

## SOD-323 Package Outline Drawing



	MILLIMETERS		
	MIN	NOM	MAX
A	0.800	--	1.100
A1	0.800	--	0.900
A2	0.000	--	0.100
b	0.250	--	0.400
c	0.080	--	0.177
D1	1.600	1.700	1.800
D	2.300	--	2.800
E	1.150	--	1.400
L	0.475REF		
L1	0.100	--	0.500
$\Theta$	0°	--	8°

## Suggested Land Pattern



Unit: mm

### NOTICE

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