

### Features

- Small SOD-323 package
- Protects one data or power line
- Working Voltage: 8V
- 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) 54A (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
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

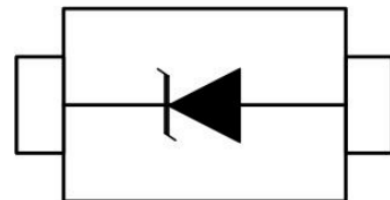
### Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppp	1053	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

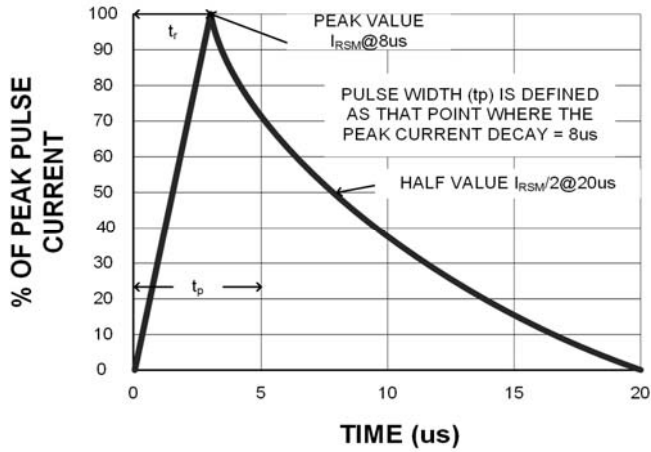


**Electrical Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

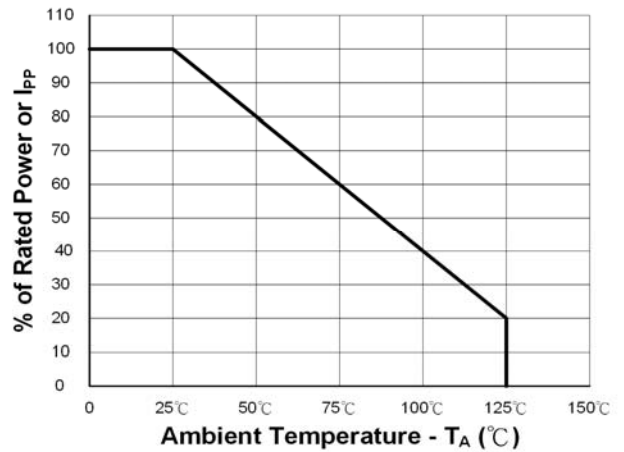
Part Number	Device Marking	$V_{RWM}$ (V)	$V_{BR}$ (V)	$I_T$ (mA)	$V_C$ @1A	$V_C$		$I_R$ $\mu\text{A}$ (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
SD0871D3	P08	8	8.3	1	9.2	19.5	54	1	385

**TYPIC CHARACTERISTICS**

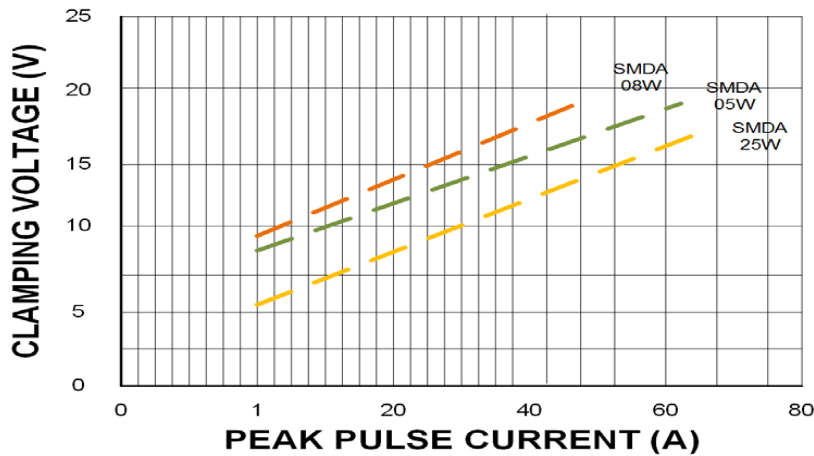
**Figure 1. 8 x 20  $\mu\text{s}$  Waveform**



**Figure 2. Power Derating Curve**



**Figure 3. Clamping Voltage vs. Peak Pulse Current ( $t_p=8/20 \mu\text{s}$ )**



## TYPIC CHARACTERISTICS

Figure 4. Clamping Voltage vs. Peak Pulse Current ( $t_p=8/20 \mu s$ )

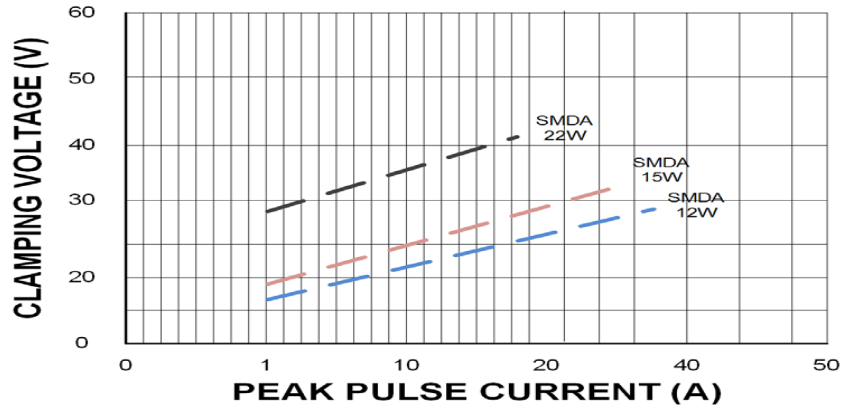


Figure 5. Typic Breakdown Voltage vs. Temperature

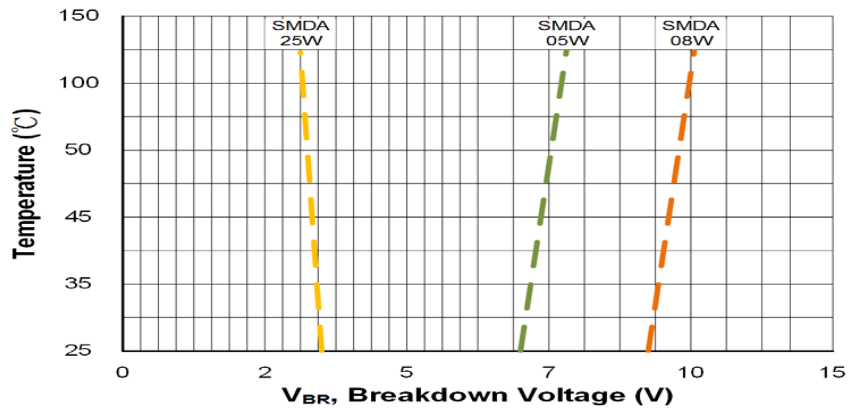
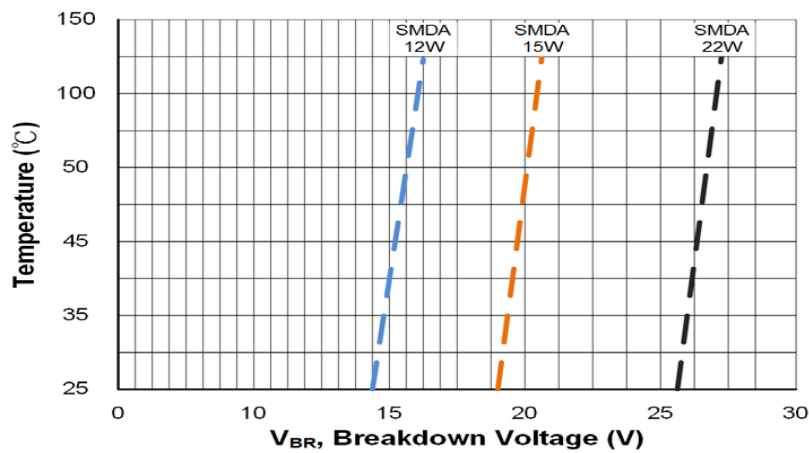
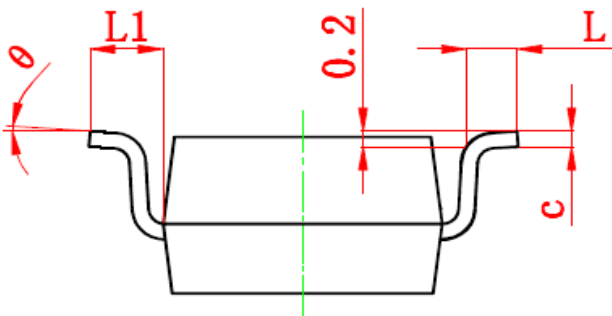
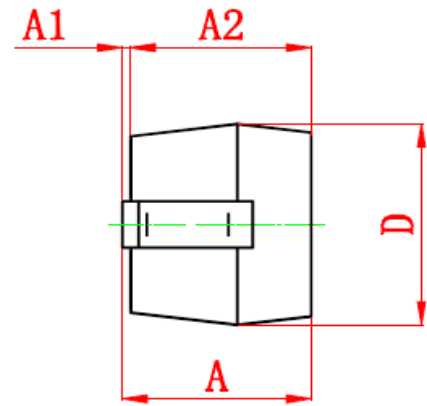
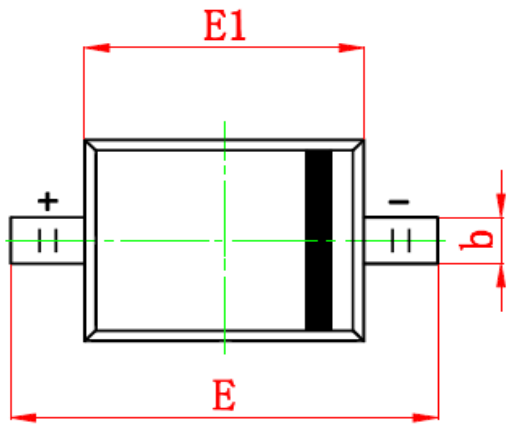


Figure 6. Typic Breakdown Voltage vs. Temperature



SOD-323 Package Outline & Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.000Max.		0.039Max.	
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	2.500	2.750	0.098	0.108
E1	1.600	1.800	0.063	0.071
L	0.250	0.400	0.010	0.016
L1	0.475 REF.		0.019 REF.	
$\theta$	0°	8°	0°	8°