

500W Unidirectional TVS Diode

### Features

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 15\text{kV}$
    - Contact discharge:  $\pm 8\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 12A (8/20 $\mu\text{s}$ )
- RoHS Compliant

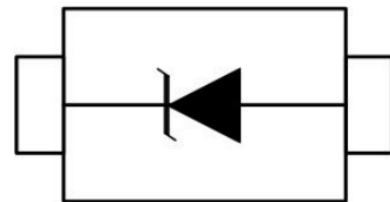
### Dimensions SOD-323



### Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

### Pin Configuration



### Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7 inch

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

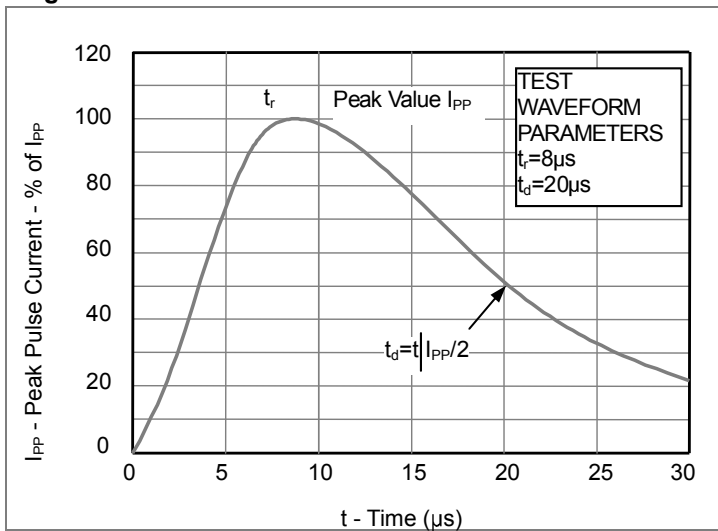
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	P <sub>pp</sub>	500	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 15$	Kv
ESD per IEC 61000-4-2 (Contact)		$\pm 8$	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	°C

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

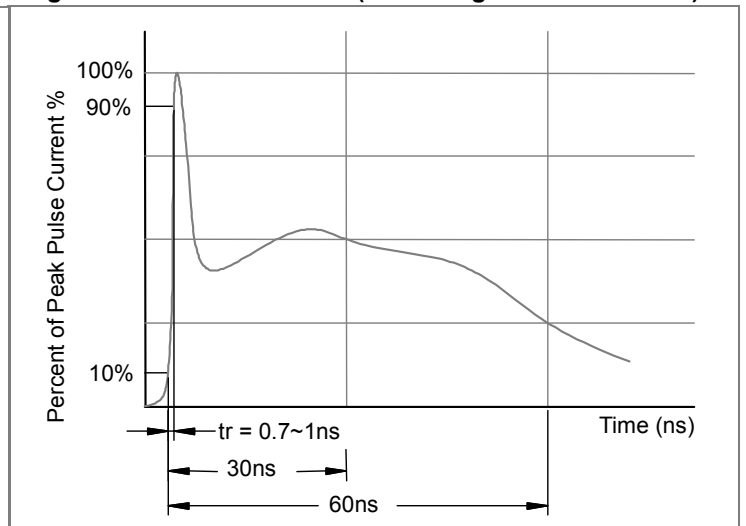
Part Number	Device Marking	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> @1A	V <sub>C</sub>		I <sub>R</sub> μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
SD03	03W	3.3	4	1	6.5	10.9	30	40	500

**Characteristic Curves**

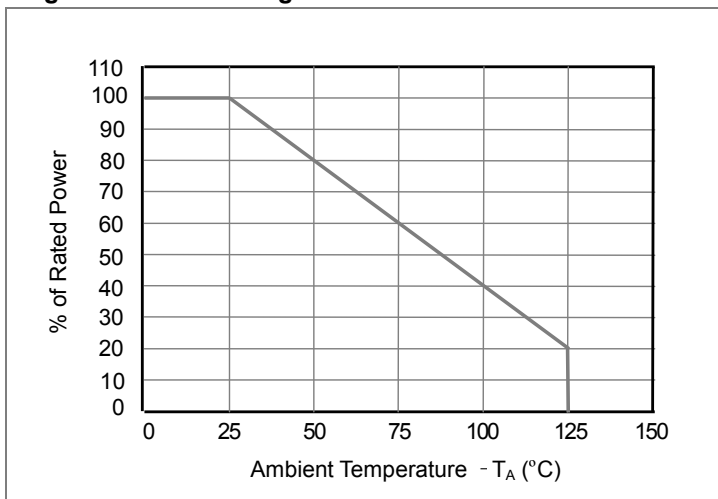
**Fig1. 8/20μs Pulse Waveform**



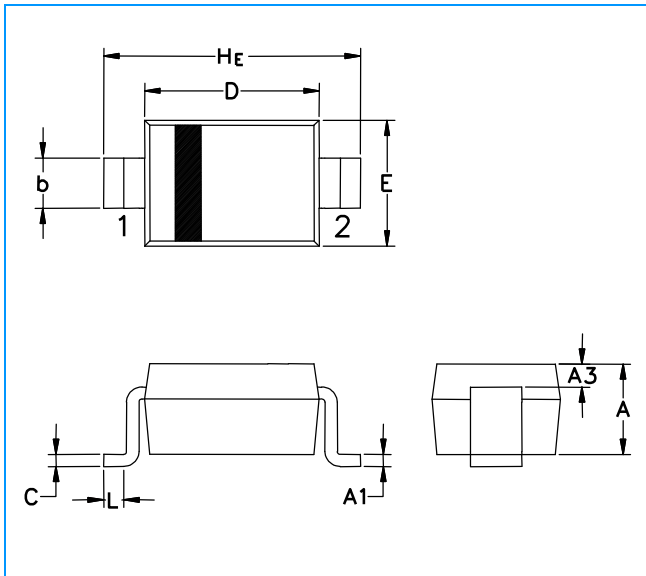
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

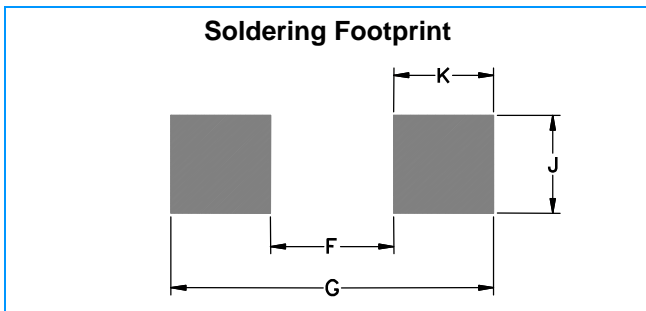


SOD-323 Package Outline & Dimensions



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
<b>A</b>	0.80	0.90	1.00	0.031	0.035	0.040
<b>A1</b>	0.00	0.05	0.10	0.000	0.002	0.004
<b>A3</b>	0.15 REF			0.006 REF		
<b>b</b>	0.25	0.32	0.40	0.010	0.012	0.016
<b>C</b>	0.089	0.12	0.177	0.003	0.005	0.007
<b>D</b>	1.60	1.70	1.80	0.062	0.066	0.070
<b>E</b>	1.15	1.25	1.35	0.045	0.049	0.053
<b>L</b>	0.08			0.003		
<b>H<sub>E</sub></b>	2.30	2.50	2.70	0.090	0.098	0.105

Soldering Footprint



Symbol	Millimeters	Inches
<b>F</b>	1.60	0.063
<b>G</b>	2.85	0.112
<b>J</b>	0.83	0.033
<b>K</b>	0.63	0.025