

## Features

- ◆ 170W peak pulse power (8/20 $\mu$ s)
- ◆ Protects one data or power line
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 5V
- ◆ Ultra low clamping voltage
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 25$ kV  
Contact discharge:  $\pm 25$ kV
  - IEC61000-4-5 (Lightning) 13A (8/20 $\mu$ s)
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ RoHS Compliant

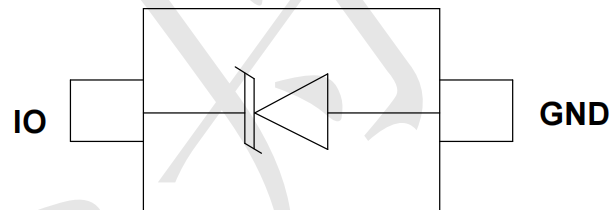
## Mechanical Characteristics

- ◆ Package: SOD123
- ◆ Lead Finish: Matte Tin
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Pb-Free, Halogen Free, RoHS/WEEE Compliant
- ◆ Shipping Qty : 3000pcs/7Inch Tape & Reel

## Applications

- ◆ Computers and peripherals
- ◆ Audio and video equipment
- ◆ Cellular handsets and accessories
- ◆ Portable electronics

## Dimensions and Pin Configuration



## Marking



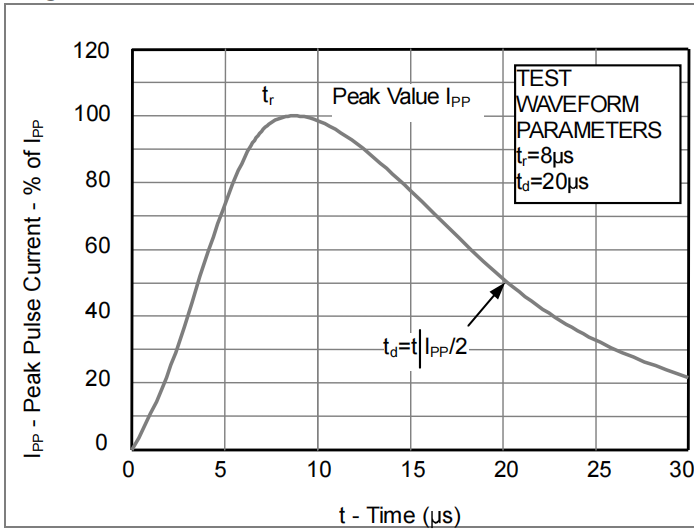
**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20 $\mu\text{s}$ )	Ppk	170	W
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 25$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 25$	
Operating Temperature Range	TJ	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

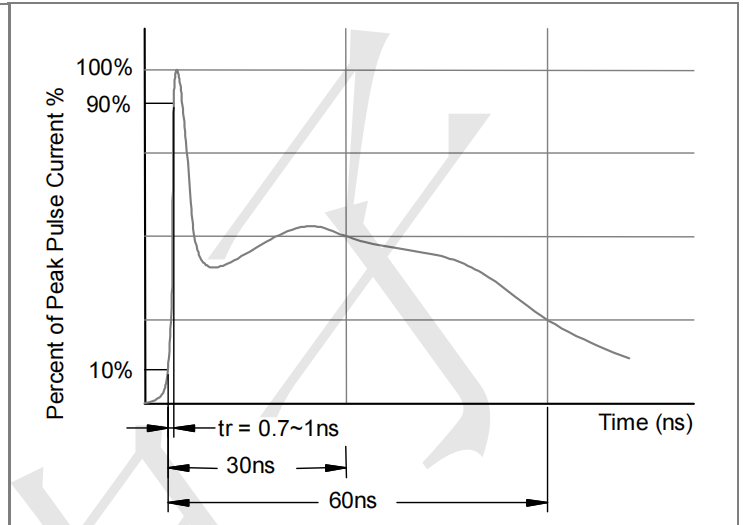
**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6.2			V	IT = 1mA
Reverse Leakage Current	IR		0.01	0.1	$\mu\text{A}$	VRWM = 5 V
Clamping Voltage	VC			10	V	I <sub>PP</sub> = 1A (8 x 20 $\mu\text{s}$ pulse)
Clamping Voltage	VC			13	V	I <sub>PP</sub> = 10A (8 x 20 $\mu\text{s}$ pulse)
Peak Pulse Current	I <sub>PP</sub>			13	A	t <sub>p</sub> =8/20 $\mu\text{s}$
Junction Capacitance	CJ			100	pF	VR=0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3

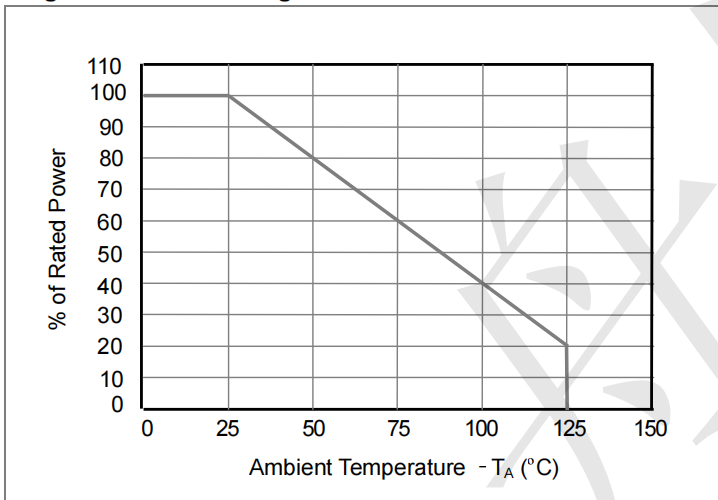
**Fig1. 8/20 $\mu$ s Pulse Waveform**



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

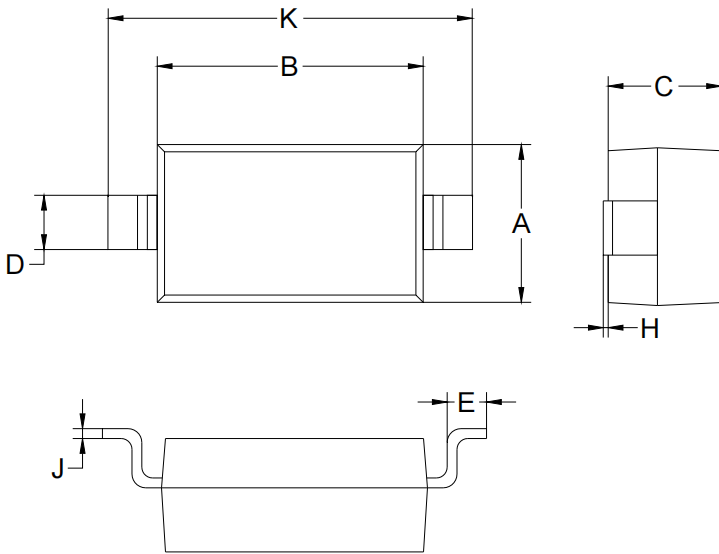


**Fig3. Power Derating Curve**



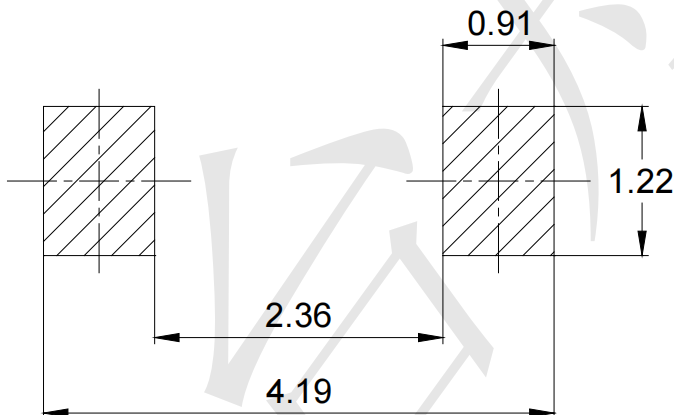


Outline Drawing - SOD123 (unit: mm)



SOD-123		
Dim	Min	Max
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85

Mounting Pad Layout-SOD123 (unit: mm)



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