

# Transient Voltage Suppressors for ESD Protection

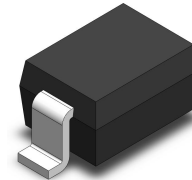
Low Capacitance

## SE07D3P11GJ

### Feature

- ◆ Small SOD-323 package
- ◆ Protects one data or power line
- ◆ Operating Voltage: 7V
- ◆ High peak pulse current capability
- ◆ Ultra low clamping voltage
- ◆ Protects one power line or data line
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30\text{kV}$ ; Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-5 (Lightning) 120A (8/20 $\mu\text{s}$ )
- ◆ RoHS Compliant

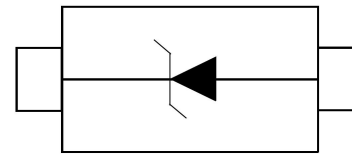
SOD-323



### Applications

- ◆ Mobile Phones and Accessories
- ◆ Battery Protection
- ◆ Power Supply Protection
- ◆ Hand Held Portable Applications
- ◆ Peripherals

### Pin Configuration



### Mechanical Characteristics

- ◆ Package: SOD-323
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ Moisture Sensitivity: Level 1 per J-STD-020
- ◆ Packaging: 3000 PCS / Tape & Reel
- ◆ Reel Size: 7 inch

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

Parameter	Symbol	Value	Units
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{PP}$	120	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	KV
Operating Temperature Range	$T_{OP}$	-55 to +125	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

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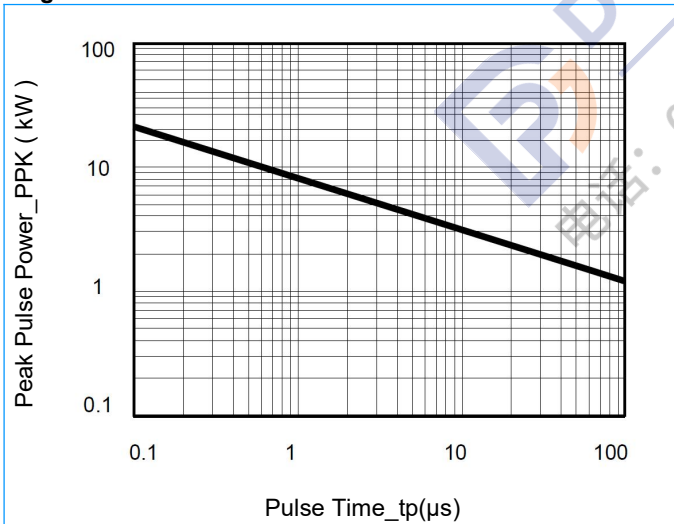
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## Electrical Characteristics (T<sub>A</sub>= 25°C unless otherwise specified)

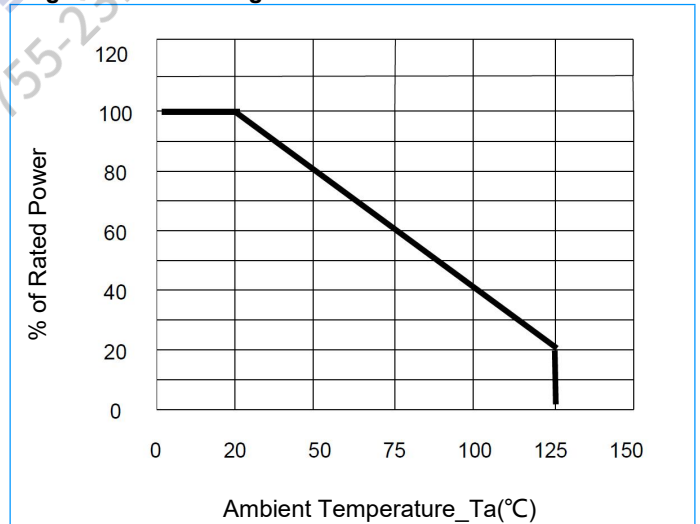
Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Working Voltage	V <sub>RWM</sub>	--	--	--	7.0	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	8.0	--	--	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =7V	--	--	1.0	μA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =1A (8 x 20μs pulse)	--	--	11	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =120A (8 x 20μs pulse)	--	33	--	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1Mhz	--	750	--	pF

## Ratings and V-I Curve Characteristics Curves (T<sub>A</sub>=25°C, unless otherwise noted)

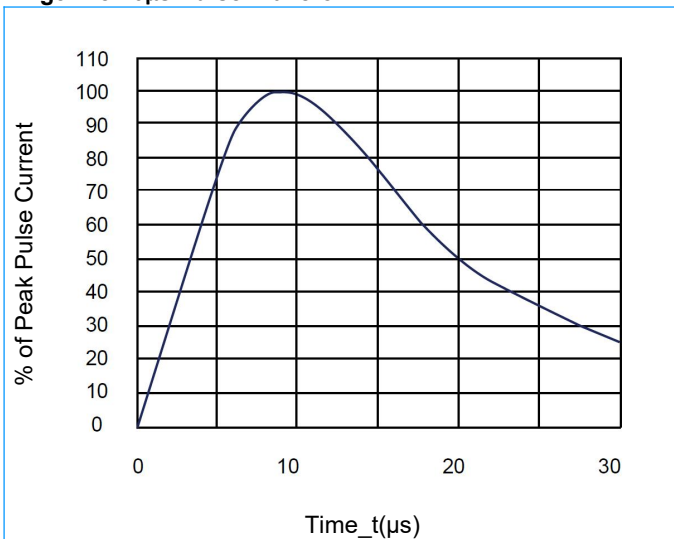
**Fig1. Peak Pulse Power vs. Pulse Time**

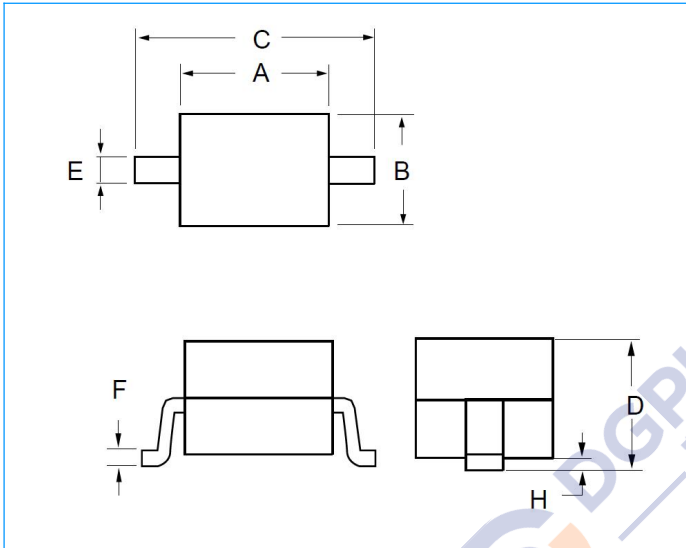


**Fig2. Power Derating Curve**

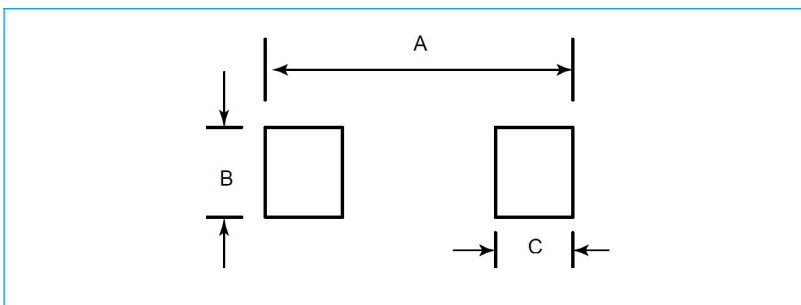


**Fig3. 8/20μs Pulse Waveform**



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**SOD-323 Package Outline Drawing**


Symbol	Millimeters			Inches	
	Min.	Nom.	Max.	Min.	Max.
<b>A</b>	1.50	1.65	1.80	0.060	0.071
<b>B</b>	1.20	1.30	1.40	0.045	0.054
<b>C</b>	2.30	2.50	2.70	0.090	0.107
<b>D</b>	--	--	1.10	--	0.043
<b>E</b>	0.30	--	0.40	0.012	0.016
<b>F</b>	0.10	--	0.25	0.004	0.010
<b>H</b>	--	--	0.10	--	0.004

**Suggested Land Pattern**


Symbol	Dimensions	
	Millimeters	Inches
<b>A</b>	3.15	0.120
<b>B</b>	0.80	0.031
<b>C</b>	0.80	0.031