

Transient Voltage Suppressors for ESD Protection

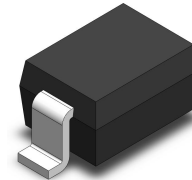
Low Capacitance

SE12D3P11GJ

Feature

- ◆ Small SOD-323 package
- ◆ Protects one data or power line
- ◆ Operating Voltage: 12V
- ◆ 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) 60A (8/20 μs)
- ◆ RoHS Compliant

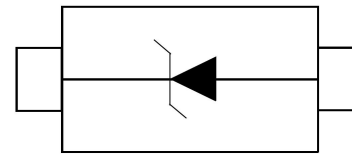
SOD-323



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 μs)	I_{PP}	60	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	KV
Operating Temperature Range	T_{OP}	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Transient Voltage Suppressors for ESD Protection

Low Capacitance

SE12D3P11GJ

Electrical Characteristics (T_A= 25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Working Voltage	V _{RWM}	--	--	--	12	V
Breakdown Voltage	V _{BR}	I _T =1mA	13.3	--	--	V
Reverse Leakage Current	I _R	V _{RWM} =12V	--	--	0.2	μA
Clamping Voltage	V _C	I _{PP} =1A (8 x 20μs pulse)	--	--	18	V
Clamping Voltage	V _C	I _{PP} =60A (8 x 20μs pulse)	--	25	--	V
Junction Capacitance	C _J	V _R =0V, f=1Mhz	--	500	--	pF

Ratings and V-I Curve Characteristics Curves (T_A=25°C, unless otherwise noted)

Fig1. Peak Pulse Power vs. Pulse Time

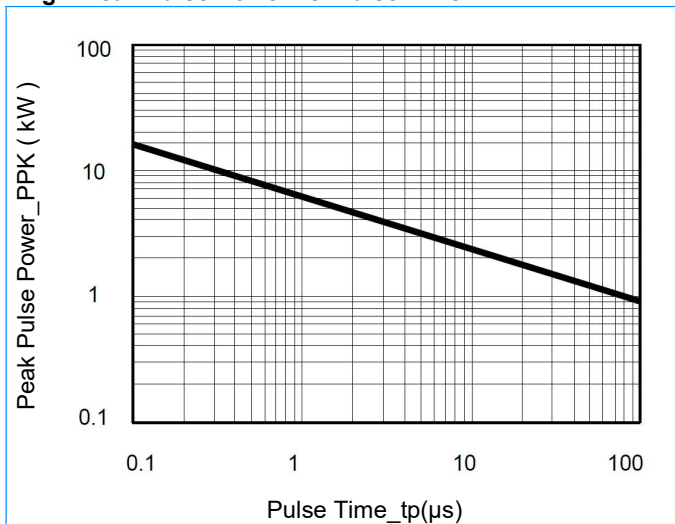


Fig2. Power Derating Curve

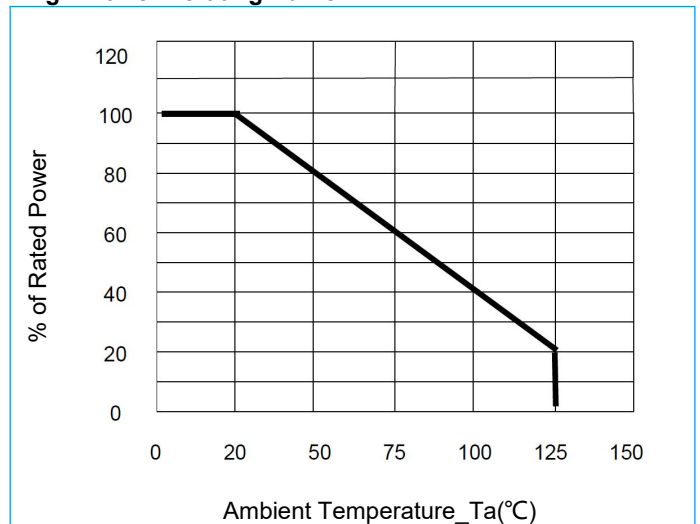
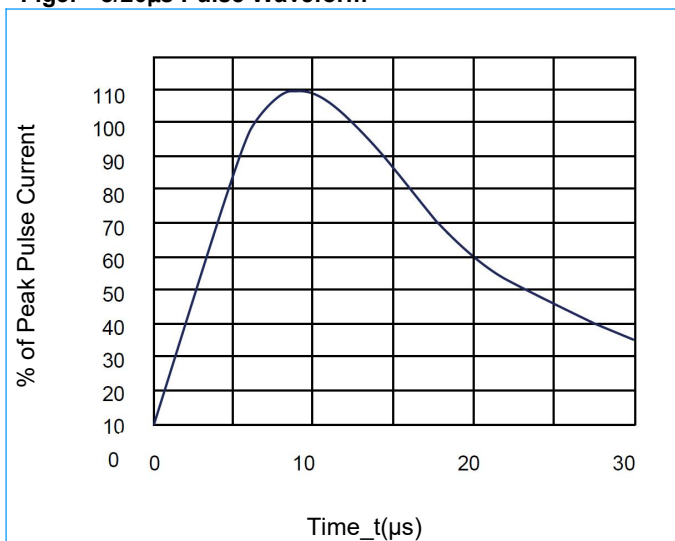
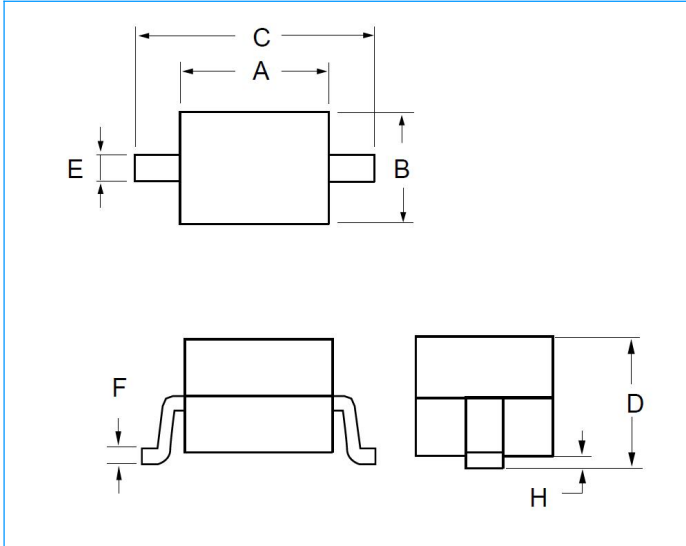
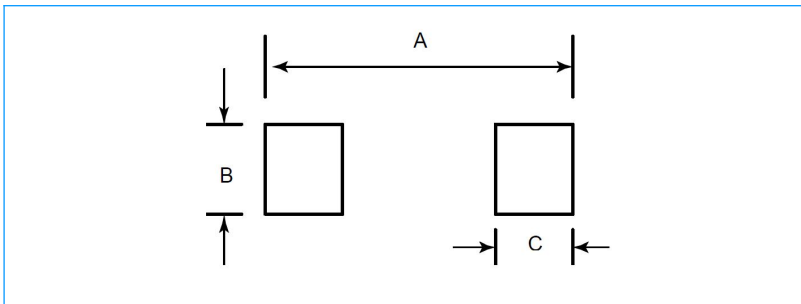


Fig3. 8/20μs Pulse Waveform



SOD-323 Package Outline Drawing


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

Suggested Land Pattern


Symbol	Dimensions	
	Millimeters	Inches
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031