

Transient Voltage Suppressors for ESD Protection

SE05D9S01HP

Features

- ◆ Bi-Directional Transient Voltage Suppressor
- ◆ Low capacitance
- ◆ Low Leakage
- ◆ ESD Protection, IEC61000-4-2 Level 4
- ◆ RoHS compliant

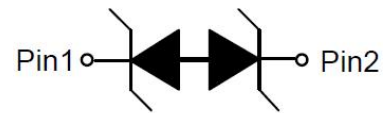
SOD-923



Applications

- ◆ Cellular phones
- ◆ Portable devices
- ◆ Digital cameras
- ◆ Power supplies

Pin Configuration



Mechanical Characteristics

- ◆ SOD-923 Package Thin SMD
- ◆ UL-94 V-0 / Green EMC
- ◆ Quantity Per Reel : 8,000pcs
- ◆ Reel Size : 7 inch
- ◆ Matte Tin Lead finish (Pb-Free)

Absolute Maximum Ratings (Ta = 25 °C)

Symbol	Parameter	Value	Units
P_D	Power Dissipation	150	mW
I_{PP}	Maximum Reverse Peak Pulse Current	5.0	A
T_{STG}	Storage Temperature	-55 to +150	°C
T_{OP}	Junction Temperature	150	°C
V_{ESD}	ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2 (Contact)	± 15 ± 8	KV

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Electrical Characteristics (T_A=25 °C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Working Peak Voltage	V _{RWM}	---	---	---	5.0	V
Reverse Breakdown Voltage Pin 1 to 2 or Pin2 to 1	V _{BR}	I _T = 1 mA	5.6	---	8.2	V
Reverse Current	I _R	V _R = ±5V	---	---	1.0	μA
Clamping Voltage	V _C	I _{PP} = 1A, t _p = 8/20μs	---	---	8	V
Clamping Voltage	V _C	I _{PP} = 5A, t _p = 8/20μs	---	---	11	V
Diode Capacitance	C _D	V _R = 0V, f = 1MHz	---	13	---	pF

Typical Characteristic

Fig1. Pulse Waveform

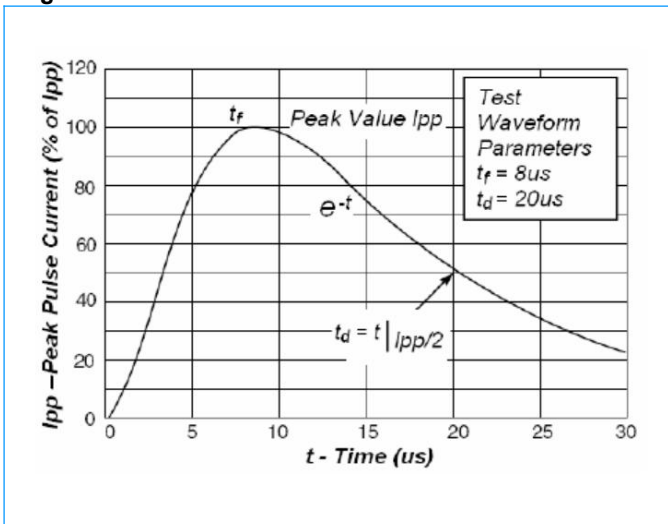


Fig2. clamping voltage vs, peak pulse current

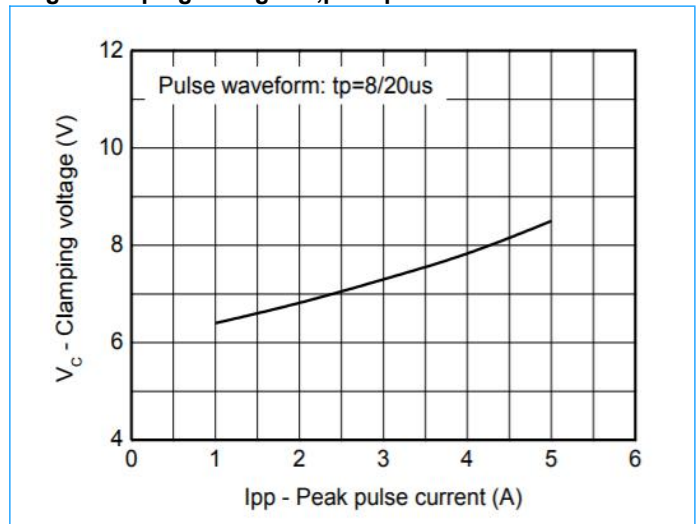


Fig3. Reverse Characteristics

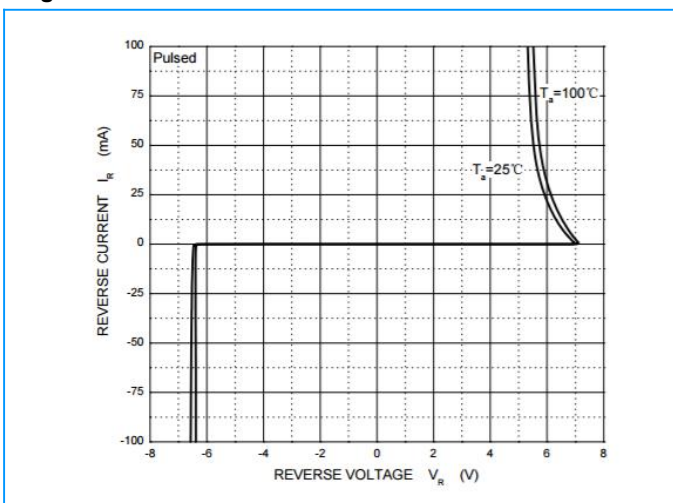
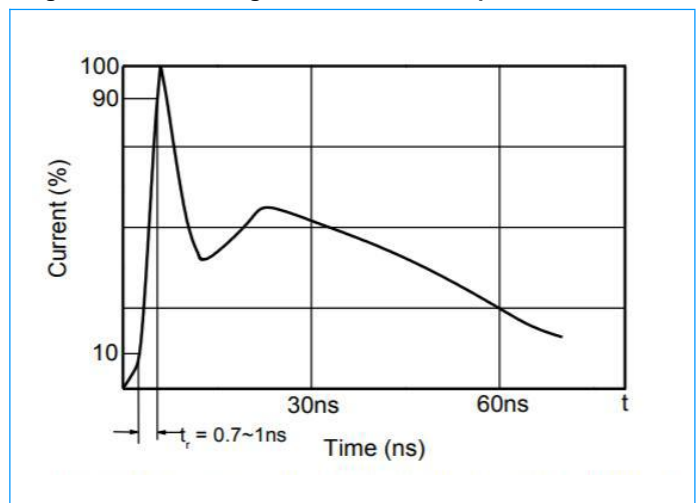


Fig4. Contact discharge current waveform per IEC61000-4-2



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Characteristic Curves($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Fig5.ESD clamping
(+8kv contact discharge per IEC61000-4-2)

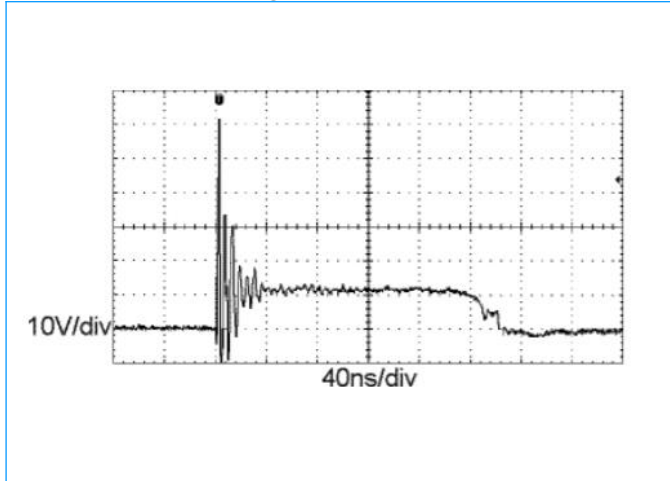
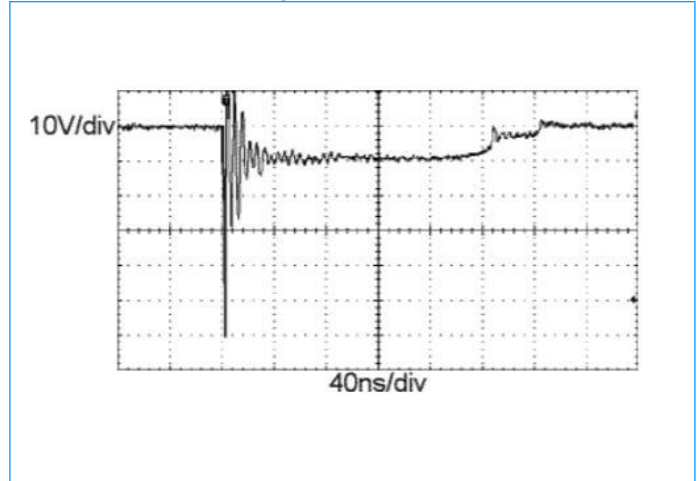
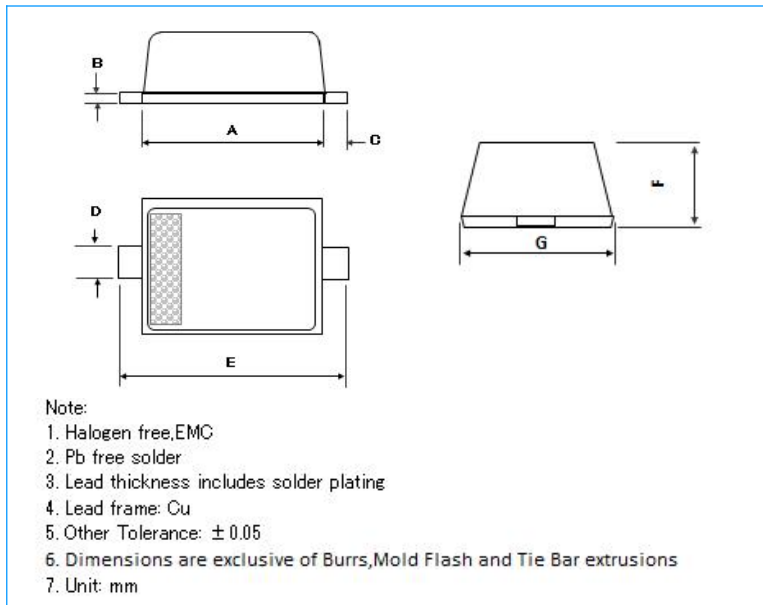


Fig6.ESD clamping
(-8kv contact discharge per IEC61000-4-2)



SOD-923 Package Outline & Dimensions



Symbol	Millimeters	
	Min.	Max.
A	0.70	0.90
B	0.05	0.20
C	0.05	0.15
D	0.15	0.30
E	0.90	1.10
F	0.39	0.45
G	0.55	0.65