WILLAS

RoHS COMPLIANT

SESD1ZxxV

Transient Voltage Suppressors for ESD Protection

General Description

The SESD1Z SERIES is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Applications

- Cellular Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants(PDA'S)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals
- **Pb-Free package is available**
  RoHS product for packing code suffix "G"
  Halogen free product for packing code suffix "H"

Features

- Small Body Outline Dimensions
- 600 Watts peak pulse power (tp = 8/20μs)
- Transient protection for data lines to
- Small package for use in portable electronics
- Suitable replacement for MLV's in ESD protection applications
- Protects one I/O or power line
- Low clamping voltage
- Low leakage current
- Solid-state silicon-avalanche technology

Complies with the following standards

IEC61000-4-2

Level 4 15 kV (air discharge)

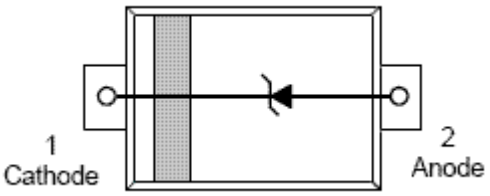
8 kV(contact discharge)

MIL STD 883E - Method 3015-7 Class 3

25 kV HBM (Human Body Model)

Functional diagram

SOD-123



Absolute Ratings (Tamb=25°C)			
Symbol	**Parameter**	**Value**	**Units**
P_{PK}	Peak Pulse Power (tp = 8/20μs)	600	W
V_{ESD}	ESD Voltage(HBM Waveform per IEC 61000-4-2)	8	kV
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Maximum junction temperature	-55 to +125	°C
I_{PP}	Maximum Reverse Peak Pulse Current	24	A

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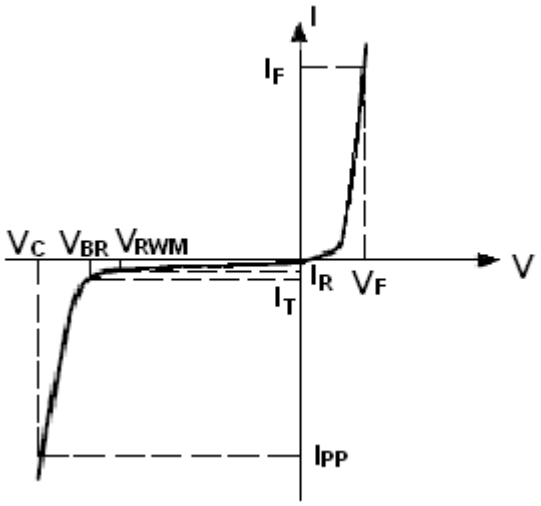
Electrical Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Part Numbers	V_{BR} Min	V_{BR} Typ	V_{BR} Max	I_T	V_{RWM}	I_R	V_F Max.	I_F	C Typ. (Note1)
	V	V	V	mA	V	μA	V	mA	pF
SESD1Z5V	6.1	6.7	7.2	1.0	5.0	1	1.25	200	430
SESD1Z12V	13.3	14.0	14.7	1.0	12.0	1	1.25	200	300
SESD1Z15V	16.7	17.4	18.1	1.0	15.0	1	1.25	200	250

1. Capacitance is measured at f=1MHz, V_R=0V,T_A=25℃.

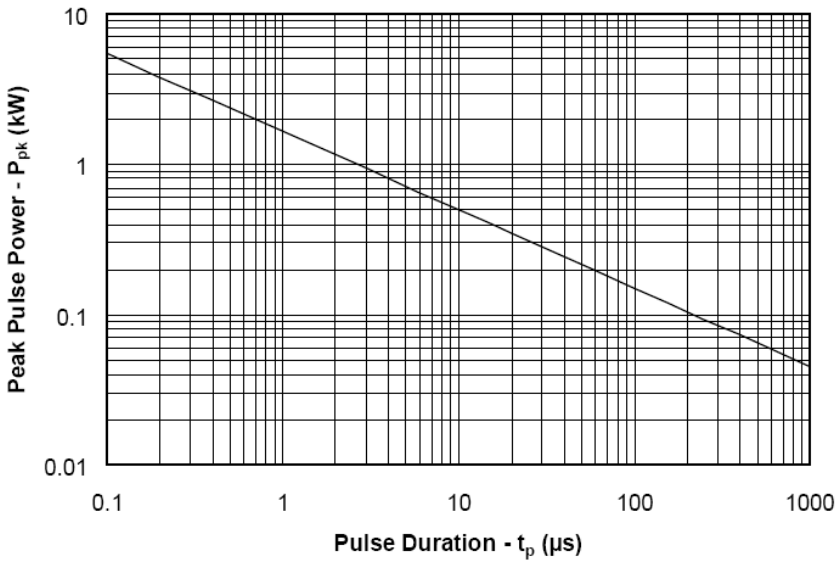


Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

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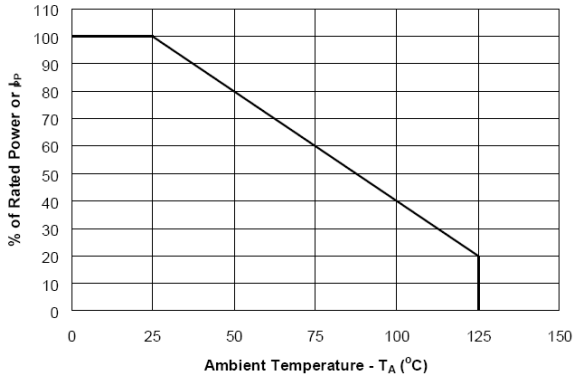

Fig.2 Power Derating Curve

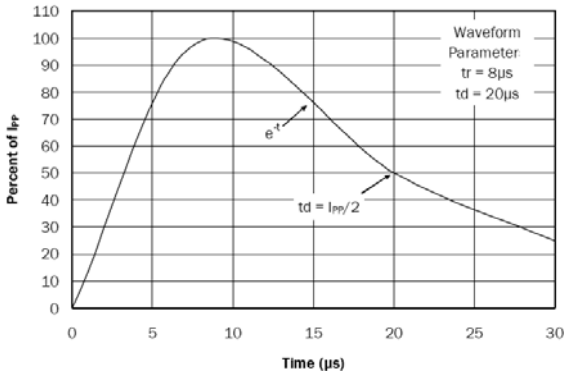

Fig.3 Waveform

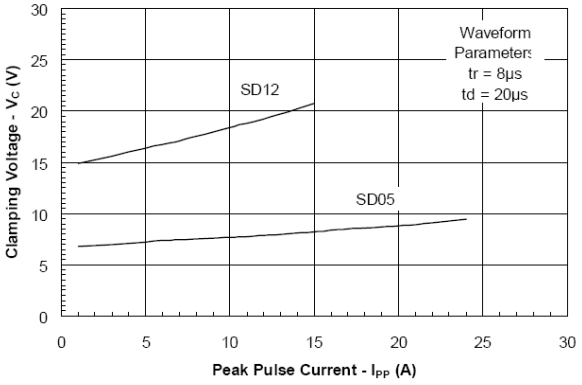

Fig.4 Clamping Voltage vs. Peak Pulse Current

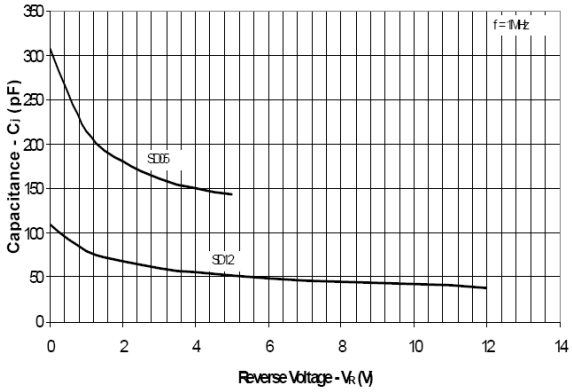

Fig.5 Capacitance vs. Reverse Voltage

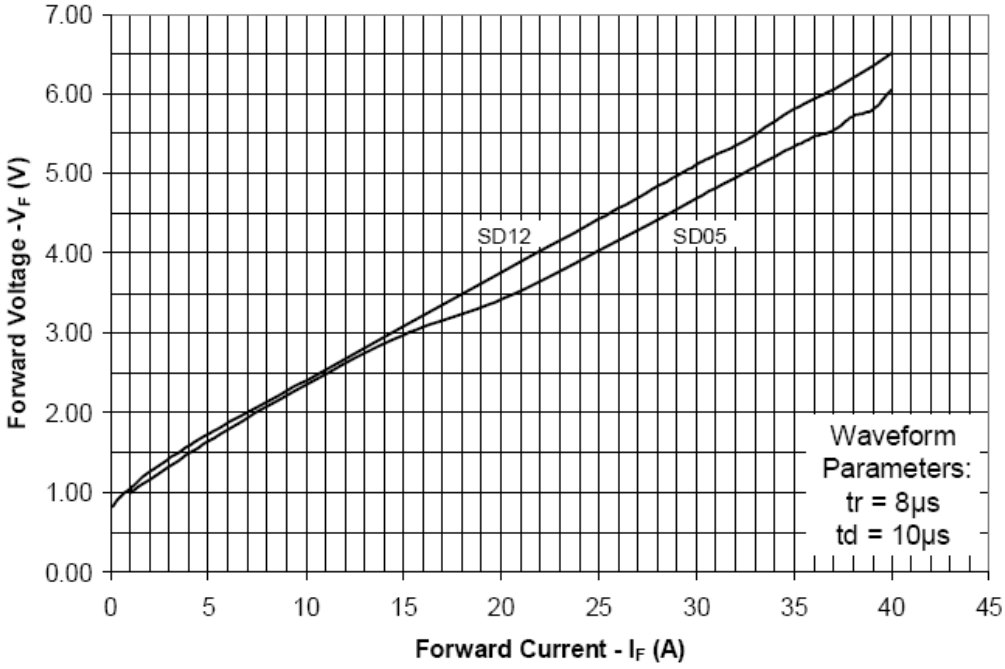

Fig.6 Forward Voltage vs. Forward Current

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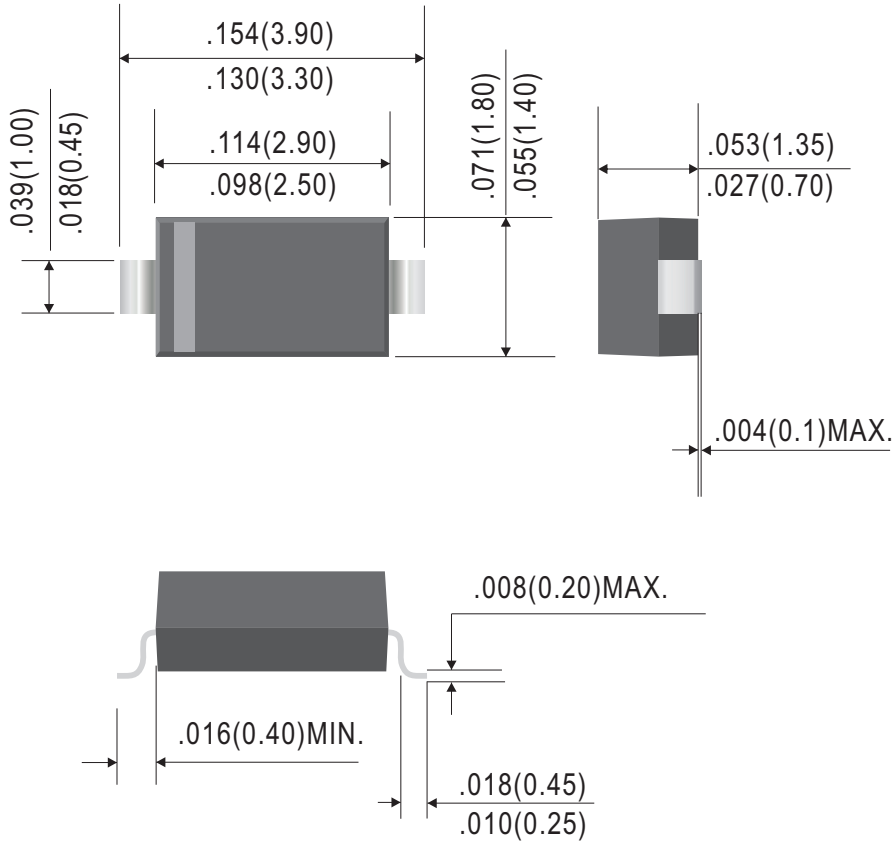
SOD-123 Mechanical Data



Dimensions in inches and (millimeters)

Marking

Type number	Marking code
SESD1Z5V	15
SESD1Z12V	112
SESD1Z15V	115