

Description

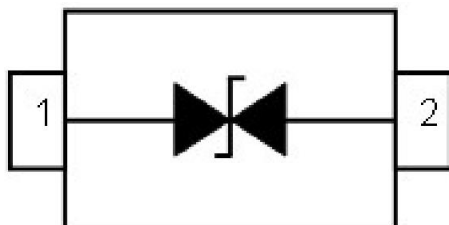
The ESD5Z5.0C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

This device has been specifically designed to protect sensitive components which are connected to data and transmission lines from over voltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

Ordering Information

- Device:ESD5Z5.0C
- Package:SOD-523
- Marking:5C
- Material:Halogen free
- Packing:Tape & Reel
- Quantity per reel:3000pcs

Pin Configuration



Features

- IEC61000-4-2(ESD) $\pm 30\text{kV}(\text{air})$
 $\pm 30\text{kV}(\text{contact})$
- IEC61000-4-4(EFT) 40A (5/50ns)
- Peak power dissipation: 75W(8/20 μs)
- Protects one I/O line
- Low clamping voltage
- Working voltage: 5V
- Low leakage current

Mechanical Data

- SOD-523 package
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- Packaging: Tape and Reel
- Reel size: 7 inch

Applications

- High Speed Line: USB1.0/2.0, VGA, DVI, SDI
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Package Outline



Absolute Maximum Rating

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2(Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2(Contact)		± 30	
Peak Pulse Power(8/20 μ s)	P_{PP}	75	W
Operating Temperature	T_{OPT}	-40~+150	°C
Storage Temperature	T_{STG}	-40~+150	°C

Electrical Characteristics ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	5.6			V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$			1.0	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			10	V
		$I_{PP(\text{max})}=5\text{A}, t_p=8/20\mu\text{s}$			15	V
Junction Capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$			12	pF

Electrical Characteristics Curve

Fig 1 8/20 μ s Waveform per IEC61000-4-5

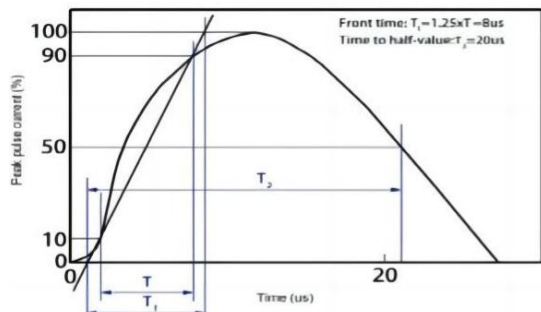


Fig 3 Power Derating Curve

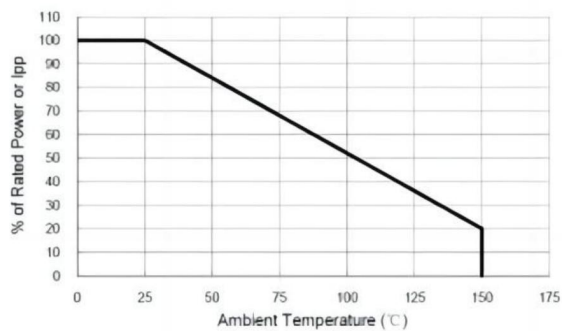


Fig 5 Voltage vs Capacitance

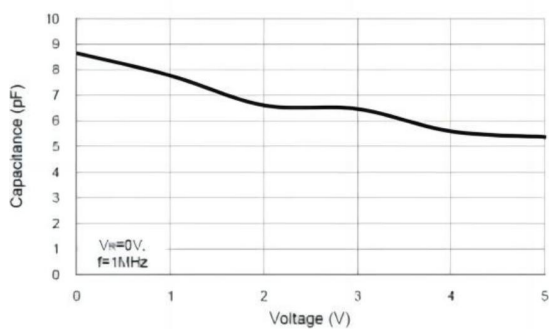


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

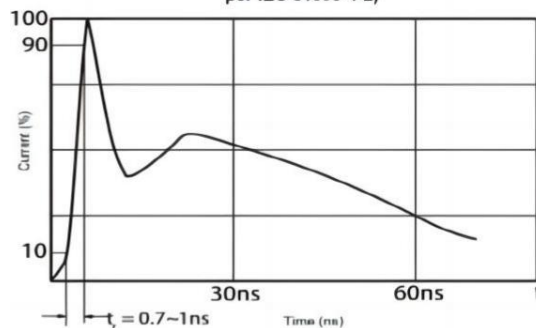


Fig 4 Voltage Sweeping

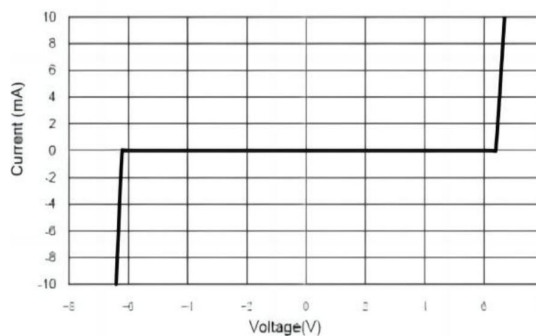
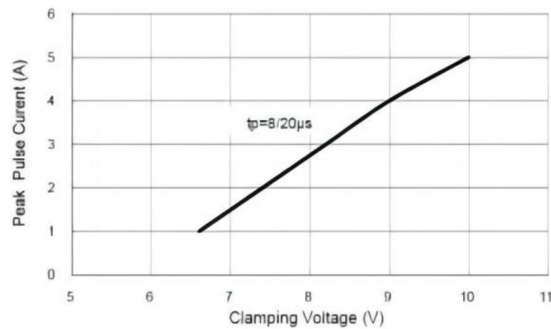
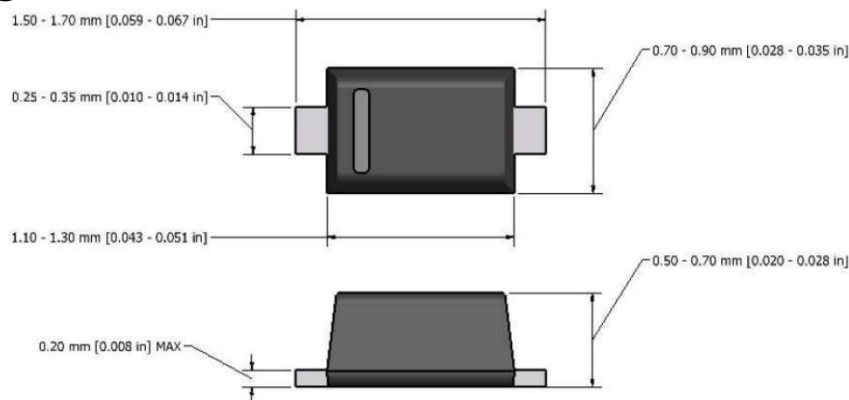


Fig 6 Clamping Voltage vs Peak Pulse Current



SOD-523 Package Outline Dimensions



Note: Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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