



ESD5Zxx Series

Unidirectional TVS Diode Array

Description

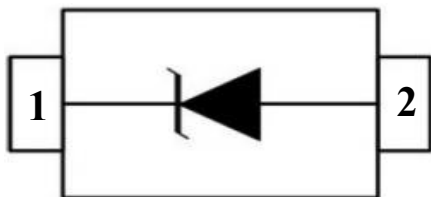
The ESD5Zxx Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

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

Ordering Information

- Device:ESD5Zxx
- Package:SOD-523
- Material:Halogen free and RoHS compliant
- Packing:Tape & Reel
- Quantity per reel: 3,000pcs

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)
- 150W Peak Pulse Power per(tp=8/20 μs)
- Protects Unidirectional lines
- Low clamping voltage
- Working voltage: 2.5V to 36V
- Low leakage current

Mechanical Data

- SOD-523 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed: 260°C/10s
- Reel size: 7 inch

Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants(PDA's)
- Notebooks, Desktops and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

Package Outline





ESD5Zxx Series

Absolute Maximum Rating

Parameter	Symbol	Value	Units
ESD per IEC 61000-4-2(Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2(Contact)		±30	
Peak Pulse Power(8/20μs)	P _{PP}	150	mW
Operating Temperature	T _{OPT}	-55~+150	°C
Junction and Storage Temperature	T _{STG}	-55~+150	°C
Lead Soldering Temperature(10s)	T _L	260	°C

Electrical Characteristics (T_A=25°C)

Part Number	Device Marking	V _{RWM} (V) (max.)	V _{BR} (V) (min.)	I _T (mA)	V _{C@1A} (V) (max.)	V _C (V) (max.) @A		I _R (μA) (max.)	C _J (pF) (typ.)
ESD5Z2.5	ZD	2.5	4.0	1	6.5	10.9	13	40	120
ESD5Z3.3	ZE	3.3	5.0	1	7.5	14.0	12	10	100
ESD5Z5.0	ZF	5.0	6.2	1	8.2	15.0	10	2	80
ESD5Z6.0	ZG	6.0	6.8	1	9.5	17.0	9	2	70
ESD5Z7.0	ZH	7.0	7.5	1	9.8	18.0	8.8	1	65
ESD5Z12	ZM	12.0	13.5	1	17.0	26.0	5	1	40
ESD5Z15	ZN	15.0	16.5	1	20.0	30.0	4	1	30
ESD5Z24	5S	24.0	26	1	32.0	35.0	4	1	28
ESD5Z36	B8	36.0	40	1	45.0	60.0	3	1	25



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Typical Characteristics

Fig1. 8/20 μ s Pulse Waveform

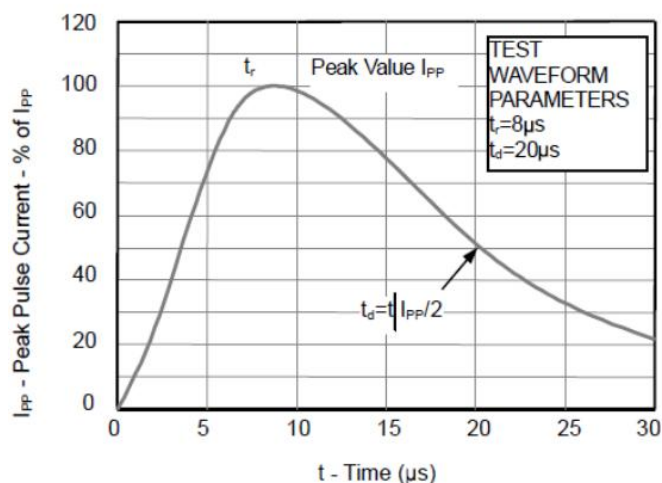


Fig2. Contact Discharge Current Waveform (IEC 61000-4-2)

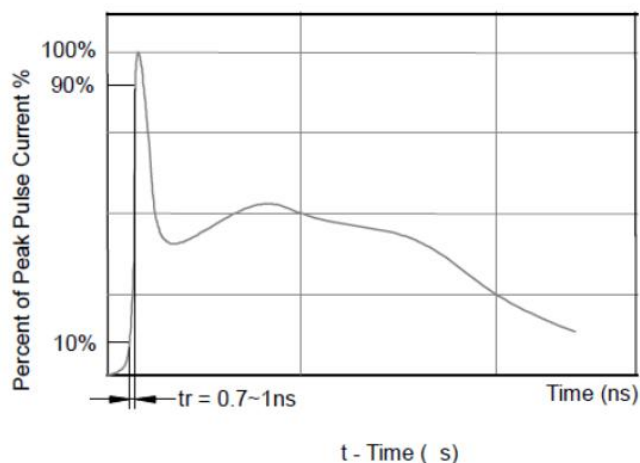


Fig3 Voltage vs. Capacitance

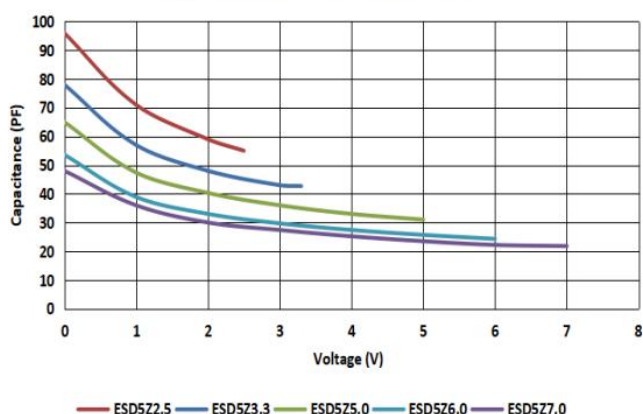


Fig4 Voltage vs. Capacitance

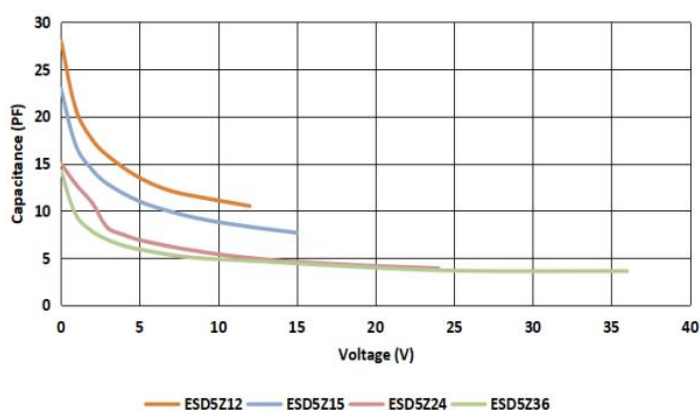


Fig 5 Clamping Voltage vs. Peak Pulse Current

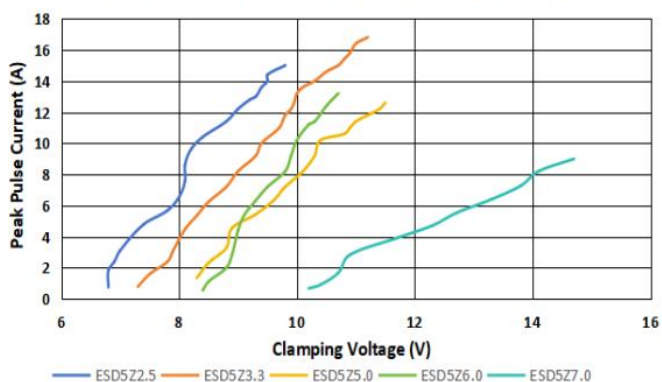
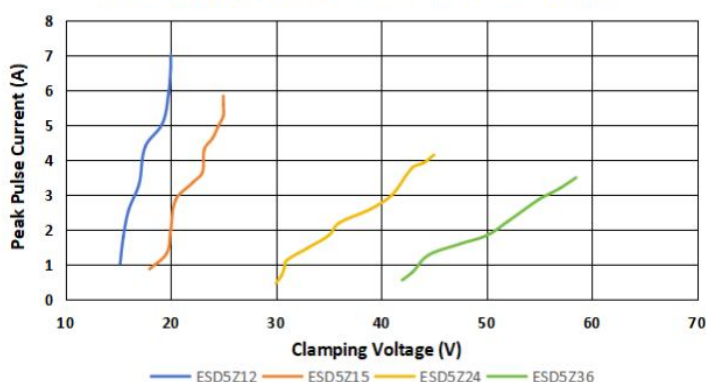


Fig 6 Clamping Voltage vs. Peak Pulse Current



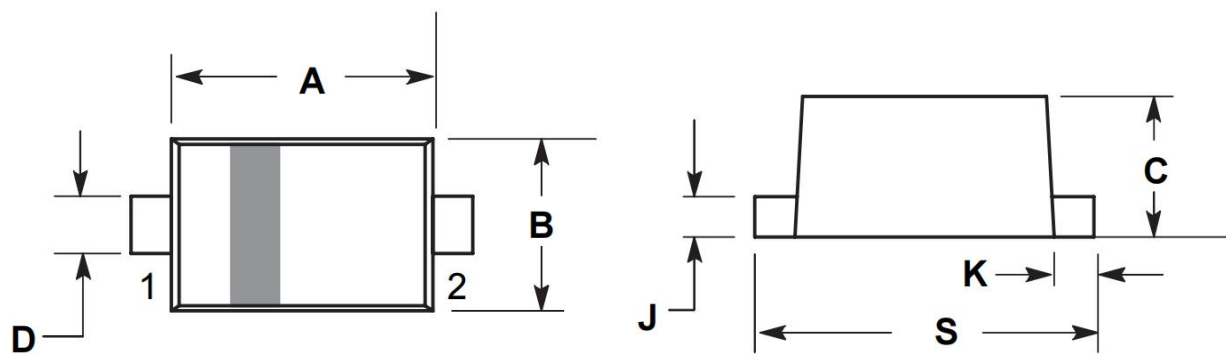


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Package Information

SOD-523

Dimensions in mm



Symbol	Dimensions in Millimeters		
	Min	Nom	Max
A	1.10	1.20	1.30
B	0.70	0.80	0.90
C	0.50	0.60	0.70
D	0.25	0.30	0.35
J	0.07	0.14	0.20
K	0.15	0.20	0.25
S	1.50	1.60	1.70



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