

Unidirectional TVS Diode

Description

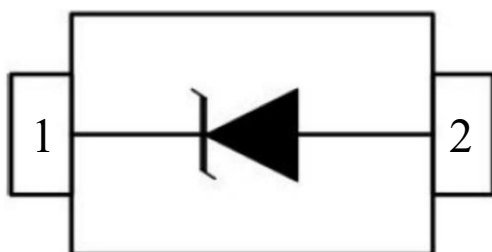
The SDxx Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal 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:SDxx
- Package:SOD-323
- Material:Halogen free and RoHS compliant
- 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: 450W($t_p=8/20\mu\text{s}$)
- Protects Unidirectional lines
- Low clamping voltage
- Working voltage: 3.3V to 36V
- Low leakage current

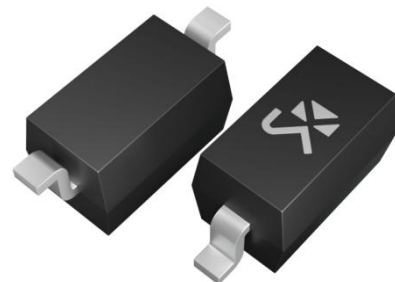
Mechanical Data

- SOD-323 package
- Flammability rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed: 260°C/10s
- Reel size: 7 inch
- MSL 1

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



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(8/20 μ s)	P_{PP}	450	W
Operating Temperature	T_{OPT}	-55~+150	°C
Storage Temperature	T_{STG}	-55~+150	°C
Lead Soldering Temperature	T_L	260(10 sec.)	°C

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

Part Number	Device Marking	V_{RWM} (V) (max.)	V_B (V) (min.)	I_T (mA)	$V_{C@1A}$ (V) (max.)	V_C (V) (max.) (@A)		I_R (μ A) (max.)	C_J (pF) (max.)
SD03	03W	3.3	4.0	1	7.5	16.0	25	40	400
SD05	05W	5.0	6.0	1	9.8	18.0	24	10	200
SD08	08W	8.0	8.5	1	13.4	24.0	20	2	180
SD12	12W	12.0	13.3	1	19.0	32.0	17	1	100
SD15	15W	15.0	16.7	1	24.0	38.0	13	1	80
SD18	18W	18.0	20.0	1	29.0	45.0	10	1	70
SD20	20W	20.0	22.3	1	35.0	50.0	9	1	60
SD24	24W	24.0	26.7	1	43.0	52.0	9	1	50
SD36	36W	36.0	40.0	1	60.0	75.0	6	1	40

Electrical Characteristics Curve

Fig1. 8/20 μ s Pulse Waveform

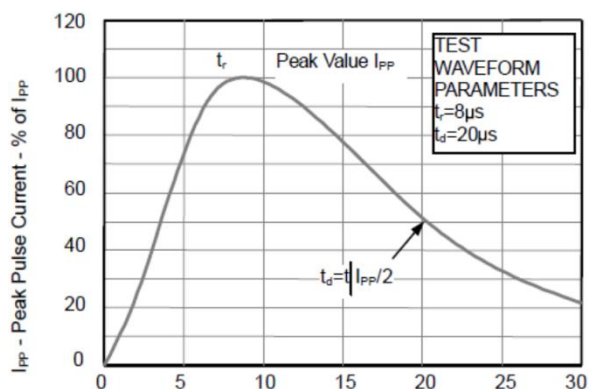


Fig2. Contact Discharge Current Waveform (IEC 61000-4-2)

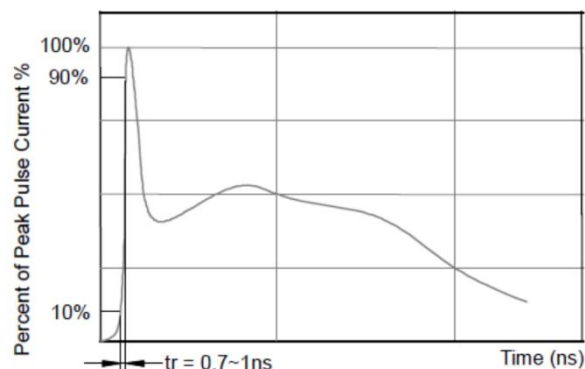


Fig3 Voltage vs Capacitance

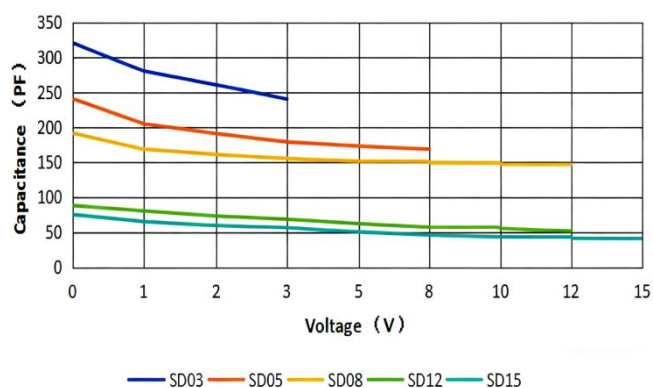


Fig4 Voltage vs Capacitance

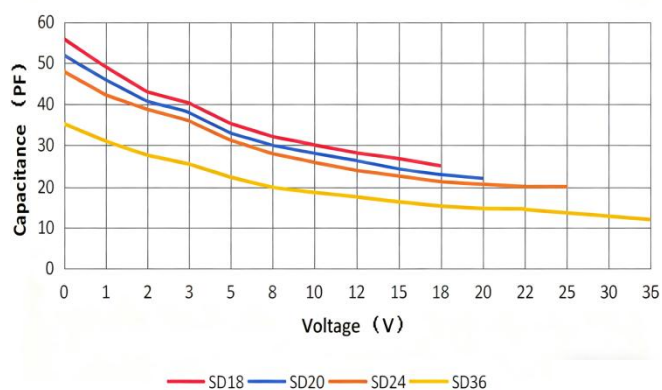


Fig5 Clamping Voltage vs Peak Pulse Current

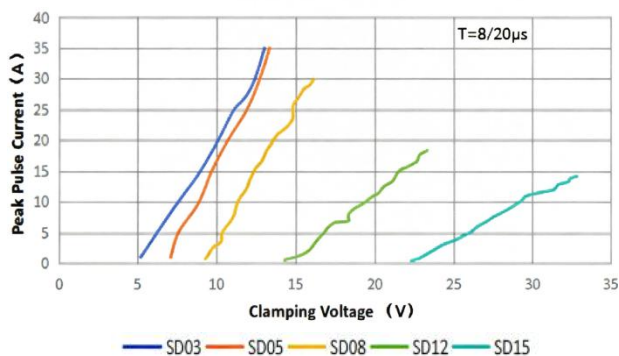
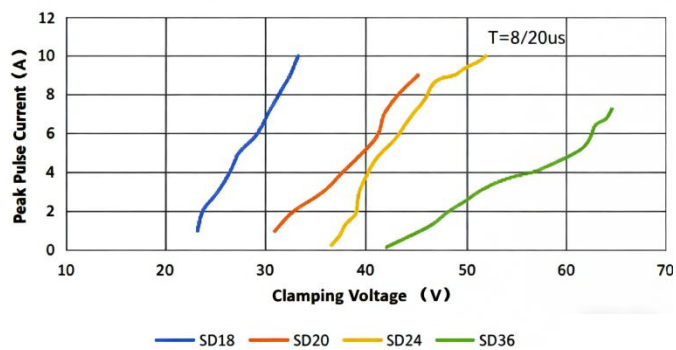


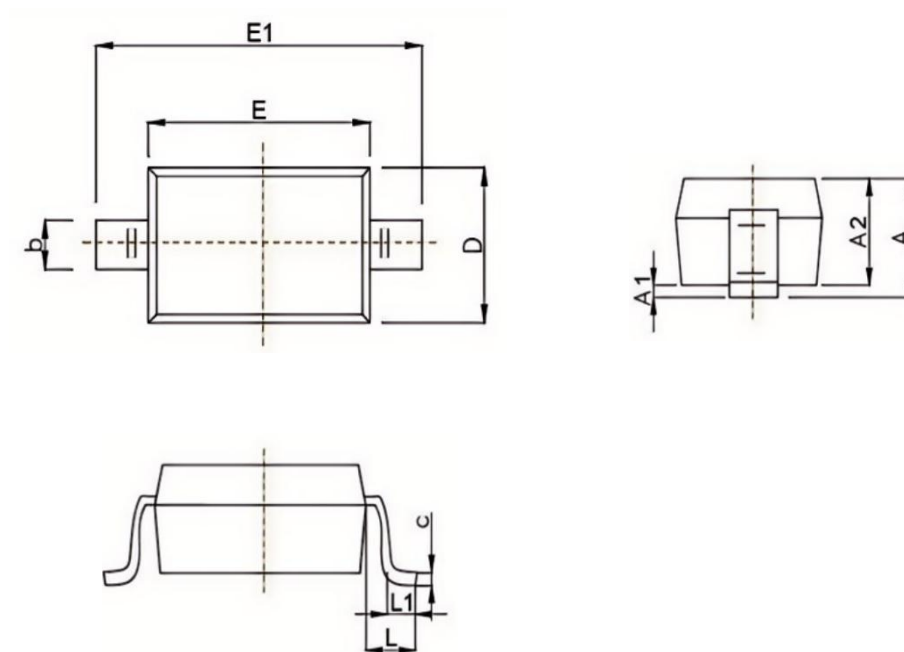
Fig6 Clamping Voltage vs Peak Pulse Current



Package Information

SOD-323

Dimensions in mm



Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°

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