

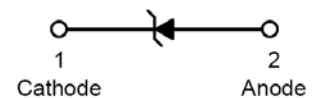
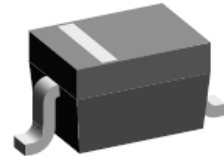
SD03 SERIES



STANDARD CAPACITANCE TVS

Features

- Small SOD-323 Package
- Unidirectional Configurations
- Peak Power Dissipation 250W @8 x 20 us Pulse
- Low Leakage
- Fast Response Time < 1 ns
- Protects One Power or I/O Port
- ESD Protection to IEC 61000-4-2 Level 4, 15KV(Air), 8KV(Contact)
- ESD Protection to IEC 61000-4-2 Level 4, 30A
- 16KV Human Body Model ESD Requirements
- RoHS Compliant in Lead-Free Versions



Applications

- Cell Phone Handsets and Accessories
- Microprocessor Based Equipment
- Personal Digital Assistant (PDA)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Peak Power Dissipation (Note 1.) @ $T_L = 25^\circ\text{C}$	P_{PK}	250	W
IEC 61000-4-2 (ESD)	Air CONTACT	± 15	KV
		± 8.0	KV
IEC 61000-4-4 (EFT)		30	A
ESD Voltage Per Human Body Model	V_{PP}	16	KV
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$

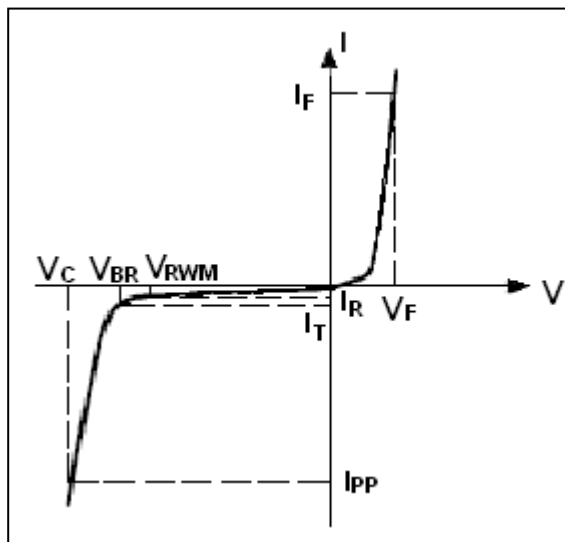
1. 8 X 20 us, non-repetitive

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Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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.

Device	V_{RWM} (V)	I_R (uA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 1)		I_T (mA)	V_C (V) @ $I_{PP}=5 A^*$	V_C (V) @ Max I_{PP}^*	I_{PP} (A)*	$C@OV$ 1MHz (pF)
	Max	Max	Min	Max		Typ	Max		Typ
SD03	3.3	40	4.0	6.5	1.0	9.0	10.9	20	500
SD05	5.0	10	6.2	7.3	1.0	9.8	14.5	20	350
SD12	12	1.0	13.3	15.75	1.0	19	25	12	150

*Surge current waveform per Figure 1.

- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.

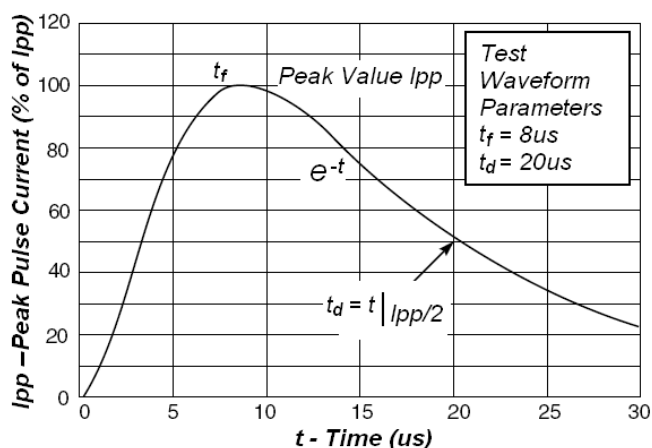


Fig1. Pulse Waveform

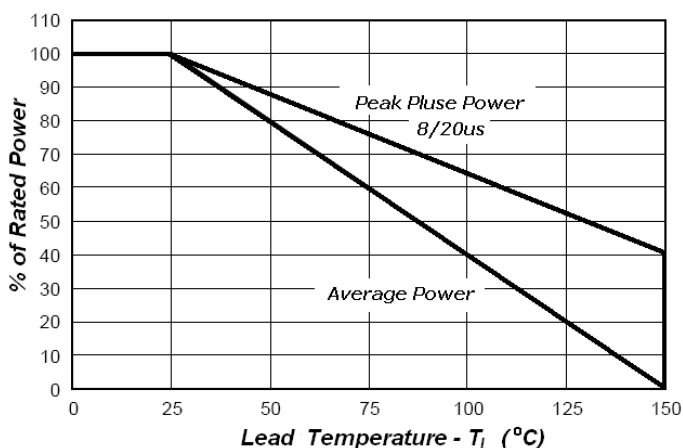


Fig2. Power Derating

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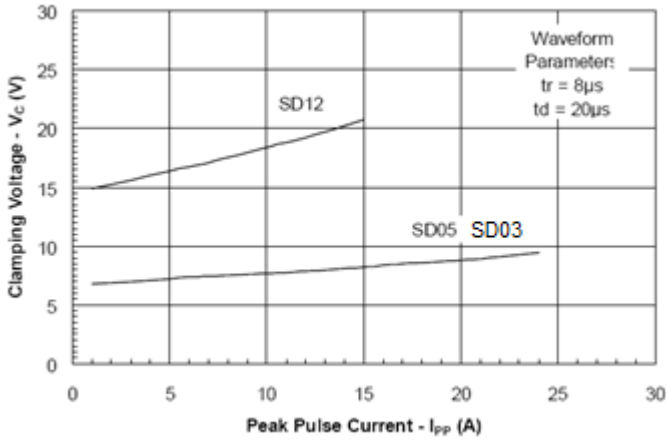


Fig3. Clamping Voltage vs. Peak Pulse Current

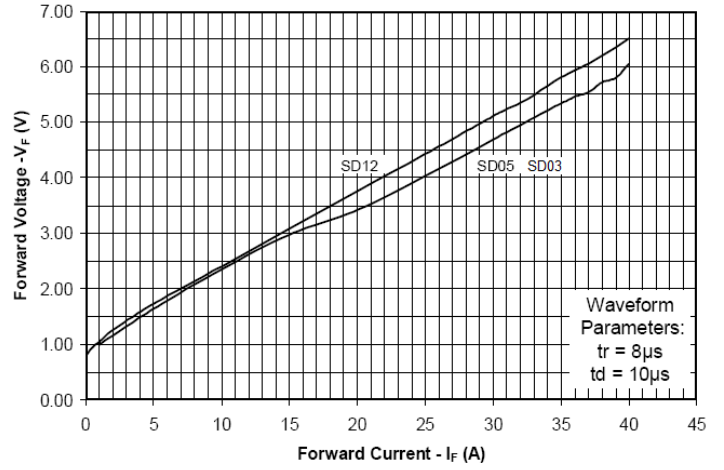


Fig4. Forward Voltage vs. Forward Current

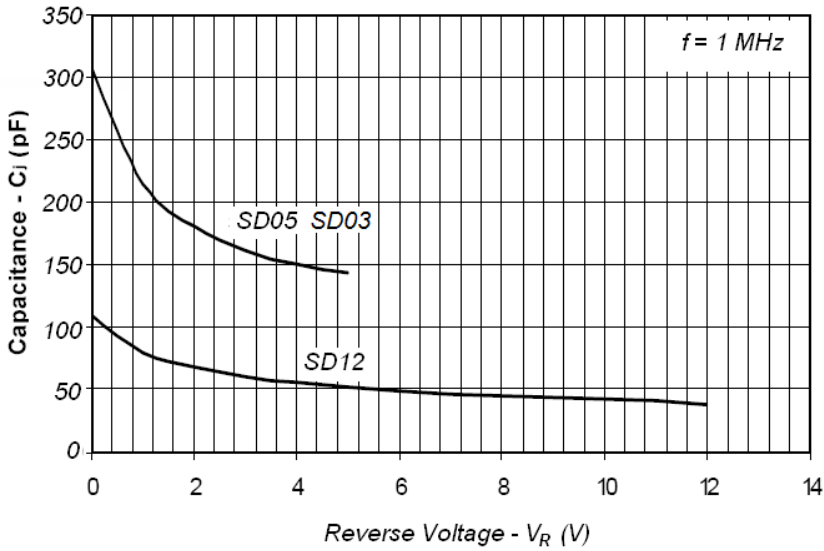
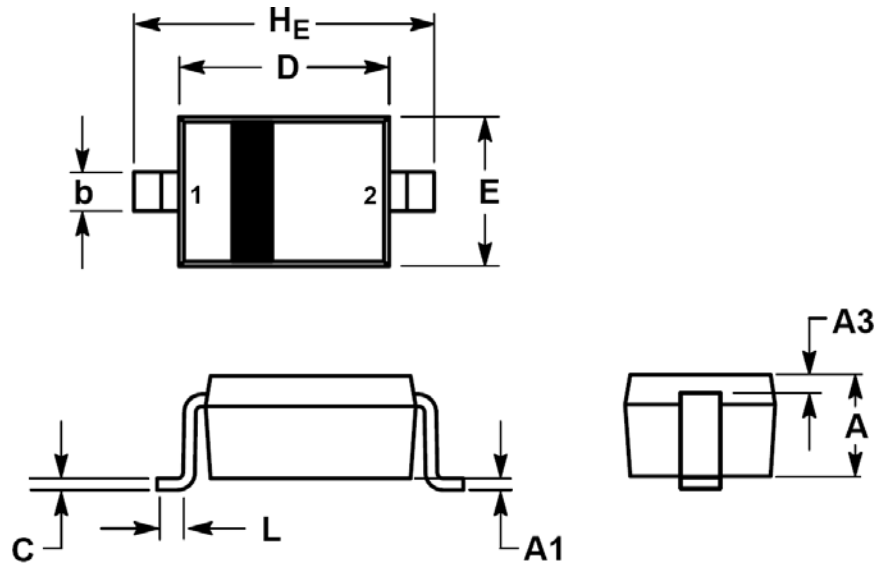


Fig5. Capacitance vs. Reverse Voltage

Package Dimensions

SOD-323



<i>Dim</i>	<i>Millimeters</i>			<i>Inches</i>		
	<i>MIN</i>	<i>NOM</i>	<i>MAX</i>	<i>MIN</i>	<i>NOM</i>	<i>MAX</i>
<i>A</i>	0.80	0.90	1.00	0.031	0.035	0.040
<i>A1</i>	0.00	0.05	0.10	0.000	0.002	0.004
<i>A3</i>	0.15 REF			0.006 REF		
<i>b</i>	0.25	0.32	0.4	0.010	0.012	0.016
<i>C</i>	0.080	0.12	0.177	0.003	0.005	0.007
<i>D</i>	1.60	1.70	1.80	0.063	0.066	0.071
<i>E</i>	1.15	1.25	1.40	0.045	0.049	0.055
<i>L</i>	0.08			0.003		
<i>H_E</i>	2.30	2.50	2.70	0.090	0.098	0.106