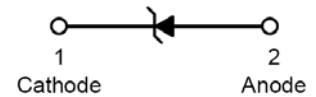
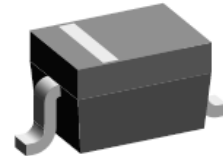




**STANDARD CAPACITANCE TVS**

**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.) @ $T_L = 25^{\circ}C$	$P_{PK}$	250	W
IEC 61000-4-2 (ESD)	Air	$\pm 15$	KV
	CONTACT	$\pm 8.0$	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	$^{\circ}C$
Operating Junction Temperature Range		$T_J$ -55 to 150	$^{\circ}C$

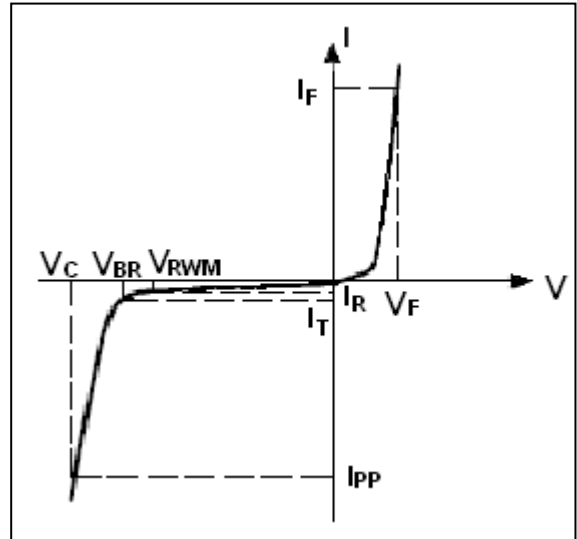
1. 8 X 20 us, non-repetitive

# SD03 SERIES

## 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 @ $I_F$

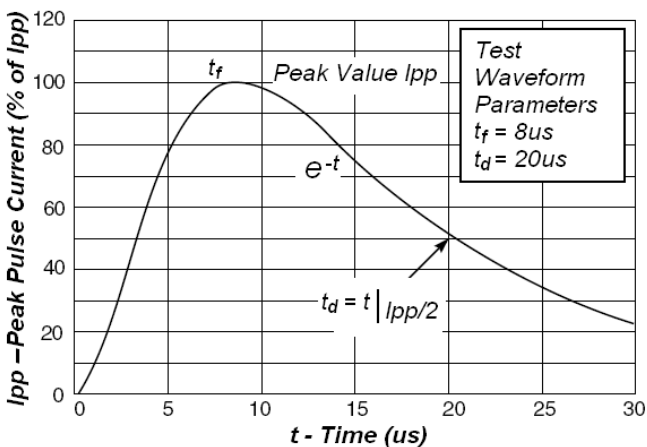


## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

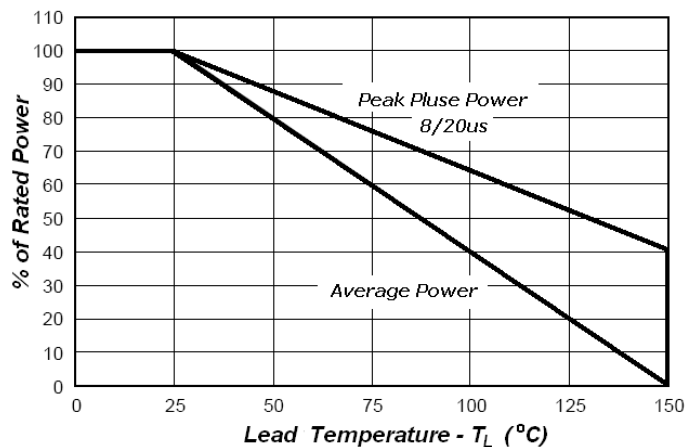
Device	$V_{RWM}$ (V)	$I_R$ (uA) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 1)		$I_T$ mA	$V_C$ (V) @ $I_{PP}=5 A^*$	$V_C$ (V) @ Max $I_{PP}^*$	$I_{PP}$ (A)*	$C@OV$ 1MHz (pF)
	Max	Max	Min	Max		Typ	Max		Typ
SD03	3.3	40	4.0	6.5	1.0	9.0	10.9	20	500
SD05	5.0	10	6.2	7.3	1.0	9.8	14.5	20	350
SD12	12	1.0	13.3	15.75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

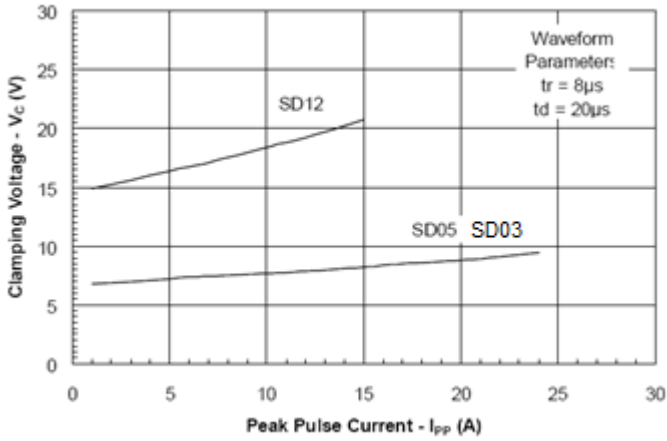


**Fig1. Pulse Waveform**

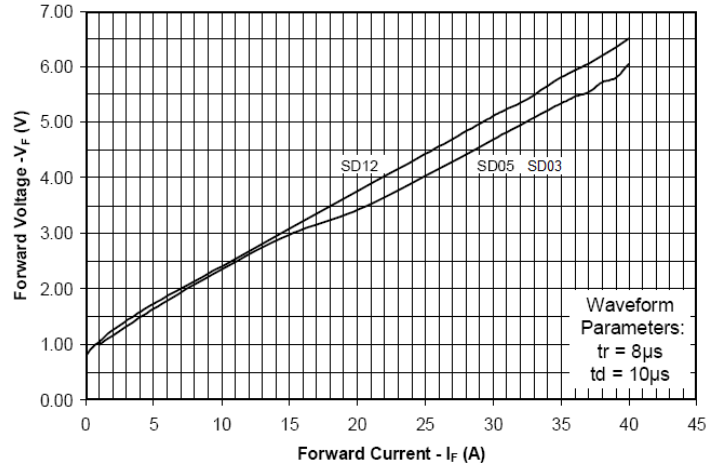


**Fig2. Power Derating**

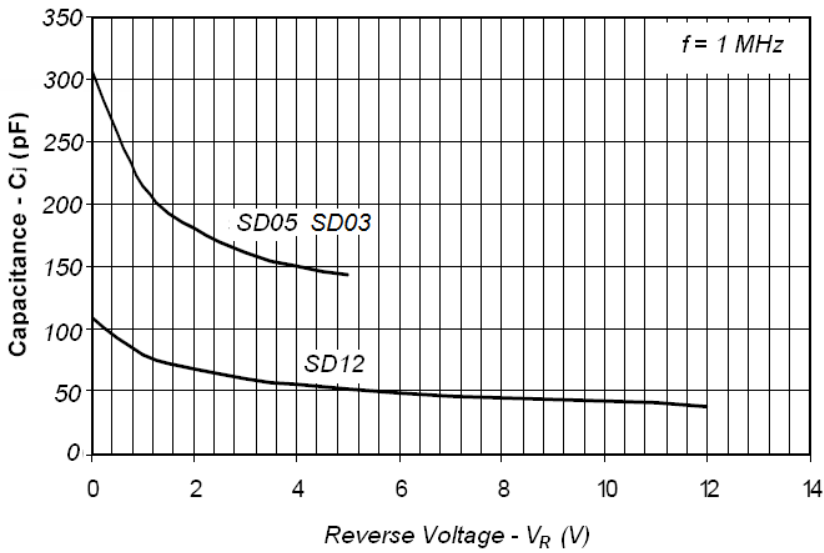
# SD03 SERIES



**Fig3. Clamping Voltage vs. Peak Pulse Current**



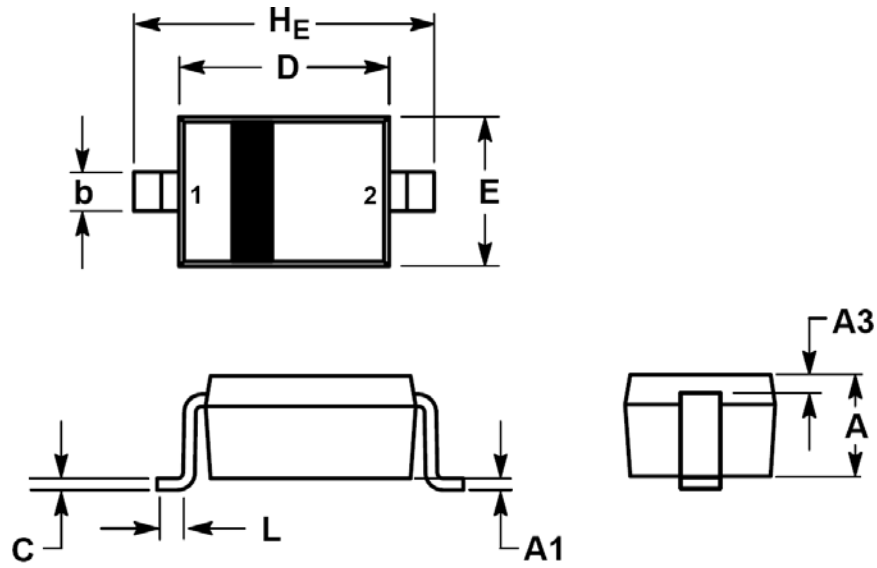
**Fig4. Forward Voltage vs. Forward Current**



**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<sub>E</sub></i>	2.30	2.50	2.70	0.090	0.098	0.106