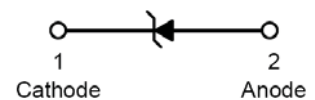
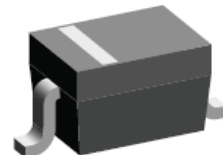


## Transient Voltage Suppressor Diode SD03, SD05, SD12 SOD-323 Diodes for ESD Protection

### 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	$\pm 15$ 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	$^\circ\text{C}$
Operating Junction Temperature Range	$T_J$	-55 to 150	$^\circ\text{C}$

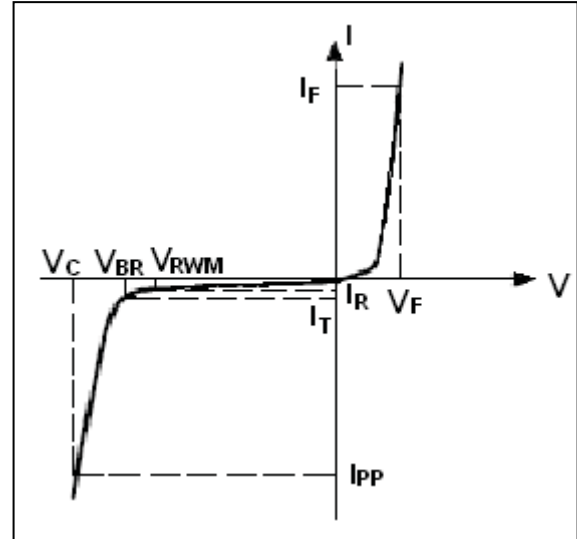
1. 8 X 20 us, non-repetitive

## Transient Voltage Suppressor Diode SD03, SD05, SD12 SOD-323 Diodes for ESD Protection

### 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)		$I_T$	$V_C$ (V) @ $I_{PP}=5 A^*$	$V_C$ (V) @ Max $I_{PP}^*$	$I_{PP}$ (A)*	$C@OV$ 1MHz (pF)
	Max	Max	Min	Max	mA	Typ	Max	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.

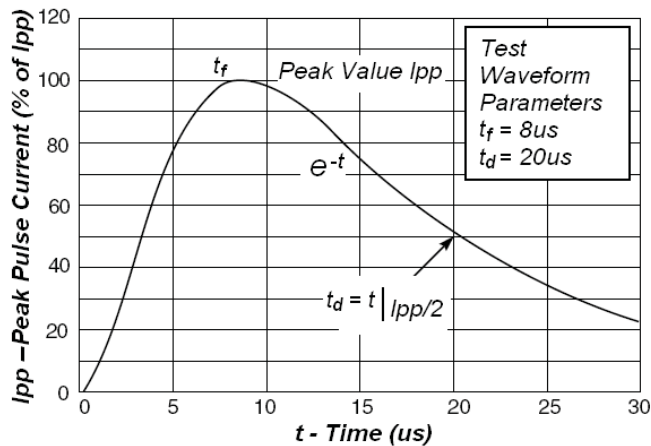


Fig1. Pulse Waveform

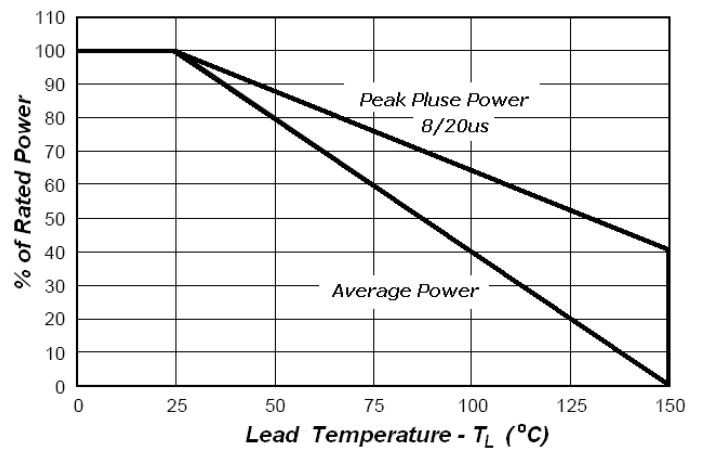
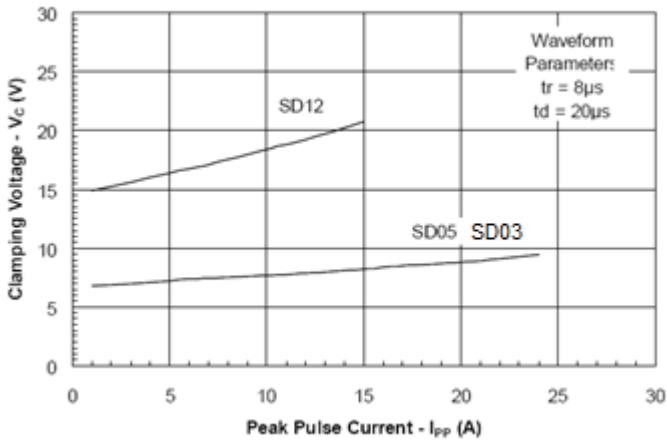
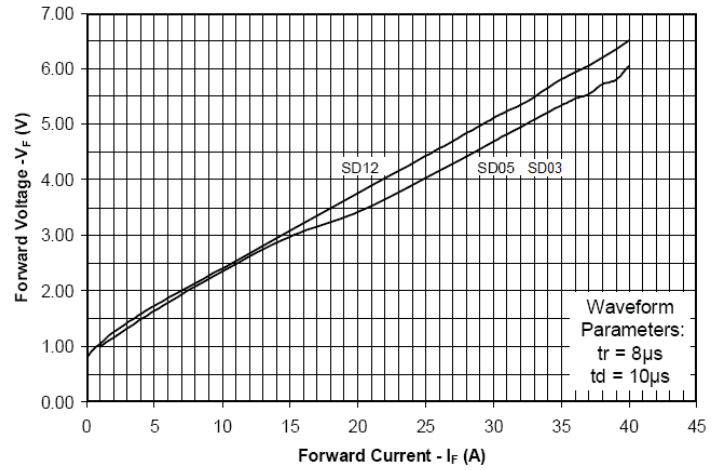


Fig2. Power Derating

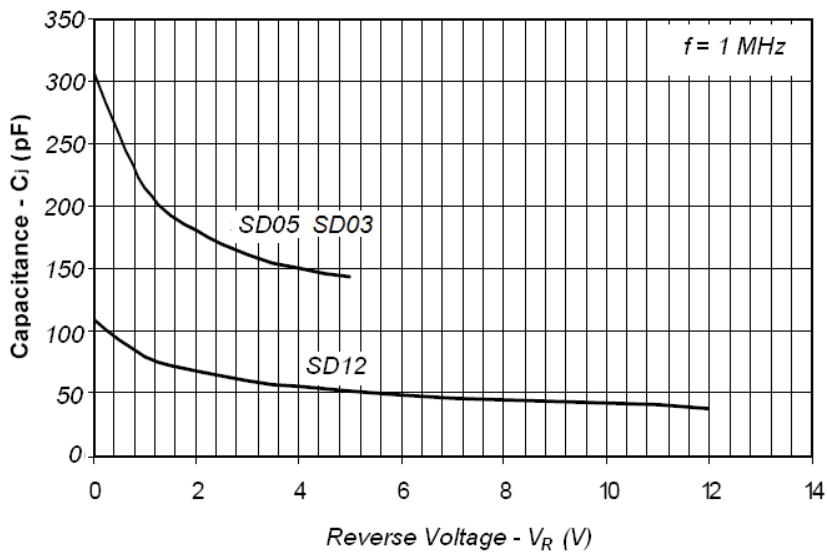
## Transient Voltage Suppressor Diode SD03, SD05, SD12 SOD-323 Diodes for ESD Protection



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



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

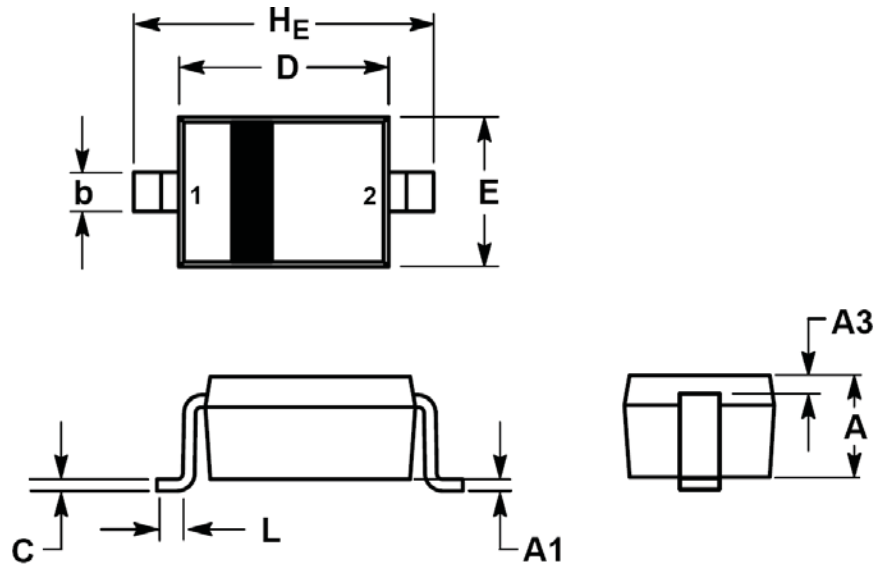


**Fig5. Capacitance vs. Reverse Voltage**

## Transient Voltage Suppressor Diode SD03, SD05, SD12 SOD-323 Diodes for ESD Protection

### Package Dimensions

SOD-323



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