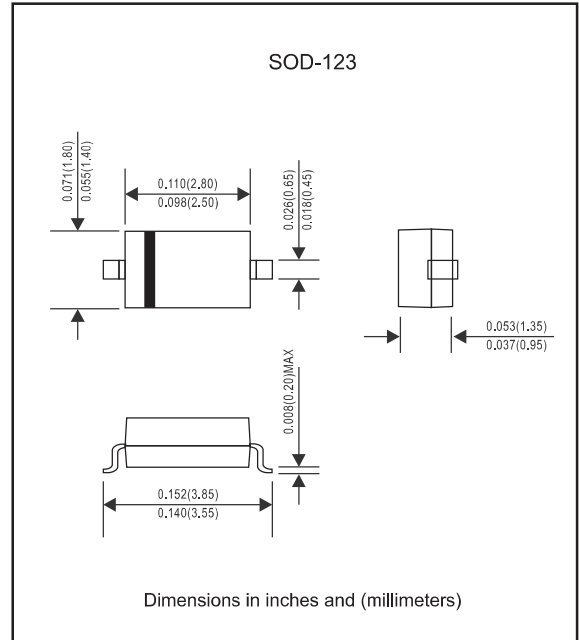




### Package outline



### FEATURES

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Also Available in Lead Free Version

### MARKING:SD

### Maximum Ratings @Ta=25°C

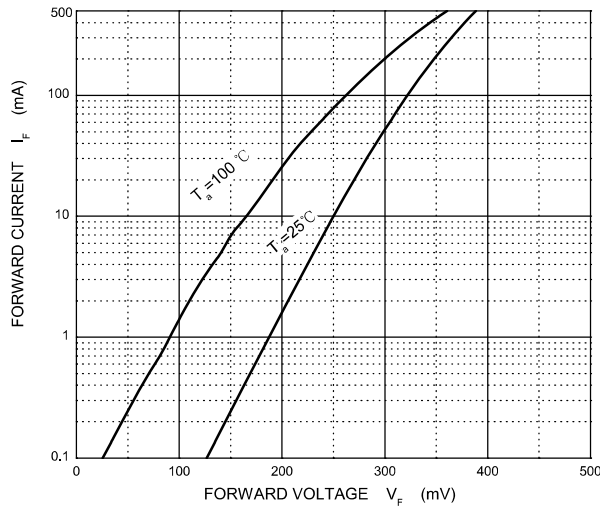
Parameter	Symbol	Value	Unit
Peak repetitive peak reverse voltage	$V_{RRM}$	20	V
Working peak reverse voltage	$V_{RWM}$		
DC blocking voltage	$V_R$		
RMS reverse voltage reverse voltage (DC)	$V_{R(RMS)}$	14	V
Average rectified output current	$I_o$	0.5	A
Non-repetitive Peak Forward Surge Current @t=8.3ms	$I_{FSM}$	5.5	A
Power dissipation	$P_D$	500	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	200	°C/W
Operating Junction Temperature Range	$T_j$	-40 ~ +125	°C
Storage Temperature Range	$T_{STG}$	-55 ~ +150	°C
Voltage rate of change	dv/dt	1000	V/μs

### Electrical Characteristics @Ta=25°C

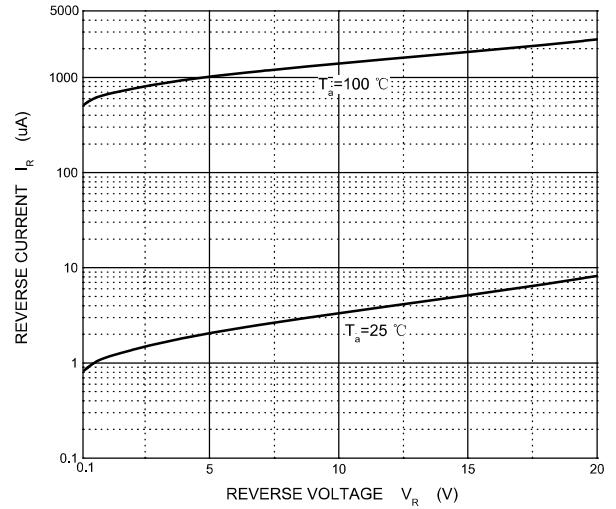
	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=250\mu A$	20			V
Reverse current	$I_R$	$V_R=10V$			75	μA
		$V_R=20V$			250	
Forward voltage	$V_F$	$I_F=0.1A$			0.33	V
		$I_F=0.5A$			0.39	
Capacitance between terminals	$C_T$	$V_R=1V, f=1MHz$		170		pF

## Typical Characteristics

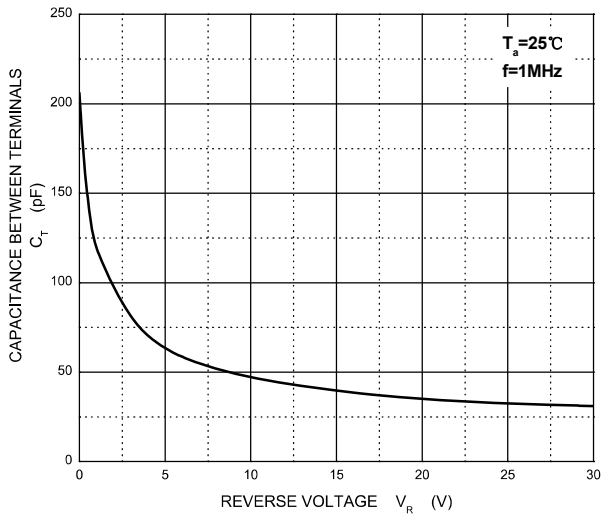
**Forward Characteristics**



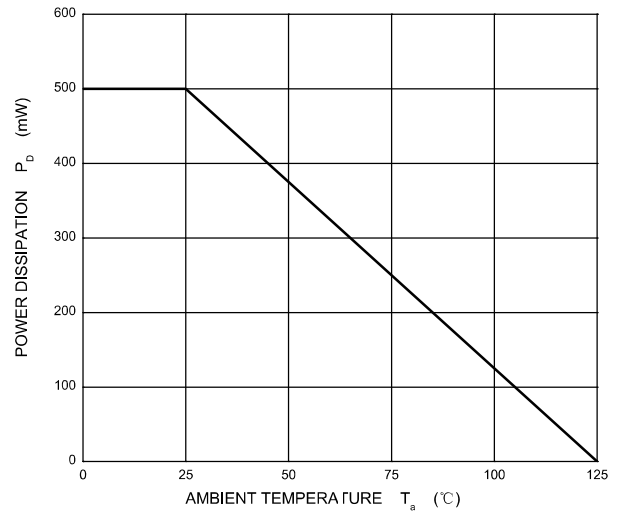
**Reverse Characteristics**





**Capacitance Characteristics**



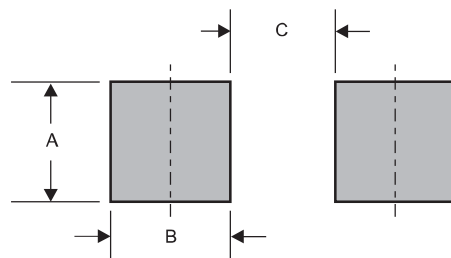
**Power Derating Curve**



**Pinning information**

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

**Suggested solder pad layout**

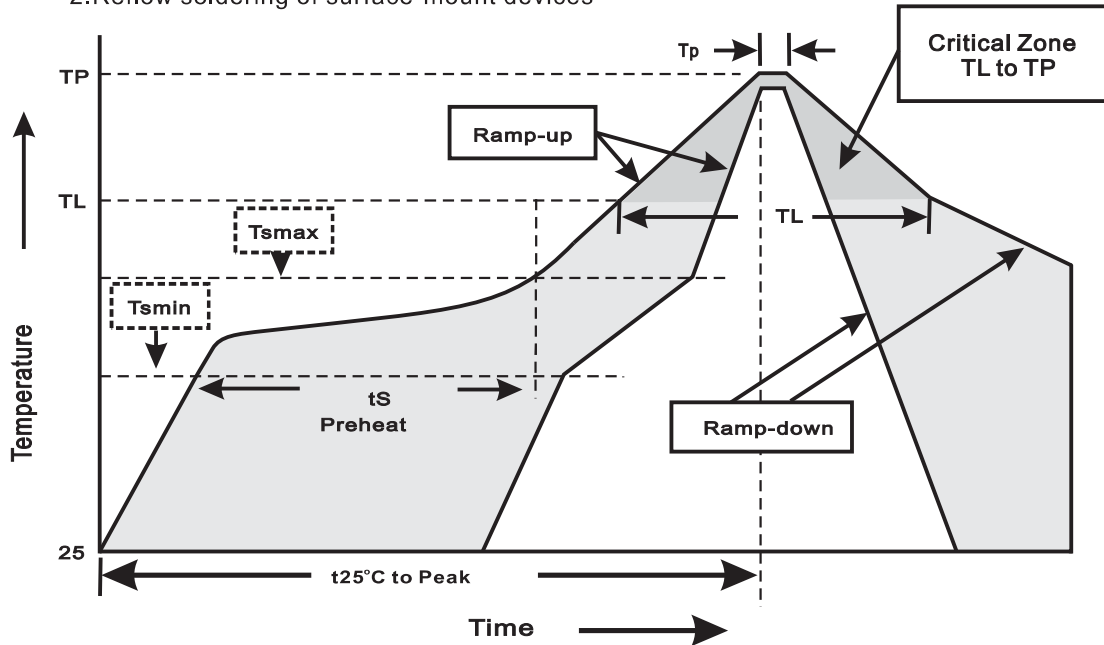


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.048 (1.22)	0.036 (0.91)	0.093 (2.36)

**Suggested thermal profiles for soldering processes**

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T <sub>L</sub> to T <sub>P</sub> )	<3°C/sec
Preheat -Temperature Min(T <sub>smin</sub> ) -Temperature Max(T <sub>smax</sub> ) -Time(min to max)(t <sub>s</sub> )	150°C 200°C 60~120sec
T <sub>smax</sub> to T <sub>L</sub> -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T <sub>L</sub> ) -Time(t <sub>L</sub> )	217°C 60~260sec
Peak Temperature(T <sub>P</sub> )	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t <sub>P</sub> )	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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