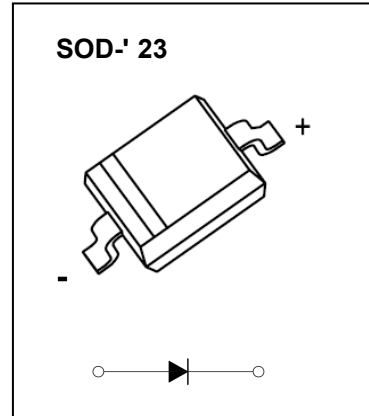


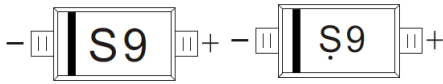
## SOD-' 23 Plastic-Encapsulate Diodes

**SOD-' 23**


### FEATURES

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection

### MARKING: S9



The marking bar indicates the cathode  
 Solid dot = Green molding compound device, if none,  
 the normal device.

### Maximum Ratings @ $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Limit	Unit
Peak repetitive peak reverse voltage	$V_{RRM}$	100	V
Working peak reverse voltage	$V_{RWM}$		
Forward continuous current	$I_F$	150	mA
Repetitive peak forward current (Note 1) @ $t_p < 1.0\text{s}$ , Duty Cycle < 50%	$I_{FRM}$	350	mA
Non-repetitive Peak Forward surge current @ $t = 8.3\text{ms}$	$I_{FSM}$	750	mA
Power dissipation	$P_D$	200	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Junction temperature	$T_J$	125	$^{\circ}\text{C}$
Storage temperature	$T_{STG}$	-55~+150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

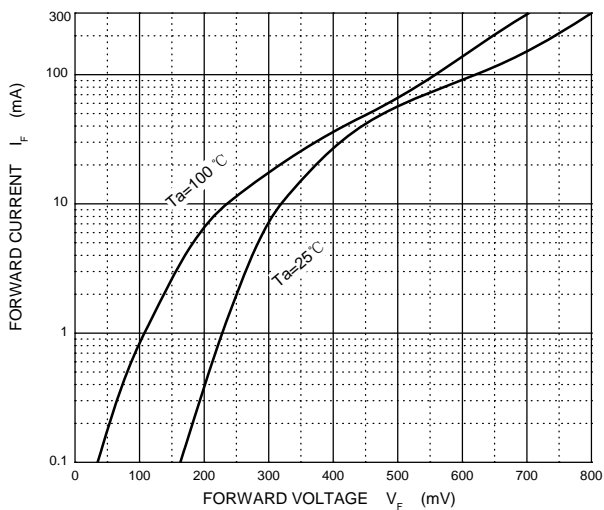
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage(Note 2)	$V_R$	$I_R=100\mu\text{A}$	100			V
Reverse voltage leakage current	$I_R$	$V_{R1}=1.5\text{V}$			0.3	$\mu\text{A}$
		$V_{R2}=10\text{V}$			0.5	
		$V_{R3}=50\text{V}$			1	
		$V_{R4}=75\text{V}$			2	
Forward voltage(Note 2)	$V_F$	$I_{F1}=0.1\text{mA}$			0.25	V
		$I_{F2}=10\text{mA}$			0.45	
		$I_{F3}=250\text{mA}$			1	
Diode capacitance	$C_T$	$V_R=0, f=1\text{MHz}$		20		pF
		$V_R=1\text{V}, f=1\text{MHz}$		12		

Notes: 1. Part mounted on FR-4 board with recommended pad layout.

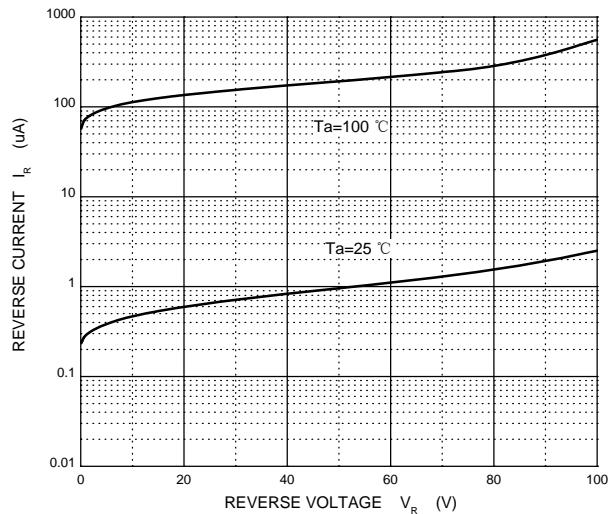
2. Short duration pulse test used to minimize self-heating effect.

# Typical Characteristics

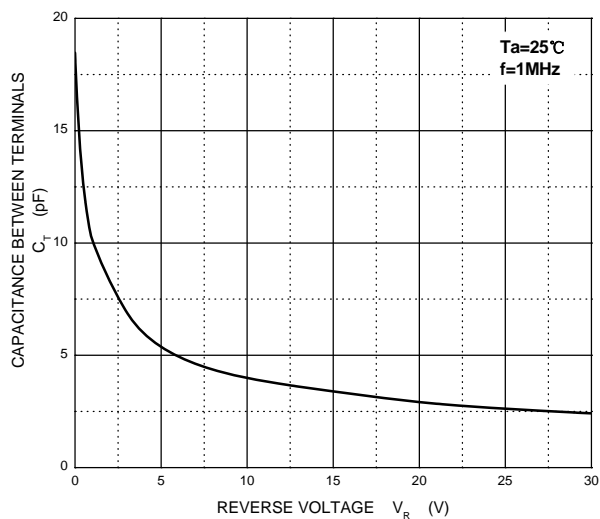
### Forward Characteristics



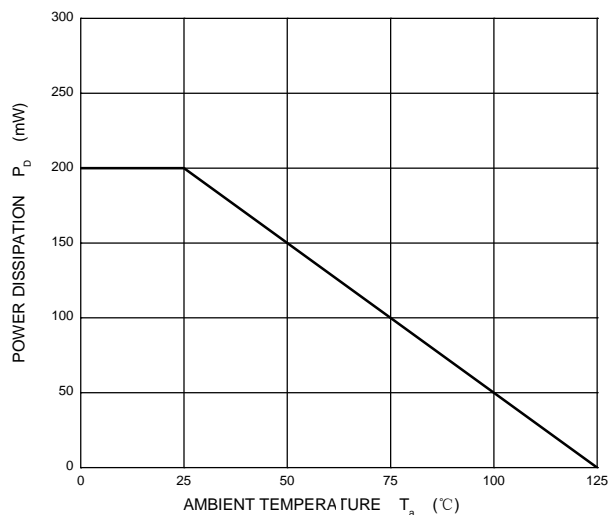
### Reverse Characteristics



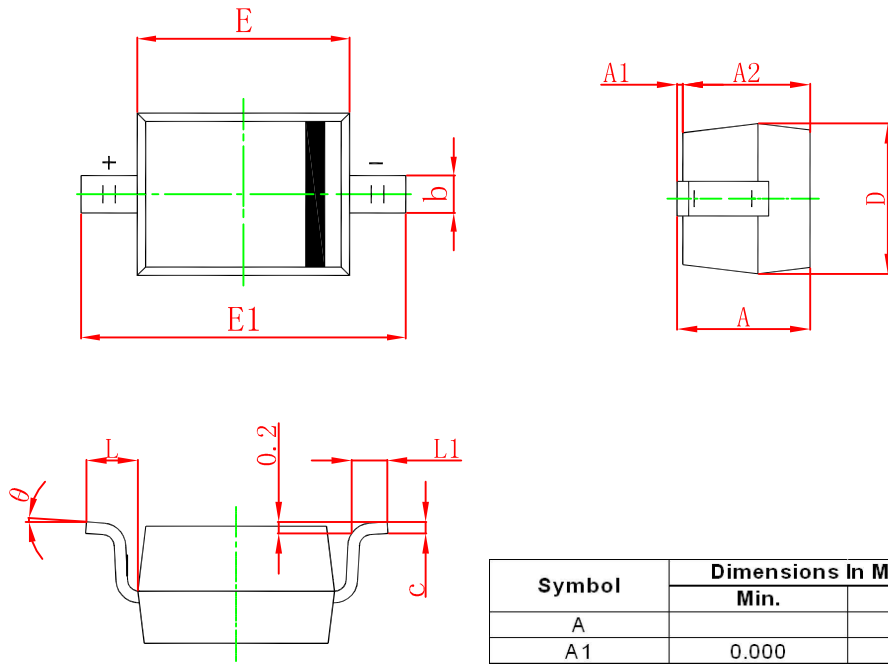
### Capacitance Characteristics



### Power Derating Curve

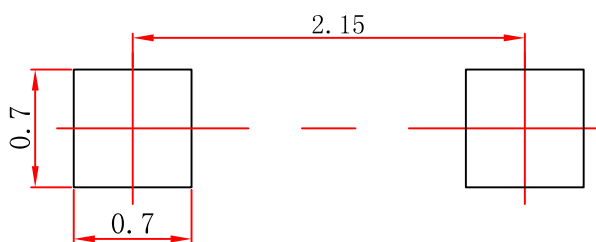


## SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

## SOD-323 Suggested Pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.