

SOD-123
FEATURES

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


MARKING: S9
Maximum Ratings @Ta=25°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) @ $t_p < 1.0s$, Duty Cycle < 50%	I_{FRM}	350	mA
Non-repetitive Peak Forward surge current @ $t = 8.3ms$	I_{FSM}	750	mA
Power dissipation	P_D	500	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	200	°C/W
Operating Junction Temperature Range	T_J	-40 ~ +125	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

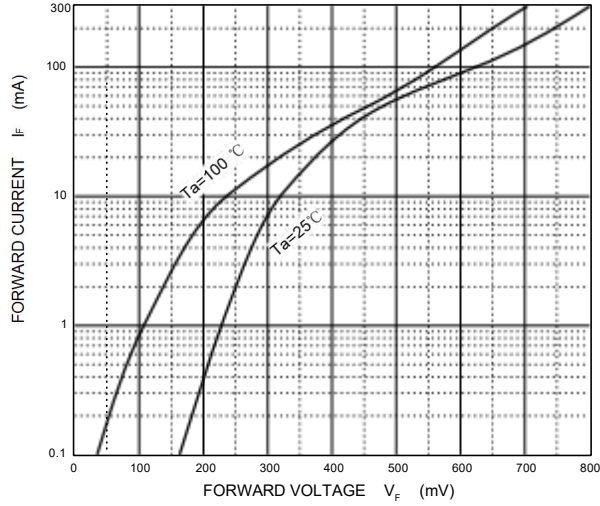
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage (Note2, 3)	V_R	$I_R = 100\mu A$	100			V
Reverse voltage leakage current (Note 2, 3)	I_R	$V_{R1}=1.5V$			0.3	μA
		$V_{R2}=10V$			0.5	
		$V_{R3}=50V$			1	
		$V_{R4}=75V$			2	
	I_R $T_J=60^\circ C$	$V_{R1}=1.5V$			12	μA
		$V_{R2}=10V$			20	
		$V_{R3}=50V$			44	
		$V_{R4}=75V$			80	
Forward voltage (Note2, 3)	V_F	$I_{F1}=0.1mA$			0.25	V
		$I_{F2}=10mA$			0.45	
		$I_{F3}=250mA$			1	
Diode capacitance	C_T	$V_R=0, f=1MHz$		20		pF
		$V_R=1V, f=1MHz$		12		

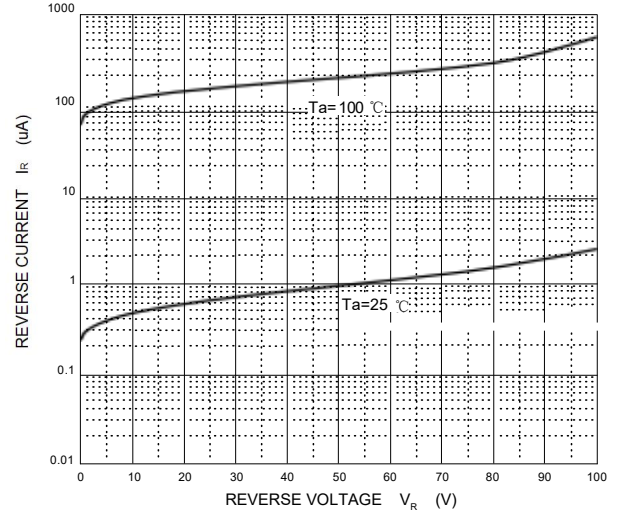
- Notes: 1. Part mounted on FR-4 board with recommended pad layout.
 2. Short duration pulse test used to minimize self-heating effect.
 3. pulsed $t_p \leq 300 \mu s$; $\delta \leq 0.02$.

Typical Characteristics

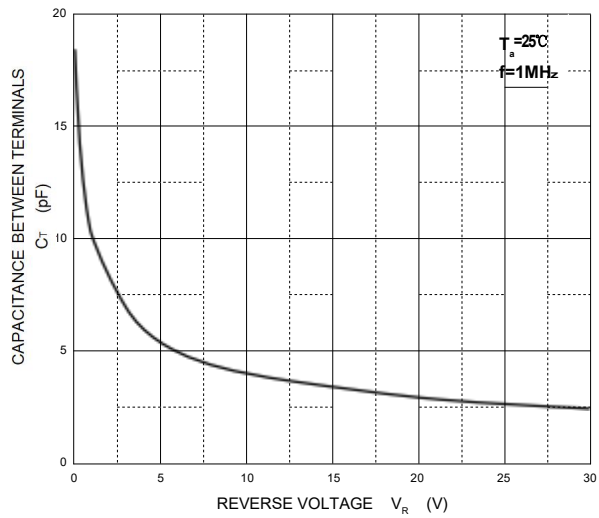
Forward Characteristics



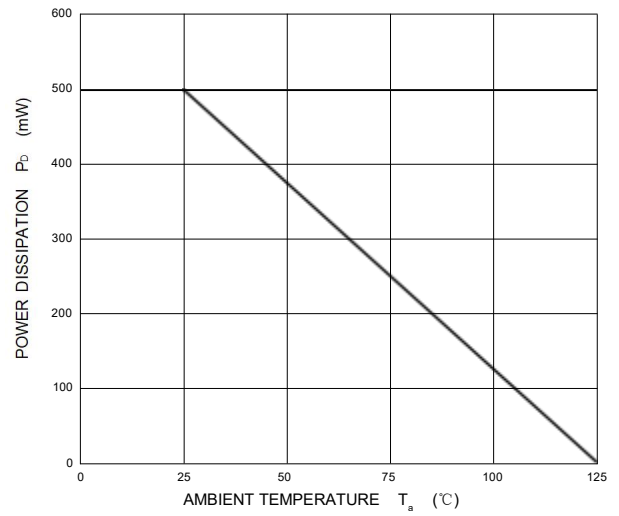
Reverse Characteristics



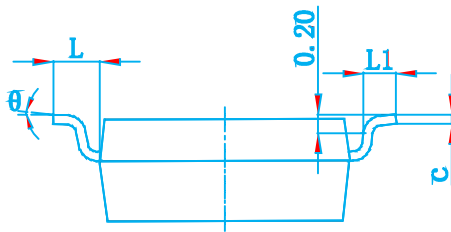
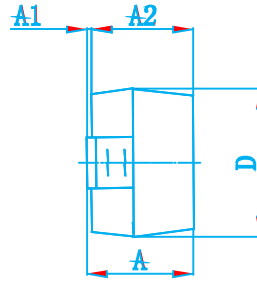
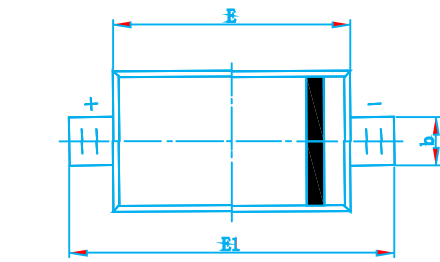
Capacitance Characteristics



Power Derating Curve

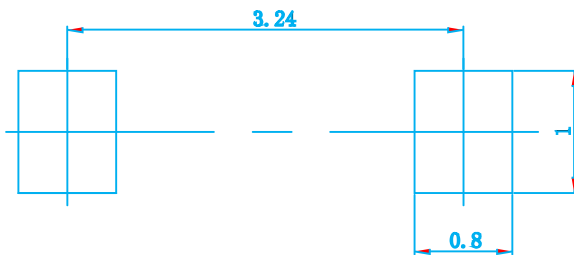


SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 Suggested Pad Layout



Note:

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