Switching Diodes
400mW SOD-123G AEC-Q101

1N4148WG-A

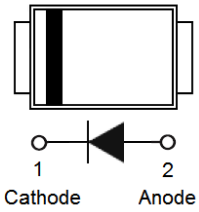
MERITEK

FEATURES

- Power Dissipation: 0.4W
- 100V Peak Reverse Voltage
- 150mA Average Forward Current
- Fast Switching Speed
- AEC-Q101 Qualified

MECHANICAL DATA

- Case: SOD-123G, Molded Plastic
- Terminals: Solderable per MIL-STD, Method 2026
- Polarity: Color Band Denotes Cathode End



RoHS

MAXIMUM RATING

Parameter		Symbol	Value	Units
Peak Reverse Voltage		V_{RM}	100	V
Reverse Voltage		V_R	75	V
Maximum Average Forward Current		$I_{F(AV)}$	150	mA
Non-Repetitive Peak Forward Surge Current	at t = 1s	I_{FSM}	0.5	A
	at t = 1ms		1.0	
	at t = 1μs		4.0	
Power Dissipation		P_D	400	mW
Typical Thermal Resistance		$R_{\Theta JA}$	312	°C/W
Operating Temperature Range		T_J	150	°C
Storage Temperature Range		T_{STG}	-65~150	°C

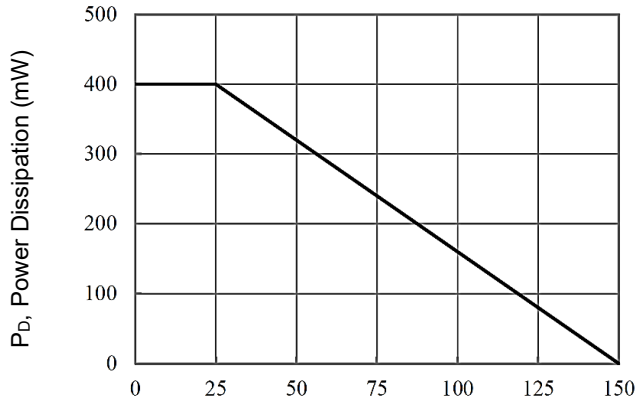
ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Symbol	Min	Max	Unit
Reverse Breakdown Voltage	I_R= 1μA	$V_{(BR)R}$	75	--	V
Instantaneous Forward Voltage	I_F= 1mA	V_F	--	0.715	V
	I_F= 10mA		--	0.855	
	I_F= 50mA		--	1.000	
	I_F= 150mA		--	1.250	
Reverse Leakage Current	V_R=20V	I_R	--	25	nA
	V_R=75V		--	1	μA
	V_R=25V, T_J=150°C		--	30	μA
	V_R=75V, T_J=150°C		--	50	μA
Reverse Recovery Time	I_F=10mA, V_R=6V, I_{rr}=0.1x I_R, R_L=100Ω	t_{rr}	--	4	nS
Maximum Junction Capacitance	V_R=0V, f=1MHz	C_J	--	2	pF

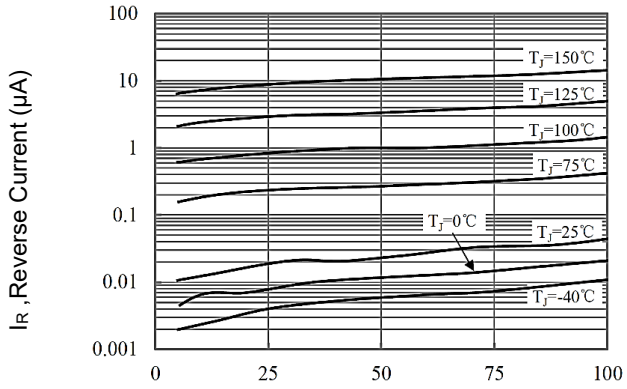
Note:
1. T_A = 25°C unless otherwise specified.
2. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

CHARACTERISTIC CURVES

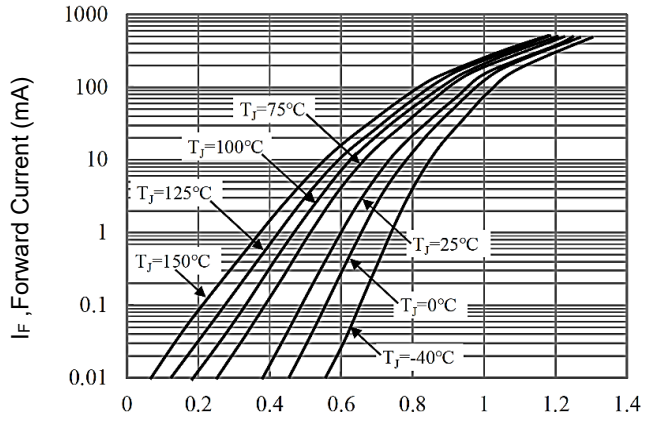
Power Derating Curve



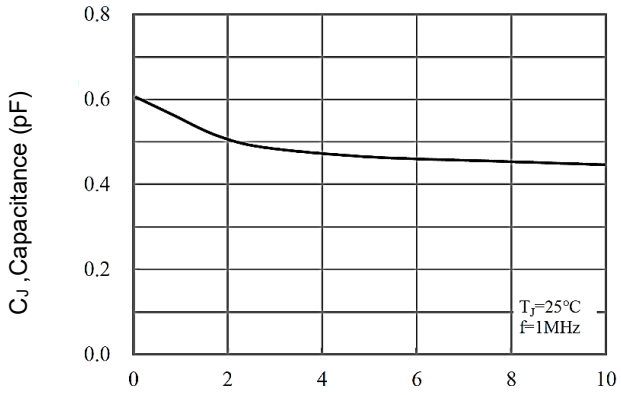
Typical Reverse Characteristics



Typical Forward Characteristics



Typical Junction Capacitance



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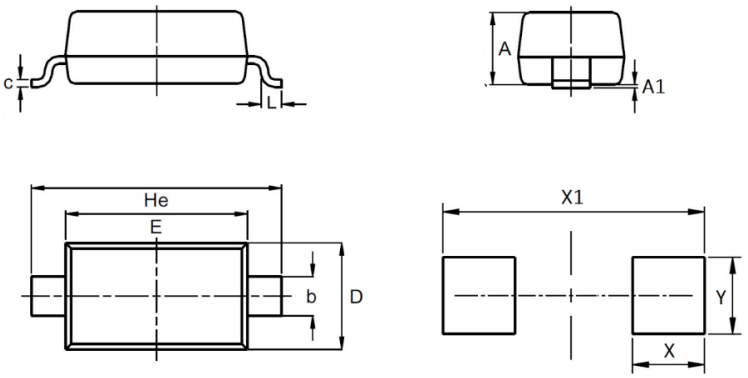
DIMENSIONS

SOD-123G	Min (mm)	Max (mm)
A	0.91	1.21
A1	0.00	0.10
b	0.50	0.70
c	0.08	0.14
D	1.50	1.70
E	2.54	2.70
He	3.50	3.80
L	0.20	0.4
X	0.85	
X1	3.90	
Y	1.20	



*Specifications subject to change without notice.