FEATURES

- SOD-123 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Meet AEC-Q101 Requirements

SOD-123

APPLICATION

- Extreme fast switches
- Automotive

Marking

Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	100	V
Average forward current	$I_{F(AV)}$	200	mA
Peak forward surge current(tp=1us)	I_{FSM}	2	A
Power dissipation	P_D	500	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	°C/W
Operating junction temperature range	T_J	-55 ~ +150	°C
Storage temperature range	T_{STG}	-65 ~ +150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Breakdown Voltage	V_R	I_R=100μA	100			V
		I_R=5μA	75			V
Reverse Current	I_R	V_R=20V			0.025	μA
		V_R=75V			2.5	μA
Forward Voltage	V_F	I_F=5mA			0.72	V
		I_F=10mA		0.72	0.855	V
		I_F=100mA		0.93	1.00	V
		I_F=150mA			1.25	V
Diode Capacitance	C_J	V_R=V_F=0V, f=1MHz			4	pF
Reverse Recovery Time	t_{rr}	I_F=10mA, R_L=100Ω, I_{RR}=0.1×I_R			4	ns

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

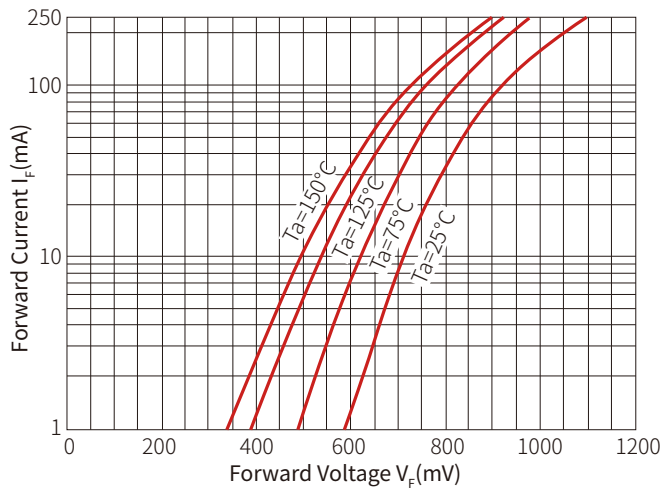


Fig.2 Reverse Characteristics

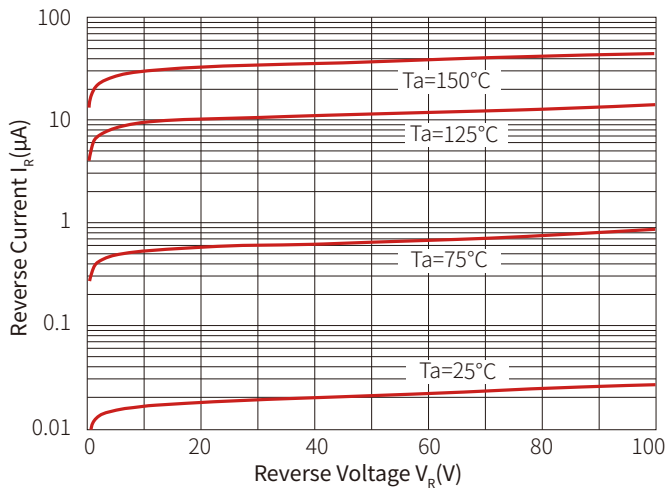
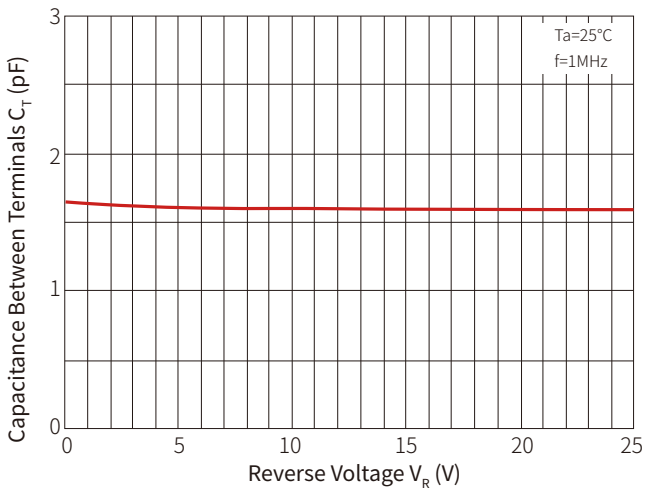
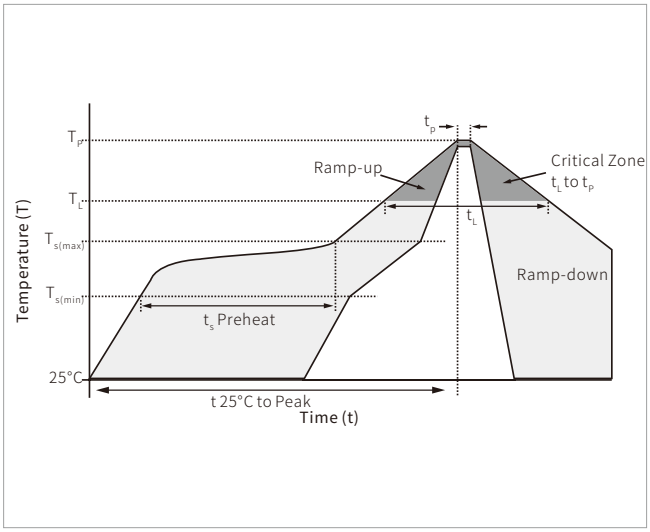


Fig.3 Capacitance Characteristics

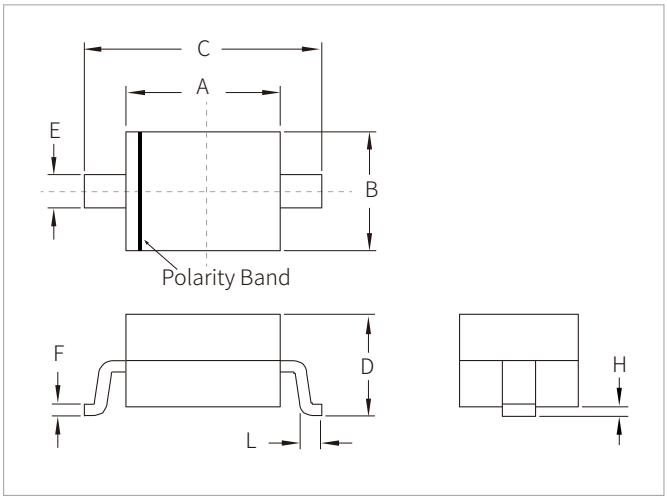


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

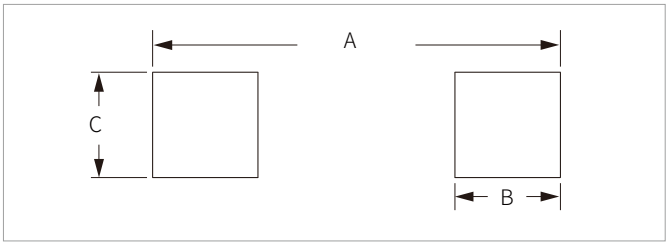


SOD-123 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	2.80	0.102	0.110
B	1.50	1.70	0.059	0.067
C	3.55	3.85	0.140	0.152
D	1.05	1.25	0.041	0.049
E	0.45	0.65	0.018	0.026
F	0.08	0.15	0.003	0.006
H	0.00	0.10	0.000	0.004
L	0.25	0.45	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.19	3.29	0.126	0.130
B	0.75	0.85	0.030	0.033
C	0.95	1.05	0.037	0.041

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
1N4448WQ	SOD-123	3000PCS	7”

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