

FEATURES

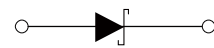
- | Low Forward Voltage Drop
- | Extremely Small SOD-123 Package
- | Surface Device Type Mounting
- | Green EMC
- | Band Indicates Cathode



SOD-123



Marking



Schematic Symbol

APPLICATION

- | Low voltage rectification
- | Reverse polarity protection
- | Low power consumption applications

APPROVALS

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

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Maximum repetitive reverse voltage	V_{RRM}	40	V
Maximum DC blocking reverse voltage	V_R	40	V
Average Forward Current	$I_{F(AV)}$	2	A
Peak Forward Surge Current (At 8.3ms single half sine-wave)	I_{FSM}	20	A
Junction Temperature Range	T_J	-50 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-50 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Breakdown Voltage	$I_R=0.1\text{mA}$	V_{BR}	40			V
Reverse Leakage Current	$V_R=40\text{V}$	I_R			80	μA
Forward Voltage	$I_F=1\text{A}$	V_F		0.37	0.42	V
	$I_F=2\text{A}$				0.50	
Junction Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C_J		340	400	pF

CHARACTERISTIC CURVES

Fig.1 Typical Forward Current Derating Curve

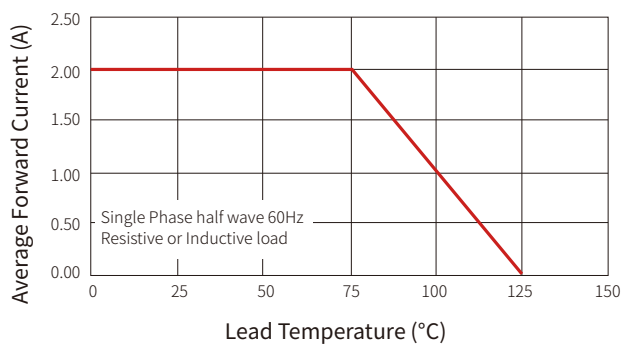


Fig.2 Total Capacitance vs. Reverse Voltage

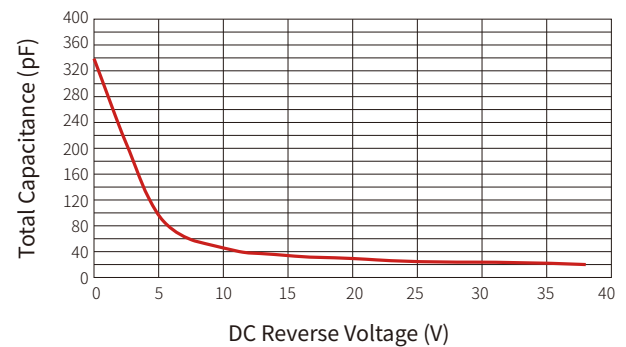


Fig.3 Typical Instantaneous Forward Characteristics

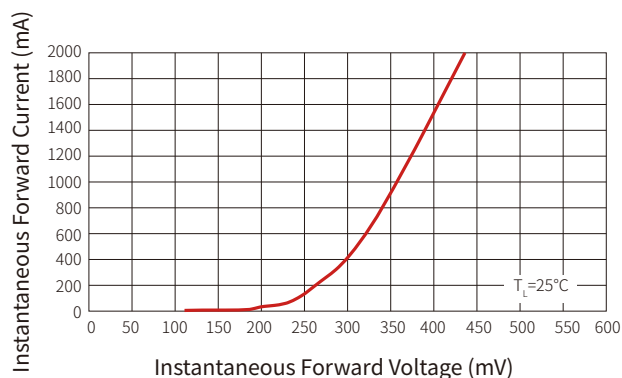


Fig.4 Typical Reverse Characteristics

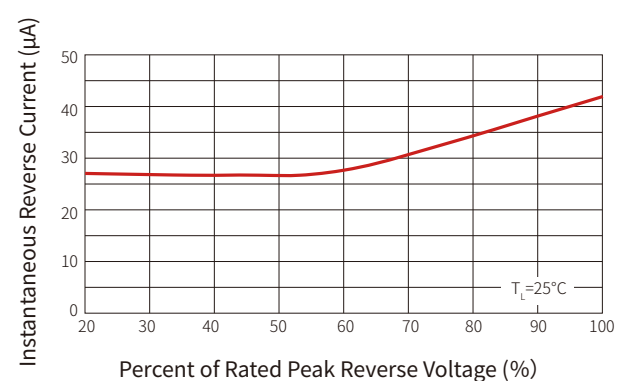
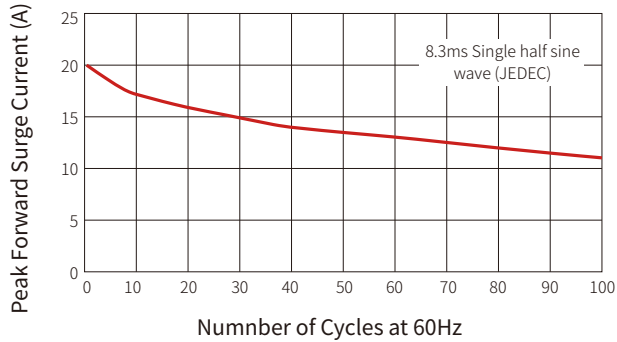
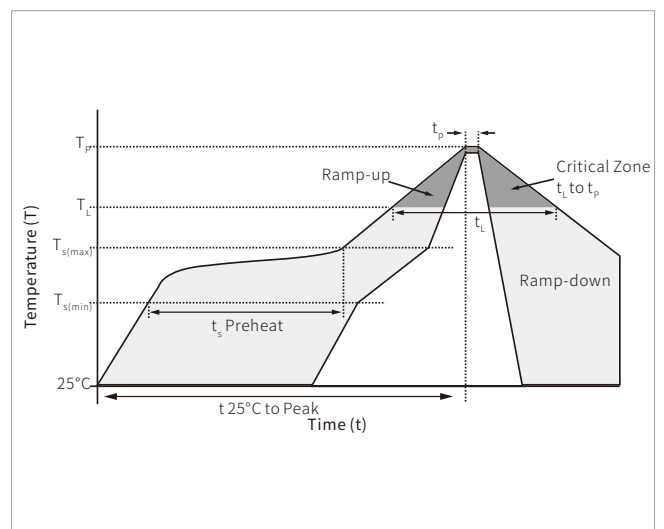


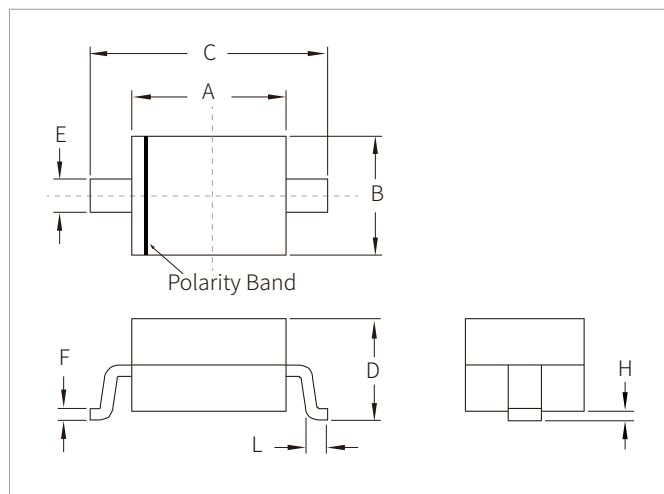
Fig.5 Max. Non-repetitive Forward Surge Current


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

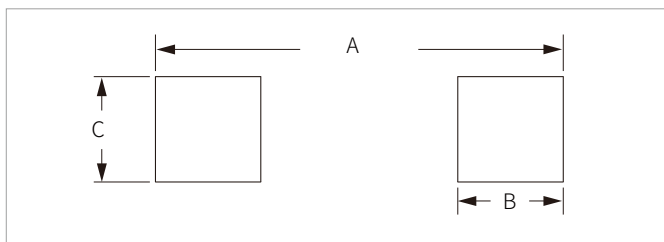


SOD-123 PACKAGE INFORMATION



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
RB10U40W	SOD-123	3000PCS	7"

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