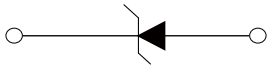
FEATURES

- Ideal For Automated Placement
- Glass Passivated Chip Junction
- High Forward Surge Capability
- Meets MSL Level1,per J-STD-020

SOD-123FL



Schematic Symbol

MECHANICAL DATA

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Polarity: Cathode line denotes the cathode end

APPROVALS

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

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter		Symbol	RS1000 FL	RS1001 FL	RS1002 FL	RS1004 FL	RS1006 FL	RS1008 FL	RS1010 FL	Unit
Marking			R1A	R1B	R1D	R1G	R1J	R1K	R1M	
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	
Maximum Average Forward Rectified Current		$I_{F(AV)}$	1							A
Surge Peak Forward Current,8.3ms Single Half Sine-Wave Superimposed On Rated Load Per Diode		I_{FSM}	30							
Maximum Forward Voltage @I_F=1A,T_J=25°C(Note1)		V_F	1.3							V
Maximum Reverse Current @Rated V_R	T_J=25°C	I_R	5							μA
	T_J=125°C		200							
Typical Thermal Resistance		$R_{\theta J-A}$	105							°C/W
		$R_{\theta J-L}$	32							
Typical Junction Capacitance (Note 3)		C_J	10							pF
Operating Junction Temperature Rang		T_J	-55 to +150							°C
Storage Temperature Rang		T_{STG}	-55 to +150							
Maximum Reverse Recovery Time (Note 2)		t_{rr}	150				250	500		ns

Note 1: Pulse test with PW=0.3mS
Note 2: Reverse Recovery Test Conditions :I_F=0.5A,I_R=1.0A,I_{RR}=0.25A
Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C

CHARACTERISTIC CURVES

Fig. 1- Typical Forward Characteristics

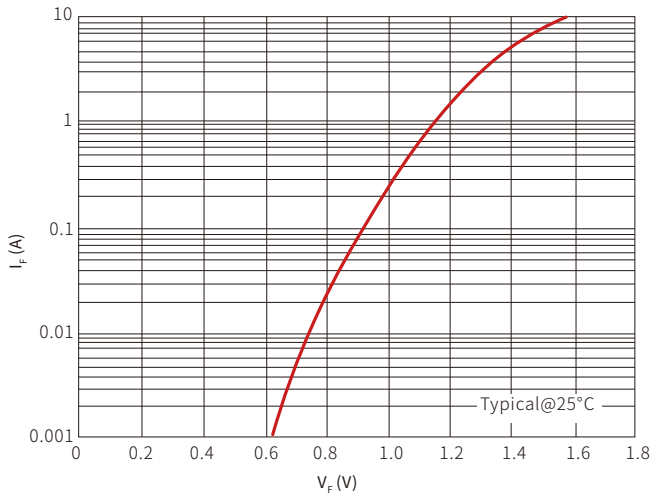


Fig. 2-Typical Junction Capacitance

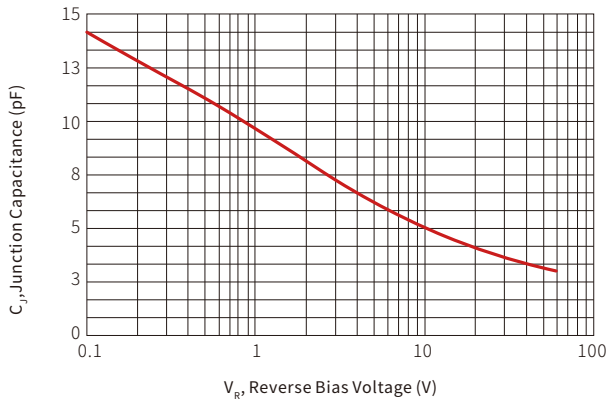


Fig. 3-Forward Surge Current Derating Curve

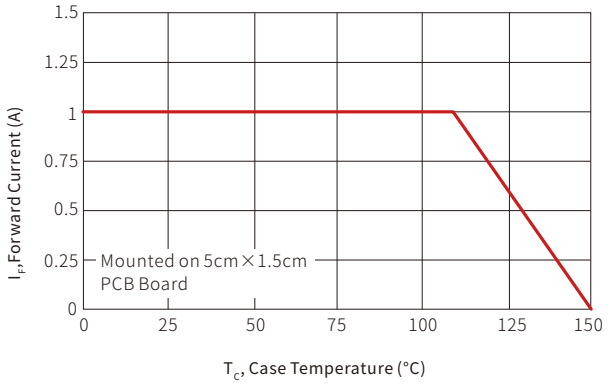


Fig. 4-Maximuim Non-Repetitive Surge Current

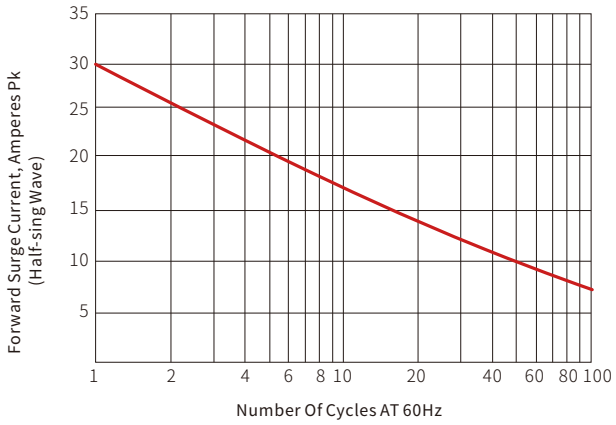
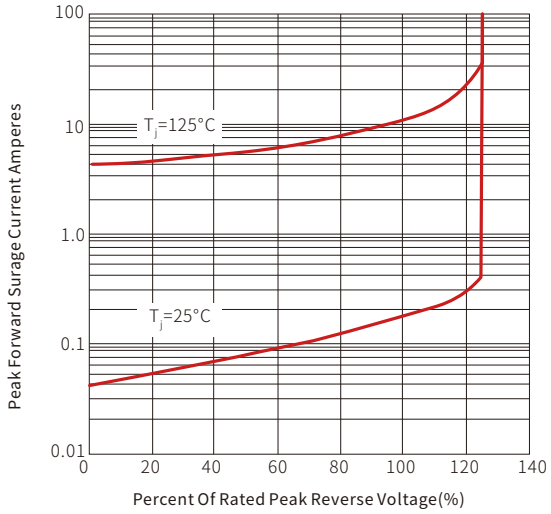
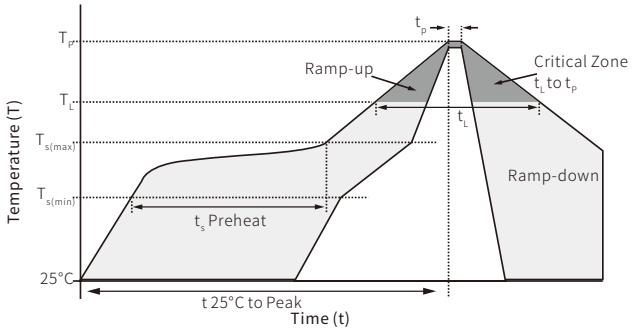


Fig. 5-Typical Reverse Leakage Characteristics

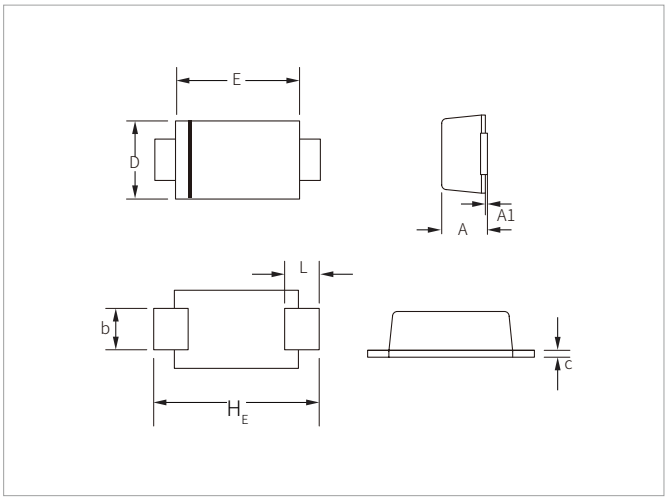


SOLDERING PARAMETERS

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

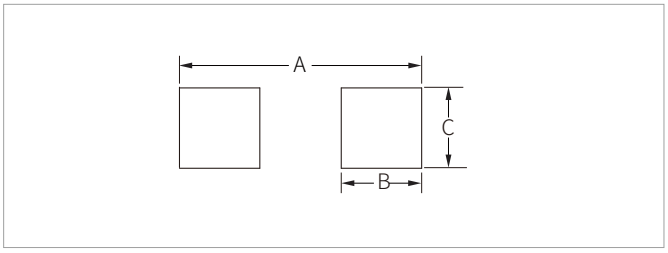


SOD-123FL PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.45	0.037	0.057
A1	0.00	0.10	0.000	0.004
b	0.70	1.20	0.028	0.047
c	0.05	0.30	0.002	0.012
D	1.50	2.00	0.059	0.079
E	2.50	2.90	0.098	0.114
L	0.35	0.90	0.014	0.035
H_E	3.40	3.90	0.134	0.154

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	4.20	0.165
B	1.50	0.059
C	1.20	0.047

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
RS1000-1010FL	SOD-123FL	3000PCS	7”
		10000PCS	13”

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