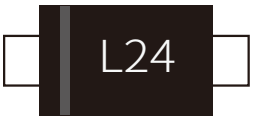
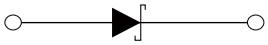
FEATURES

- Low Power Loss, Hgih Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Meet AEC-Q101 Requirements

SOD-123FL



Marking



Schematic Symbol

MECHANICAL DATA

- Encapsulation: SOD-123FL Small Outline Plastic Package
- Polarity: Color Band Denotes Cathode end
- Mounting Position: Any

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage @I_R=1.0mA	V_{RRM}	40	V
Working Peak Reverse Voltage @I_R=1.0mA	V_{RWM}	40	V
DC Blocking Voltage @I_R=1.0mA	V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Output Current	I_O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30	A
Power Dissipation (Note 1)	P_D	450	mW
Typical Thermal Resistance Junction to Ambi ent (Note 1)	$R_{\theta JA}$	222	°C/W
Operating and Storage Temperature Range	T_J,T_{STG}	-65 to +125	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	I_R=1mA	40			V
Forward Voltage	V_F	I_F=1.0A			0.35	V
		I_F=2.0A			0.40	
Reverse Leakage Current (Note 2)	I_R	V_R=40V,T_A=25°C			220	μA
		V_R=40V,T_A=100°C		8.5		mA
Total capacitance	C_T	V_R=4V, f =1MHz		50		pF

Notes :
1. FR-4 Board = 70 x 60 x 1mm
2. Short duration pulse te st used to minmize self-heating effect.
3. Mounted on metal core PCBcitance

CHARACTERISTIC CURVES

Fig. 1- Forward Current Derating Curve

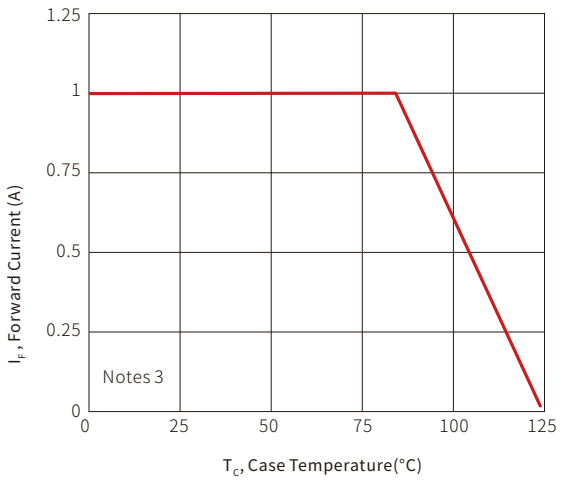


Fig. 2-Typical Junction Capacitance

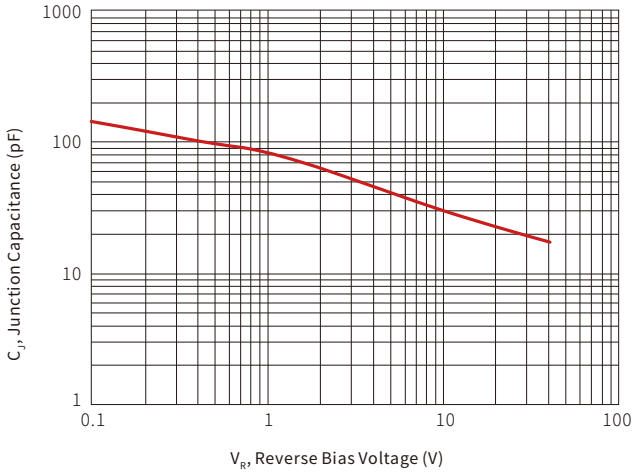


Fig. 3- Typical Reverse Characteristics

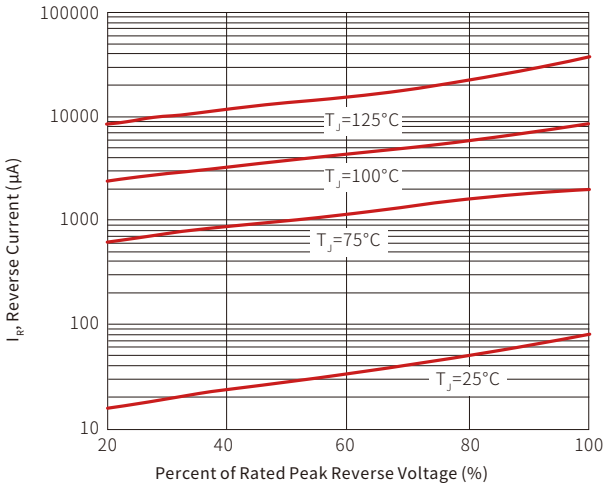


Fig. 4-Typical Forward Characteristics

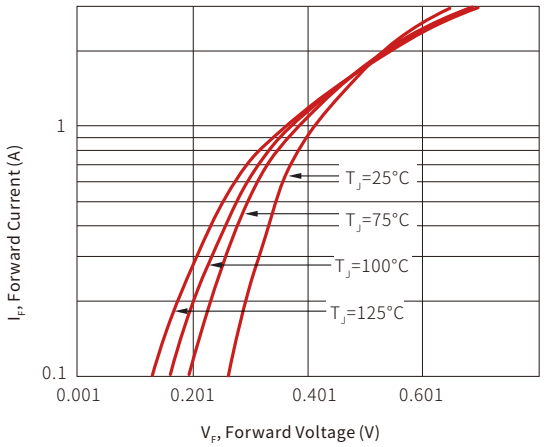
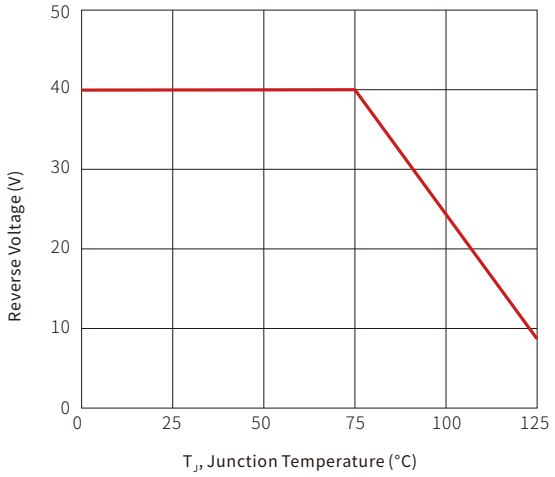
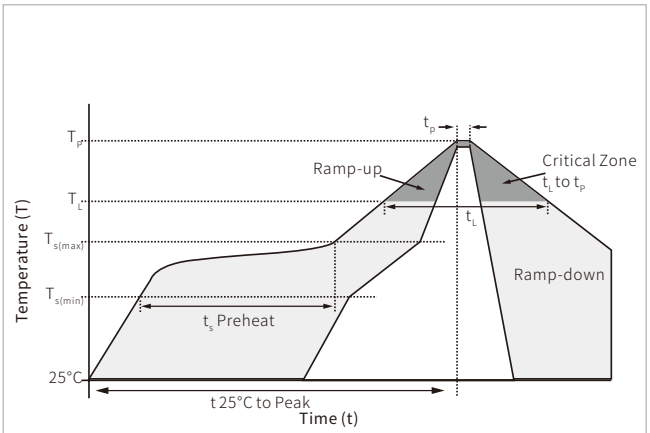


Fig. 5- Operating Temperature Derating Curve

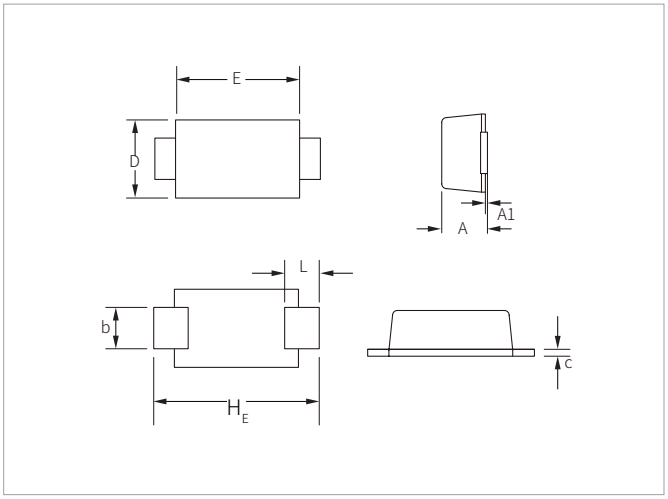


SOLDERING PARAMETERS

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

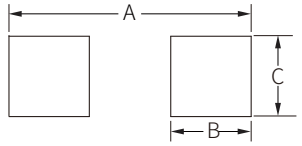


SOD-123FL PACKAGE INFORMATION



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	3.10	0.098	0.122
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
SS14DLFQ	SOD-123FL	3000PCS	7”

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