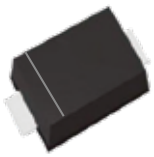
FEATURES

- Low Profile Package
- Ideal For Automated Placement
- Glass Passivated Chip Junctions
- Low Forward Voltage Drop
- Low Leakage Current
- High Forward Surge Capability



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	US1 AFA	US1 BFA	US1 DFA	US1 GFA	US1 JFA	US1 KFA	US1 MFA	Unit
Marking			HAL	HBL	HDL	HGL	HJL	HKL	HML	
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 at T_L=100°c		$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3 Ms Single Half Sine-Wave Superimposed On Rated Load		I_{FSM}	25							
Instantaneous Forward Voltage I_F=1A (2)		V_F	1.0			1.3	1.7			V
Maximum Reverse Current V_R=V_{DC}	T_J=25°C	I_R	5.0							μA
	T_J=125°C		50							
Reverse Recovery Time I_F=0.5A,I_R=1.0A,I_{RR}=0.25A		t_{rr}	50				75			nS
Thermal Resistance From Junction To Lead (1)		$R_{\theta JL}$	30							°C/W
Operating And Storage Temperature Range		T_J,T_{STG}	-55~+150							°C

Note:1.Mounted on epoxy glass PCB with 3mmx3mm Cu pads (≥40 μm thick)
2.Pulsetest：300μs pulse width,1% duty cycle.

CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

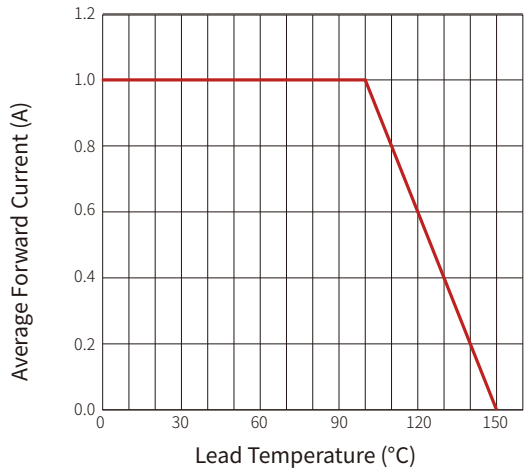


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

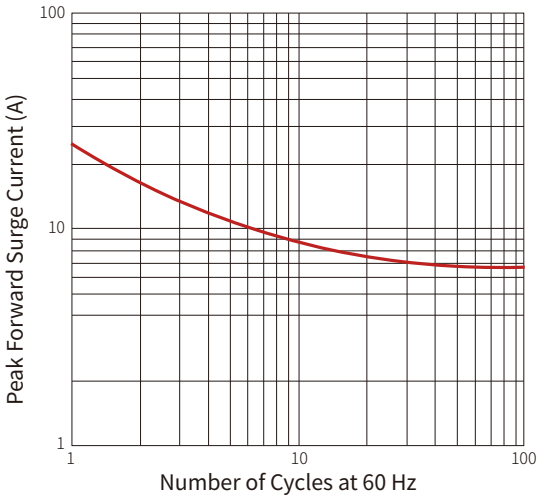


Fig.3 Typical Instantaneous Forward Characteristics

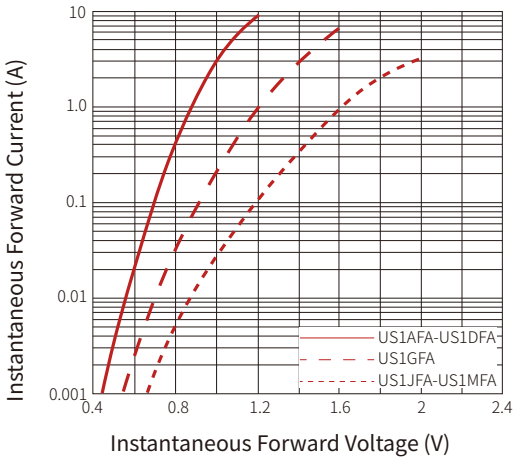
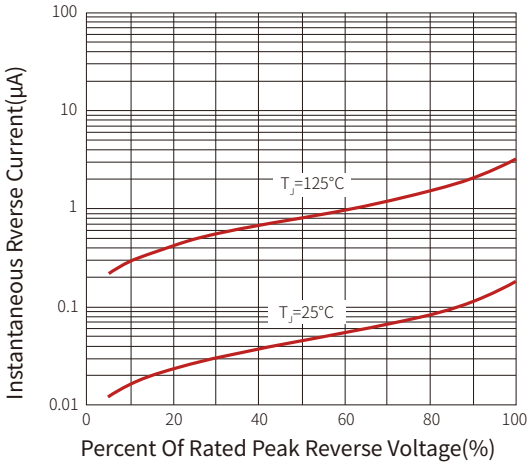
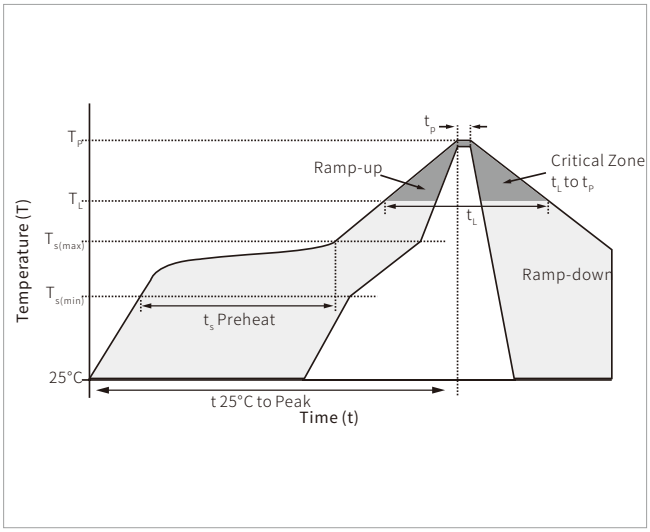


Fig.4 Typical Reverse Characteristics

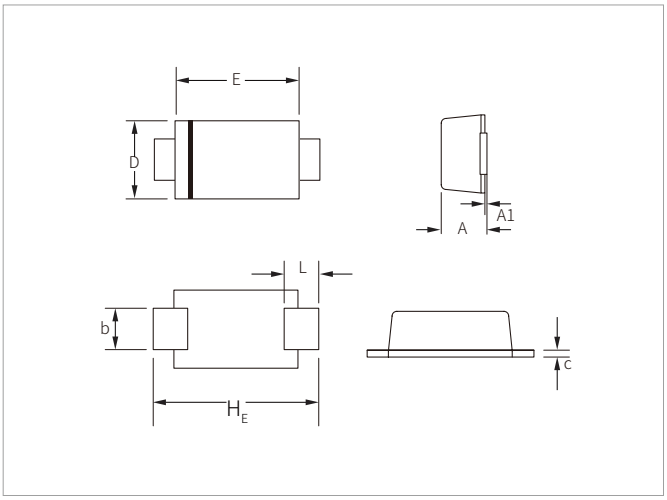


SOLDERING PARAMETERS

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

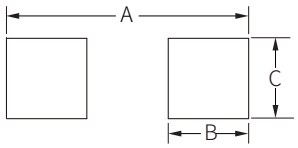


SOD-123FL PACKAGE INFORMATION



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	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
US1AFA-US1MFA	SOD-123FL	3000PCS	7”

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