

FEATURES

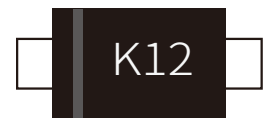
- Low Forward Voltage Drop
- Low Reverse Leakage
- Surface Mount Package Ideally Suited For Automatic Insertion



SOD-123FL

MECHANICAL DATA

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



Marking



Schematic Symbol

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 Peak Reverse Voltage		V_{RRM}	20	V
Maximum RMS voltage		V_{RMS}	14	V
Maximum DC Blocking Voltage		V_{DC}	20	V
Maximum Average Forward Rectified Current at $T_L=100^{\circ}\text{C}$		$I_{F(AV)}$	1.0	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)		I_{FSM}	30	A
Max Instantaneous Forward Voltage at 1 A		V_F	0.55	V
Maximum DC Reverse Current at Rated DC Reverse Voltage	$T_a = 25^{\circ}\text{C}$	I_R	0.2	mA
	$T_a = 100^{\circ}\text{C}$		20	mA
Typical Thermal Resistance ⁽²⁾		$R_{\theta JA}$	85	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature Range		T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-55 to +150	$^{\circ}\text{C}$

- (1) Measured at 1 MHz and applied reverse voltage of 4 V D.C
 (2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

CHARACTERISTIC CURVES

Fig. 1- Derating Curve Output Rectified Current

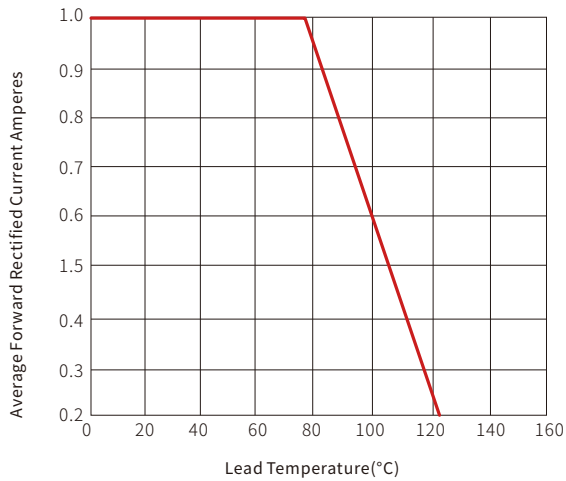


Fig. 2-maximum Non-repetitive Peak Forward Surge Current Perleg

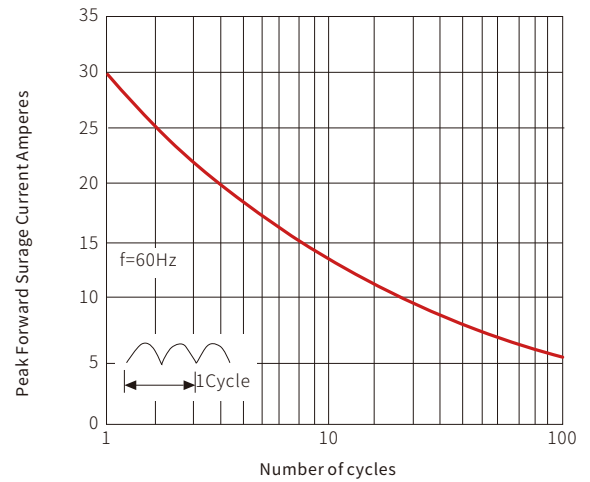


Fig. 3-typical Forward Voltage Characteristics

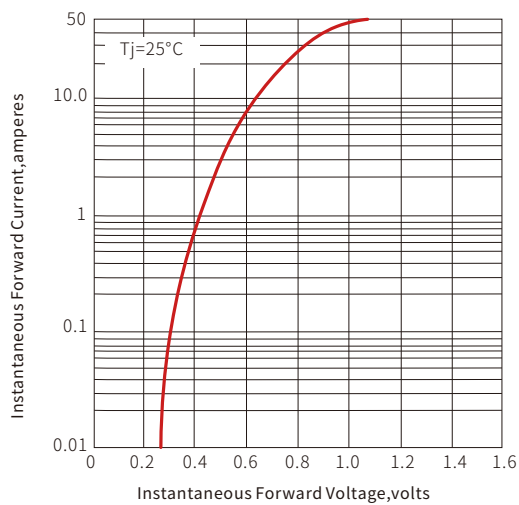
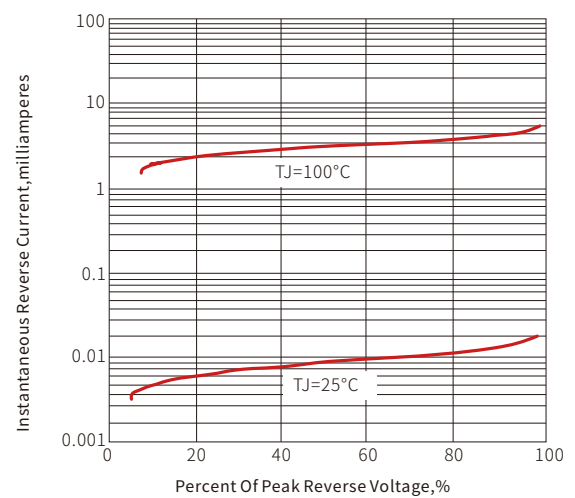
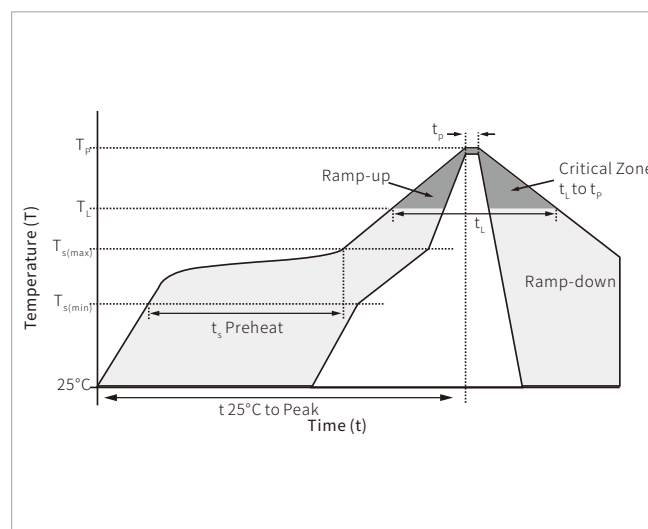


Fig. 4-typical Reverse Leakage Characteristics

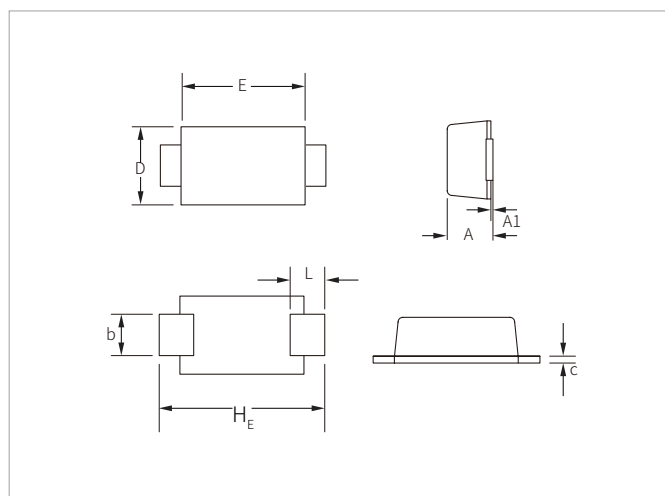


SOLDERING PARAMETERS

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

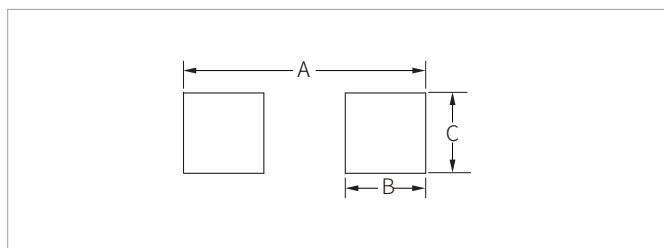


SOD-123FL PACKAGE INFORMATION



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	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
1N5817	SOD-123FL	3000PCS	7"

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