

Features

- Super Low Forward Voltage Drop
- High Current Capability, High Efficiency
- High Junction Temperature Capability
- Low Leakage Current
- RoHs Product

Applications

- Surface mount schottky barrier rectifier
- Buck and Boost dc-dc Converters
- Low Voltage High Frequency Switching Power Supply
- Low Voltage High Frequency Invers Circuit
- Low Voltage Continued Circuit and Protection Circuit



Absolute Maximum Ratings

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	VRRM	V	20
Maximum RMS voltage	VRMS	V	14
Maximum DC blocking voltage	VDC	V	20
Maximum average forward rectified current	IF(AV)	A	1
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	IFSM	A	12
Junction Temperature	Tj	°C	-65 ~ +125
Storage temperature range	TSTG	°C	-65 ~ +125
Typical thermal resistance	RθJA	°C /W	85

Part mounted on FR-4 board with 1.8mm X 2.5mm copper pads. TA = 25°C.

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse current	IR	VR=20V	--	--	1	mA
		VR=5V	--	0.26	--	mA
Forward voltage	VF	IF=0.1A	--	0.20	--	V
		IF=0.7A	--	0.30	--	V
		IF=1A	--	0.32	0.36	V
Total Capacitance	CT	VR = 0V, f = 1 MHz	--	75	--	pF

Typical Electrical Characteristic Curves

Fig. 1 - Typical Instantaneous Forward Characteristics

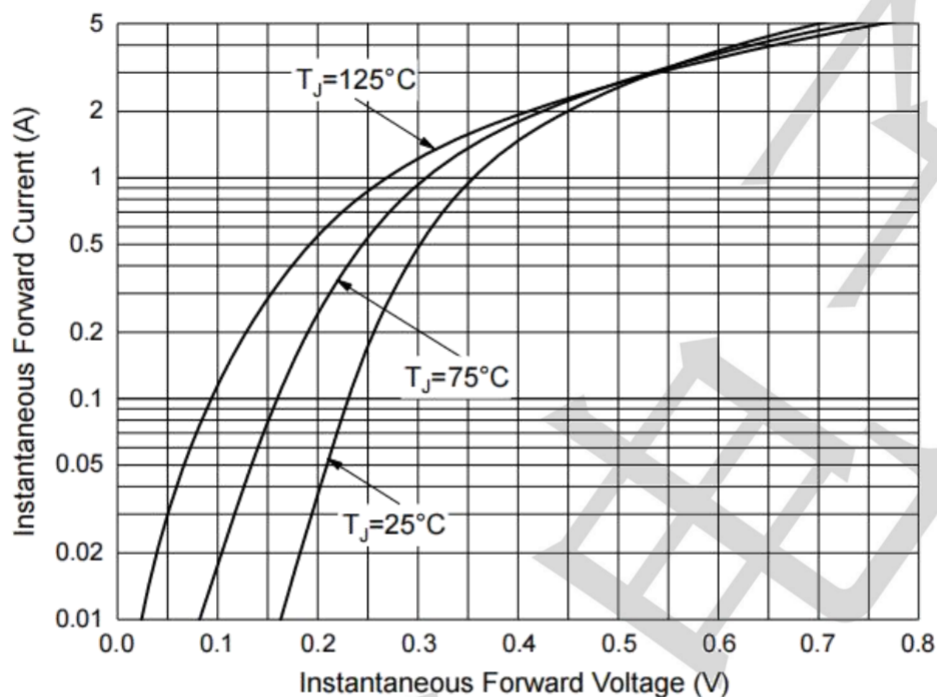
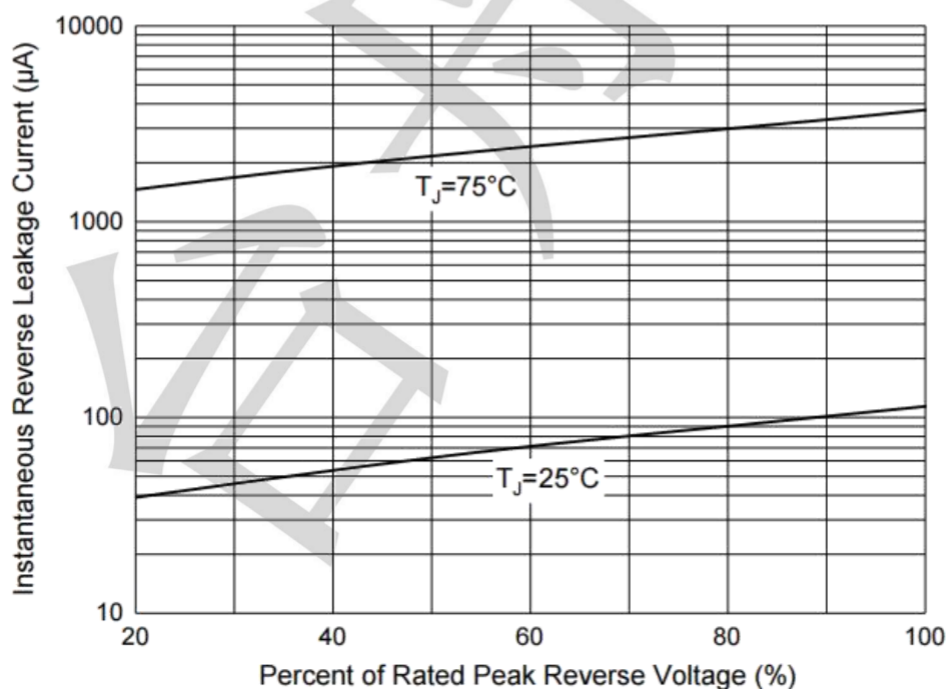
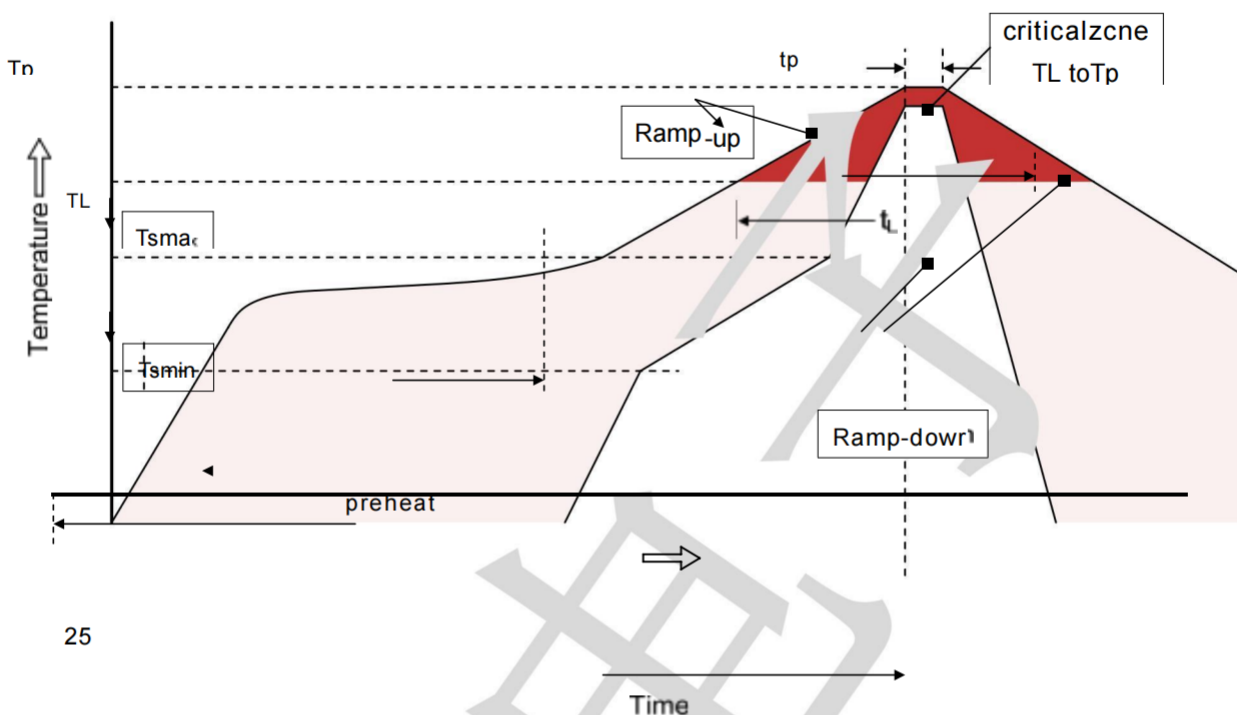


Fig. 2 - Typical Reverse Leakage Characteristics



Recommended Soldering Conditions

Reflow Soldering

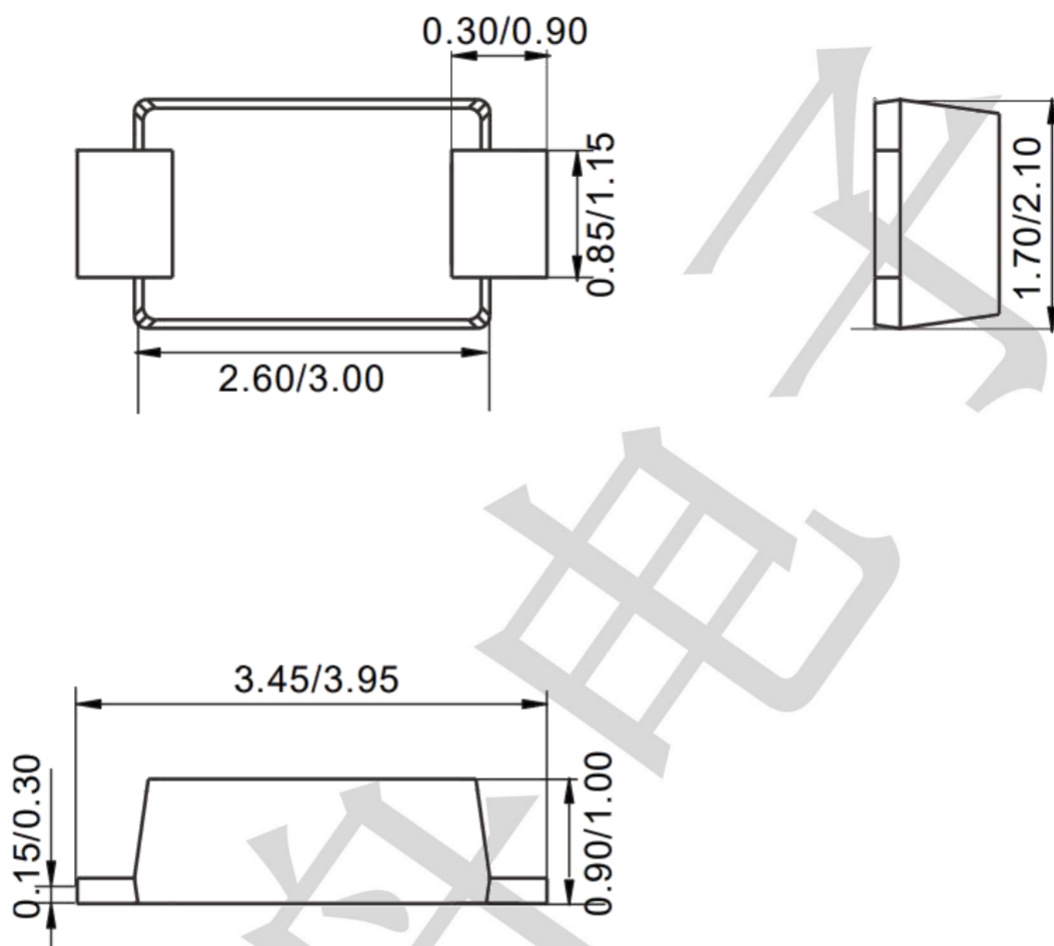


Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min (T_{Smin})	150°C
-Temperature Max (T_{Smax})	200°C
-Time (minto max) (ts)	60-180 seconds
T_{Smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (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	8 minutes max.

Package Outline Dimensions (unit: mm)

SOD-123FL



Mounting Pad Layout (unit: mm)

