JUXIN semiconductor

U1A thru U1M

High Efficiency Surface Mount Rectifiers

Reverse Voltage: 50 to 1000V
Forward Current: 1.0 Amp

Features

- Low profile package
- For surface mounted applications
- Glass passivated chip junction
- High forward surge capability
- Super fast reverse recovery time
- High temperature soldering guaranteed 260℃/10 seconds at terminals

Mechanical Data

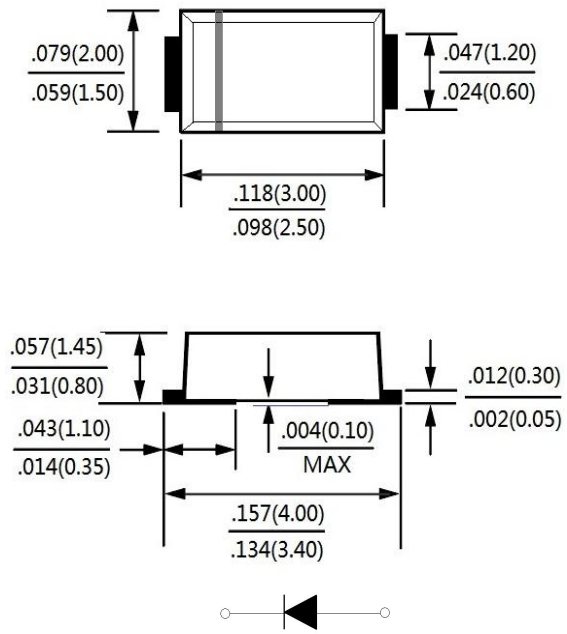
- **Package**: SOD-123FL
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity**: Cathode line denotes the cathode end

Typical Applications

For use in high frequency rectification of power supplies,inverters, converters, and freewheeling diodes for consumer,and telecommunication.

SOD-123FL

RoHS COMPLIANT HALOGEN FREE



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter&Test Conditions	SYM.	U1A	U1B	U1D	U1G	U1J	U1K	U1M	Unit
Device marking code		U1A	U1B	U1D	U1G	U1J	U1K	U1M	
Maximum Recurrent 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	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	$I_{O(AV)}$	1.0							A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load	I_{FSM}	30							A
Maximum Thermal Resistance, Junction To Ambient (Note 1)	$R_{\theta JA}$	150							℃/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to+150							℃

Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Parameter&Test Conditions		SYM.	U1A	U1B	U1D	U1G	U1J	U1K	U1M	Unit
Maximum Instantaneous Forward Voltage IFM =1A		V_{FM}	1			1.3	1.7			V
Maximum DC reverse current at rated DC blocking voltage	TA = 25℃	I_R	5							μA
	TA = 125℃		200							
Maxinum reverse recovery time(Note 2)		Trr	50				75			ns
Typical junction capacitance(Note 3)		C_J	17			10	7			pF

Notes:

1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 3mm*3mm copper pad areas.
2. Reverse recovery time test condition: IF=0.5A IR=1.0A Irr=0.25A .
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
4. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

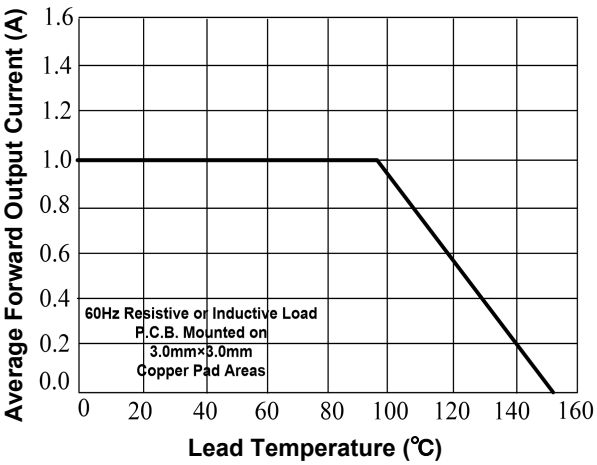


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

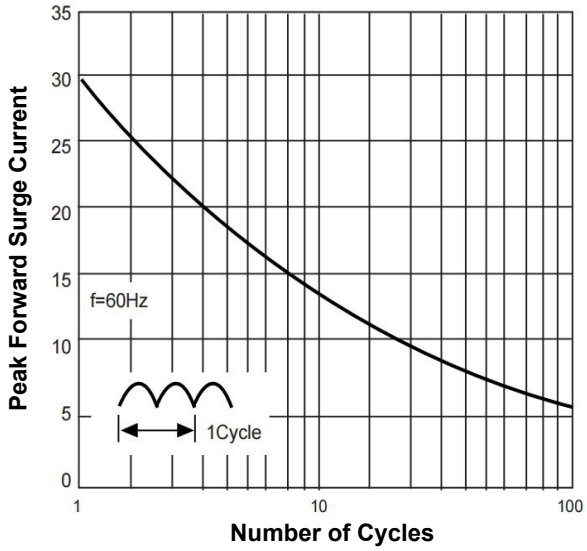


FIG. 3- TYPICAL FORWARD VOLTAGE

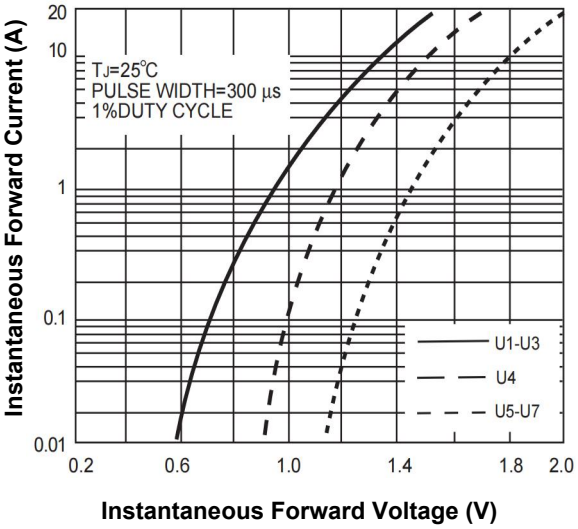


FIG. 4- TYPICAL REVERSE LEAKAGE

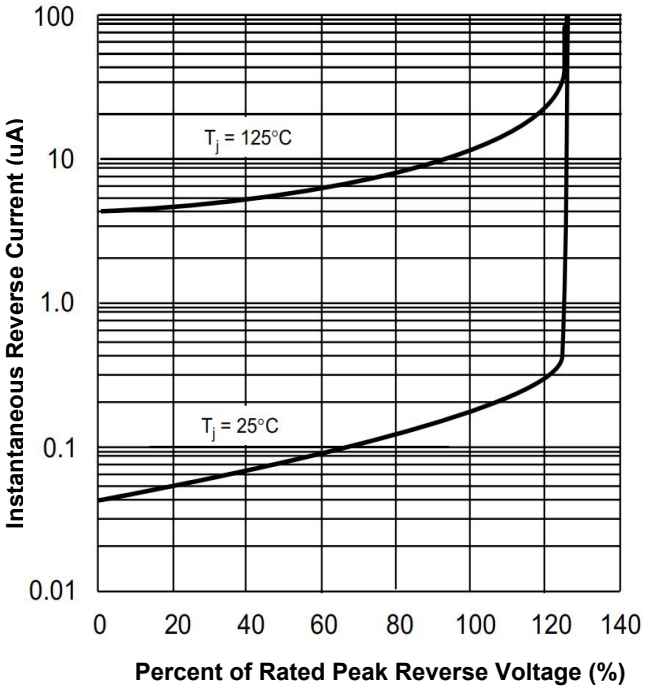
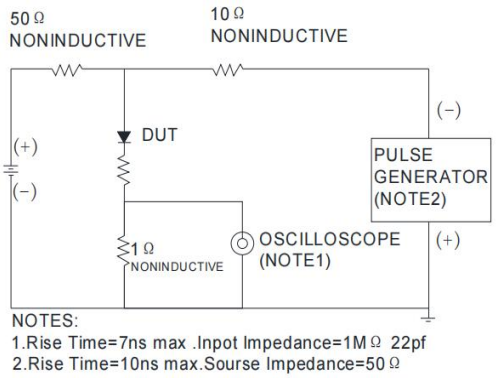
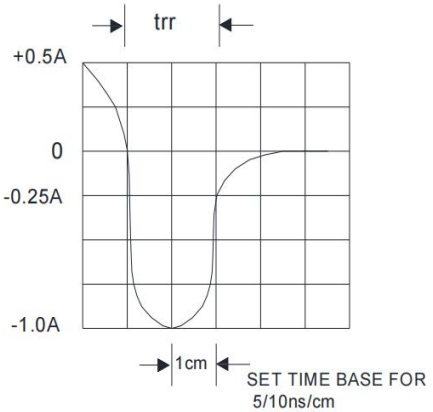


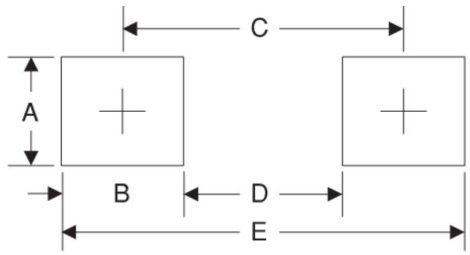
FIG. 5- Diagram of circuit and Testing wave form of reverse recovery





The curve above is for reference only.

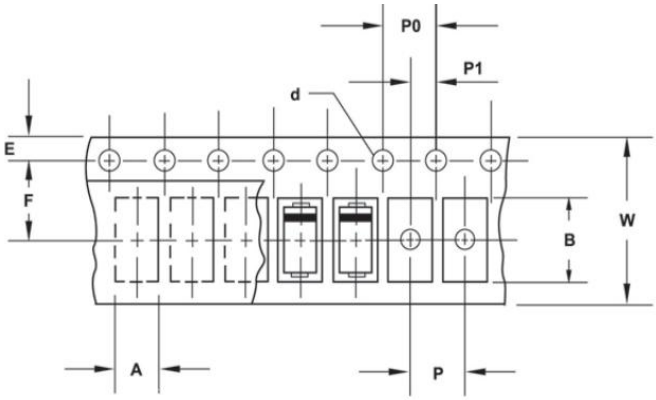
Recommended Pad Layout

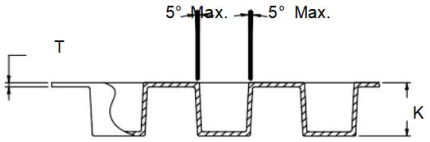


SYMBOL	Millimeters
A	1.50
B	1.15
C	3.10
D	1.90
E	4.25

Package Information

Carrier Dimension(mm)





W	F	d	E
8.0	3.5	⌀ 1.55	1.75
A	B	K	T
2.2	3.9	1.37	0.22
P0	P1	P	Tolerance
4.0	2.0	4.0	0.10

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOD-123FL	7'	178	3	185	15	390*400*230	180

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