JUXIN semiconductor

K12 thru K120

Schottky Surface Mount Rectifiers

Reverse Voltage: 20 to 200V
Forward Current: 1.0 Amp

Features

- Low profile package
- For surface mounted applications
- Schottky Barrier Chip
- High forward surge capability
- High temperature soldering guaranteed 260℃/10 seconds at terminals

Mechanical Data

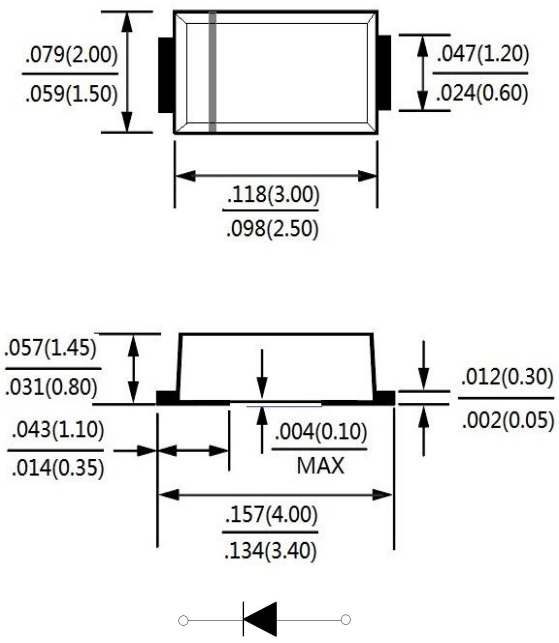
- **Package**: SOD-123FL
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity**: Cathode line denotes the cathode end

Typical Applications

For use in low voltage high frequency inverters, freewheeling,DC/DC converters, and polarity protection applications.

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.	K12	K13	K14	K15	K16	K18	K110	K115	K120	Unit
Device marking code		K12	K13	K14	K15	K16	K18	K110	K115	K120	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	80	100	150	200	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}	25									A
Maximum Thermal Resistance, Junction To Ambient (Note1)	$R_{\theta JA}$	95									℃/W
Operating junction range	T_j	-55 to+125			-55 to+150						℃
Storage temperature range	T_{STG}	-55 to+150									℃

Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Parameter&Test Conditions		SYM.	K12	K13	K14	K15	K16	K18	K110	K115	K120	Unit
Maximum Instantaneous Forward Voltage IFM =1A		V_{FM}	0.55			0.70		0.85		0.95		V
Maximum DC reverse current at rated DC blocking voltage	TA = 25℃	I_R	0.2					0.05				mA
	TA = 100℃		10					5				

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. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

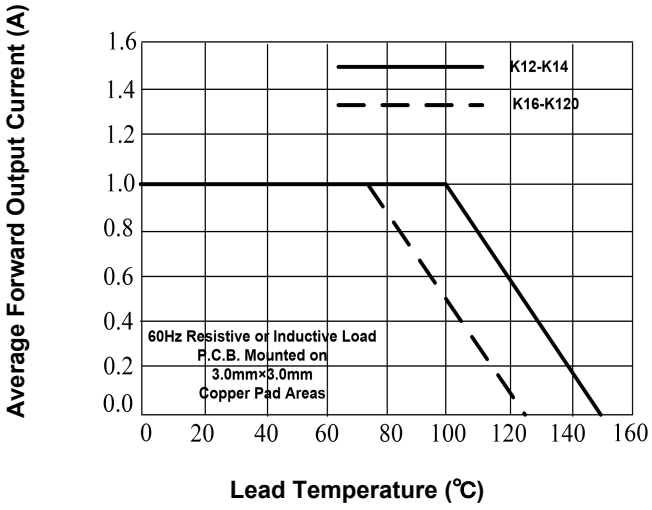


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

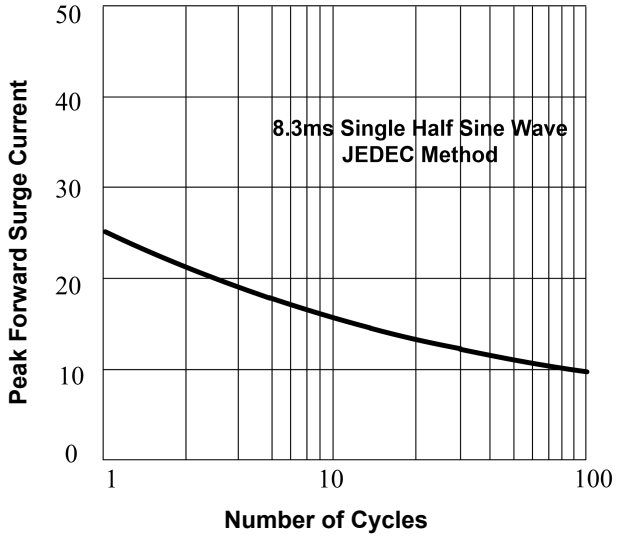


FIG. 3- TYPICAL FORWARD VOLTAGE

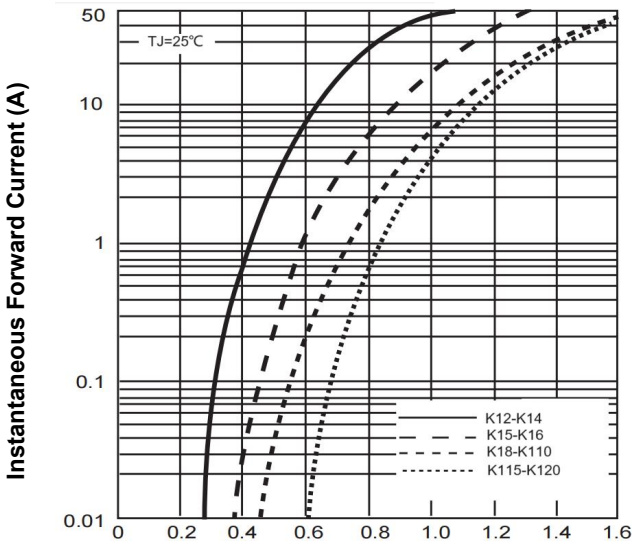
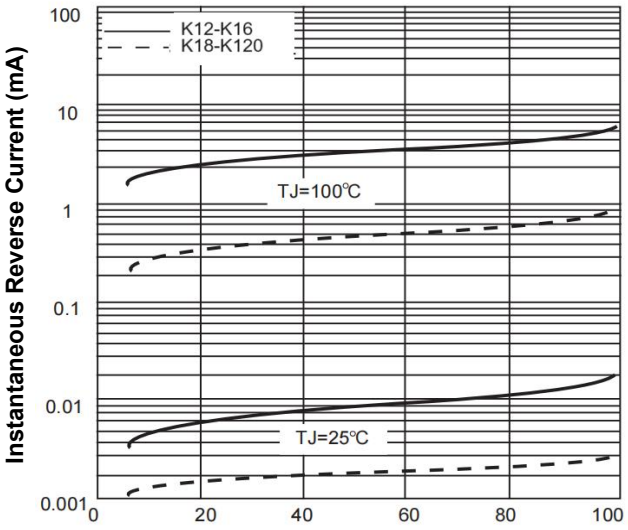
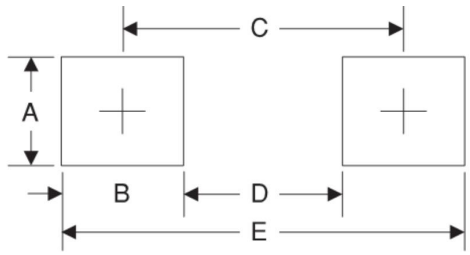


FIG. 4- TYPICAL REVERSE LEAKAGE



The curve above is for reference only.

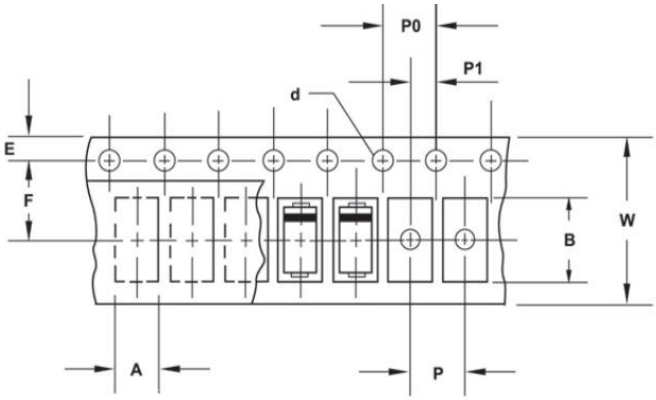
Recommended Pad Layout

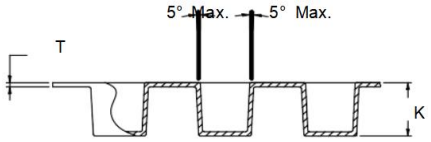


SYMBOL	Millimeters
A	1.50
B	1.15
C	3.10
D	1.90
E	4.25

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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