

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU
- AEC-Q101 qualified and PPAP capable



**AEC-Q101 Qualified**

### MECHANICAL DATA

- Case: SOD-123FL molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end
- Weight: 11.7 mg(approximately)

### SOD-123FL



### TYPICAL APPLICATIONS

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

### MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified )

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	60	V
Maximum average forward rectified current	$I_{F(AV)}$	2.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	50	A
Operating junction temperature range	$T_j$	-55 to+150	°C
Storage temperature range	$T_{stg}$	-55 to+150	°C

## Electrical Characteristics (T<sub>a</sub>=25°C Unless Otherwise Noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	T <sub>J</sub> =25°C	I <sub>F</sub> =1.0A	V <sub>F</sub> <sup>1)</sup>	0.47	-	V
		I <sub>F</sub> =2.0A		0.58	0.65	
	T <sub>J</sub> =125°C	I <sub>F</sub> =1.0A		0.41	-	
		I <sub>F</sub> =2.0A		0.52	0.59	
Reverse current	T <sub>J</sub> =25°C	V <sub>R</sub> =60V	I <sub>R</sub> <sup>2)</sup>	-	100	μA
	T <sub>J</sub> =125°C			-	20	mA
Typical junction capacitance	4V,1MHz		C <sub>J</sub>	78		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width ≤ 40ms

## THERMAL CHARACTERISTICS

Parameter	Symbol	SOD-123FL	Unit
Typical thermal resistance <sup>3)</sup>	Junction to Ambient	R <sub>θJA</sub>	°C/W
	Junction to Lead	R <sub>θJL</sub>	
		82	
		26	

3.Mounted on 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board. The heat generated must be less than the thermal conductivity from junction-to-ambient:  $dP_J/dT_J < 1/R_{\theta JA}$

## AVAILABLE PACK INFORMATION

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)
K26-V-SOD-123FL	T/R	Φ330	7500	330×35×333	2	364×364×360	8

# RATINGS AND CHARACTERISTICS OF K26-V

FIG.1-FORWARD CURRENT DERATING CURVE

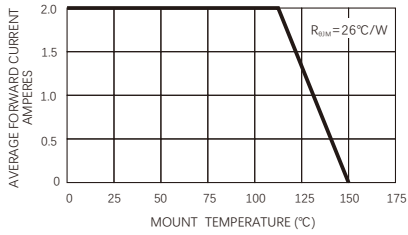


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

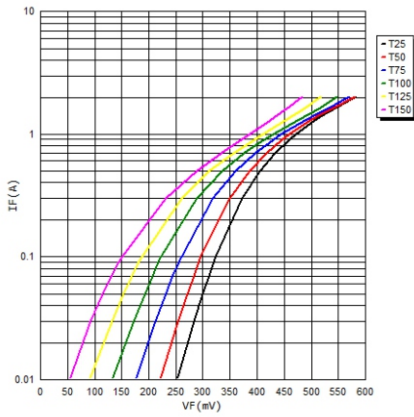


FIG.5-TYPICAL JUNCTION CAPACITANCE

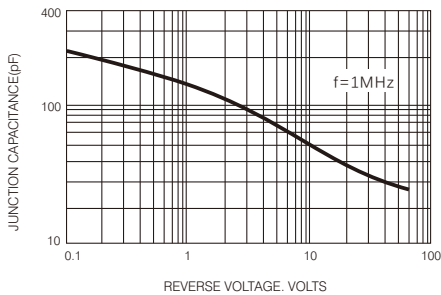


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

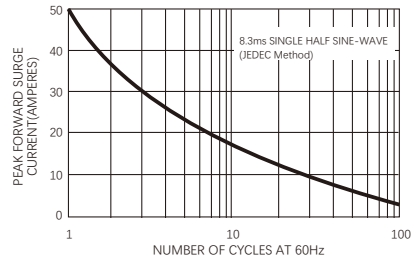
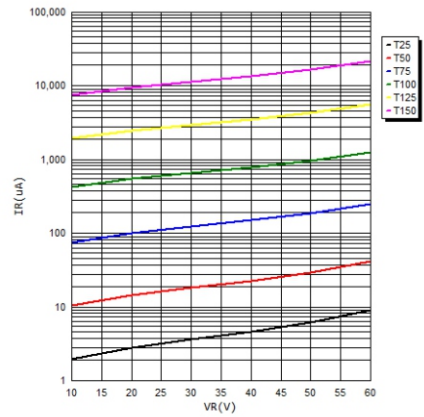
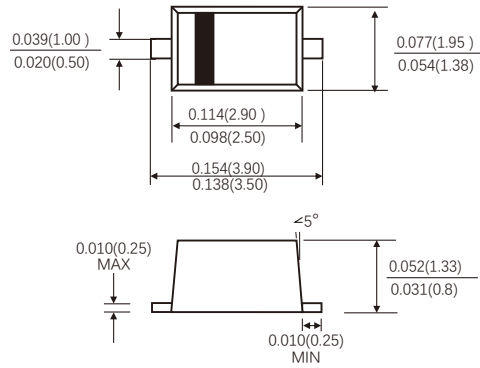


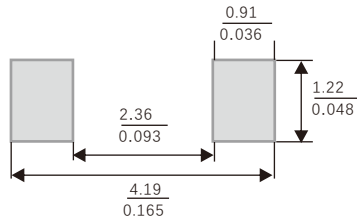
FIG.4-TYPICAL REVERSE CHARACTERISTICS



## SOD-123FL



## Suggested PAD Layout



Dimensions in millimeters/inches

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