

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}	200	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_A=25°C Unless otherwise noted)

Parameters	Test Conditions		Symbol	Min.	Typ.	Max.	Units
Breakdown voltage Blocking voltage	I _R =200μA		V _{BR} V _R	200	-	-	V
Instaneous forward voltage	T _J =25°C	I _F =0.5A	V _F ¹⁾	-	0.69	-	V
		I _F =1.0A		-	0.74	-	
		I _F =2.0A		-	0.80	0.85	
	T _J =125°C	I _F =0.5A		-	0.54	-	
		I _F =1.0A		-	0.59	-	
		I _F =2.0A		-	0.66	0.71	
Reverse current	T _J =25°C	V _R =200V	I _R ²⁾	-	-	5.0	μA
	T _J =100°C			-	-	0.5	mA
	T _J =125°C			-	-	1.5	
Junction capacitance	4V,1MHz		C _J	-	38	-	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 ³⁾	Junction to Ambient R _{θJA}	82	°C/W
	Junction to Lead R _{θJL}	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_{θJA}

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)
K2D-V-SOD-123FL	T/R	Φ330	7500	330×35×333	2	364×364×360	8

FIG.1-FORWARD CURRENT DERATING CURVE

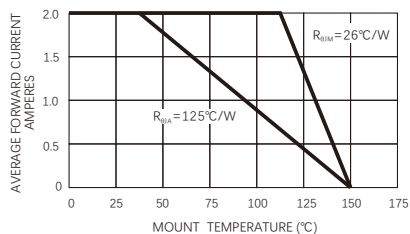


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

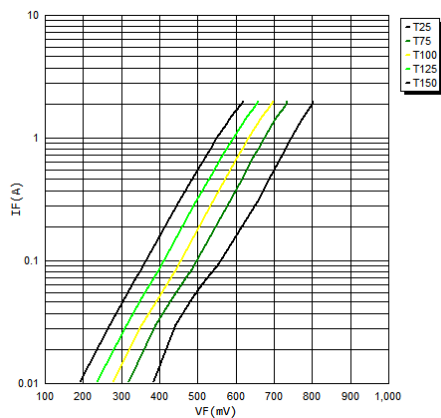


FIG.5-TYPICAL JUNCTION CAPACITANCE

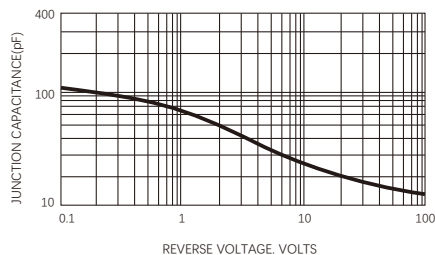


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

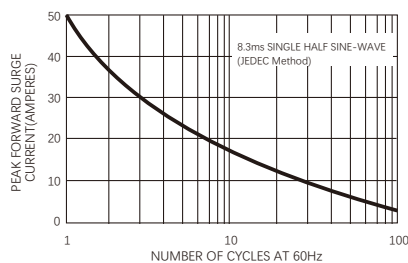
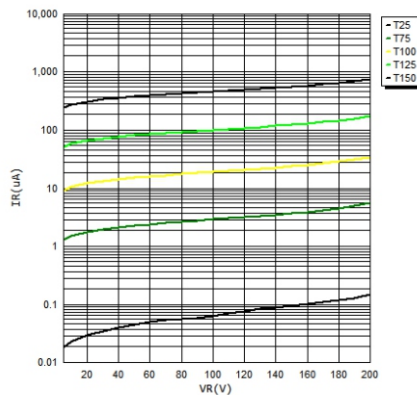
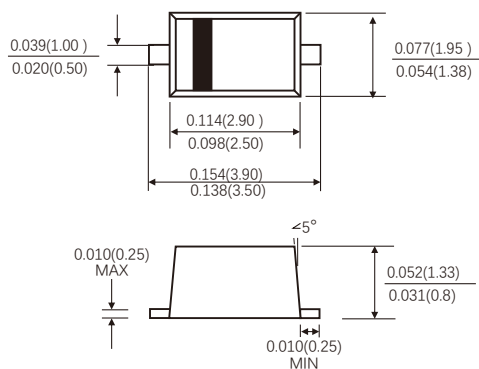


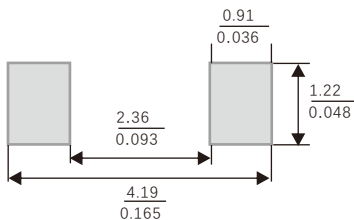
FIG.4-TYPICAL REVERSE CHARACTERISTICS



SOD-123FL



Suggested PAD Layout



Dimensions in millimeters/inches

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