SEMICONDUCTOR

A7-V

AUTOMOTIVE GENERAL PURPOSE RECTIFIER

Reverse Voltage - 1000 Volts
Forward Current - 1.0Amperes

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Stable,High temperature,Glass passivated junction
- -V suffix for Automative and other applications requiring unique site and conctrol change requirments
- PPAP capable
- AEC-Q101 qualified
- High temperature soldering guaranteed:260℃/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

IATF16949认证

AEC-Q101 Qualified

MECHANICAL DATA

- Case: Flat lead SOD-123FL small outline plastic package
- Molding compound meets UL 94 V-0 flammability rating
- Terminals: solderable per J-STD-002 and JESD22-B102
- Polarity: color band denotes cathode end
- Mounting Position: Any
- Weight:Approx. 8.85 mg

CASE: SOD-123FL
MARKING:
JF-Logo
A7-V: Device code

TYPICAL APPLICATIONS

For use in high voltage rectifier,polarity protection,clamp applications

MAXIMUM RATINGS

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameters	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	30	A
Operating junction temperature range	T_J	-55 to+150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

RATINGS AND CHARACTERISTIC OF A7-V

ELECTRICAL CHARACTERISTCS (T_A=25℃ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	I_R=10μA	T_J=25℃	V_{BR} V_R	1150	-	-	V
		T_J=-55℃		1000	-	-	
Instaneous forward voltage	I_F=1.0A	T_J=-40℃	V_F 1)	-	-	1.20	V
		T_J=25℃		-	0.95	1.00	
		T_J=125℃		-	0.85	-	
Reverse current	V_R=1000V	T_J=25℃	I_R 2)	-	-	2	μA
		T_J=100℃		-	-	50	
		T_J=125℃		-	-	250	
Junction capacitance	4V,1MHz		C_J	-	6.0	-	pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTCS

Parameter	Symbol	SOD-123FL	Unit
Typical thermal resistance 3)	$R_{\theta JA}$	206.0	℃/W
	$R_{\theta JL}$	118.0	

3.PCB Mounted with The Suggested PAD Size

AVAILABALE 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)
A7-V SOD-123FL	T/R	Φ178	3000	180×180×105	8	550×200×205	5

RATINGS AND CHARACTERISTIC OF A7-V

FIG.1-FORWARD CURRENT DERATING CURVE

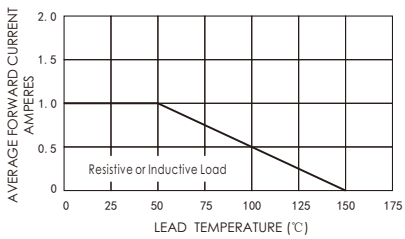


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

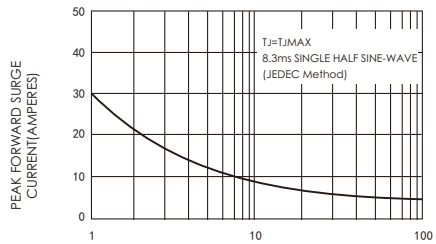


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

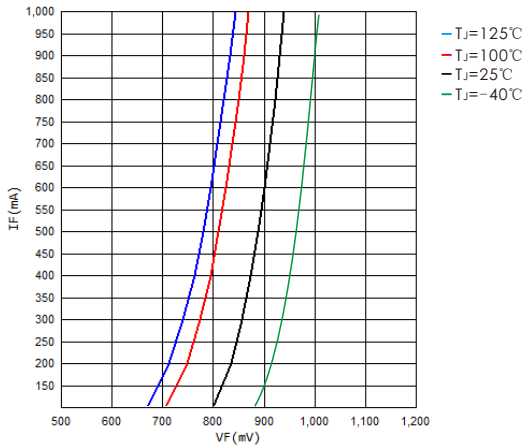


FIG.4-TYPICAL REVERSE CHARACTERISTICS

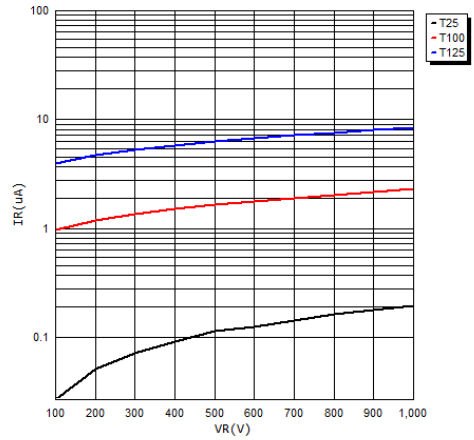
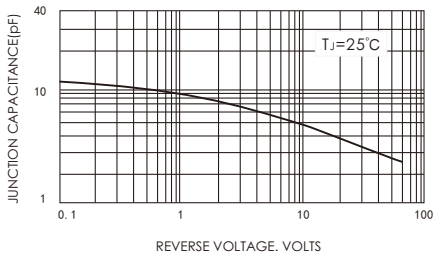
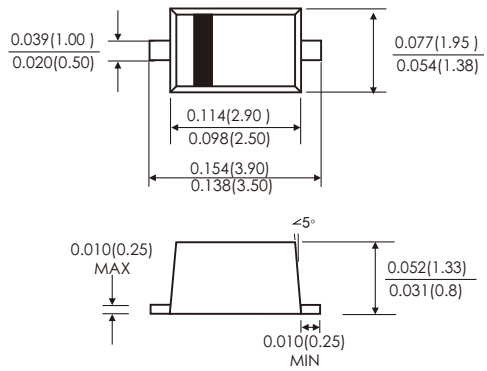


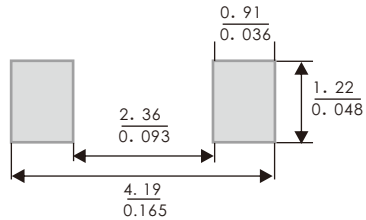
FIG.5-TYPICAL JUNCTION CAPACITANCE



SOD-123FL



Suggested PAD Layout



Dimensions in inches and (millimeters)