

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Stable, High temperature, Glass passivated junction
- -V suffix for Automotive and other applications requiring unique site and control change requirements
- PPAP capable
- AEC-Q101 qualified
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/65/EU



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 °C 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	°C
Storage temperature range	T_{stg}	-55 to +150	°C

RATINGS AND CHARACTERISTIC OF A7-V

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	I _R =10μA	T _J =25°C	V _{BR} V _R	1150	-	-	V
		T _J =-55°C		1000	-	-	
Instaneous forward voltage	I _F =1.0A	T _J =-40°C	V _F ¹⁾	-	-	1.20	V
		T _J =25°C		-	0.95	1.00	
		T _J =125°C		-	0.85	-	
Reverse current	V _R =1000V	T _J =25°C	I _R ²⁾	-	-	2	μA
		T _J =100°C		-	-	50	
		T _J =125°C		-	-	250	
Junction capacitance	4V, 1MHz		C _J	-	6.0	-	pF

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

2.Pulse test: pulse width ≤40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	A7-V	Unit
Typical thermal resistance ³⁾	Junction to Ambient R _{θJA}	82	°C/W
	Junction to Lead R _{θL}	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: $dP/dT < 1/R_{\theta JA}$

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

FIG.1-FORWARD CURRENT DERATING CURVE

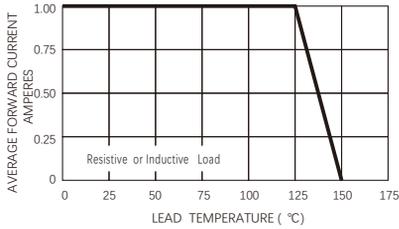


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

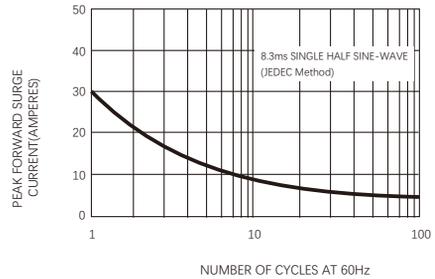


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

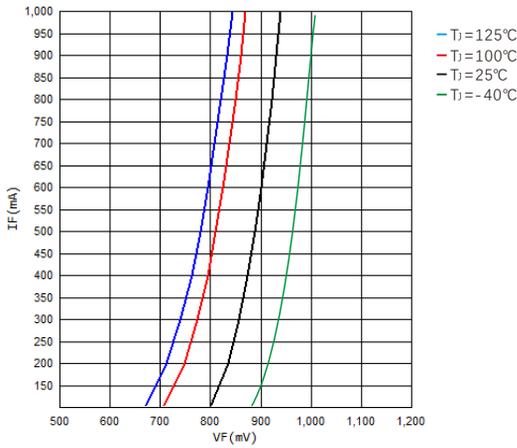


FIG.4-TYPICAL REVERSE CHARACTERISTICS

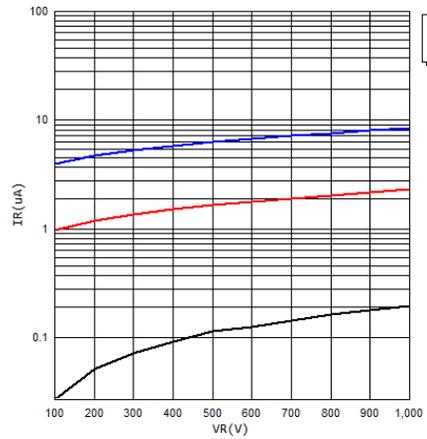
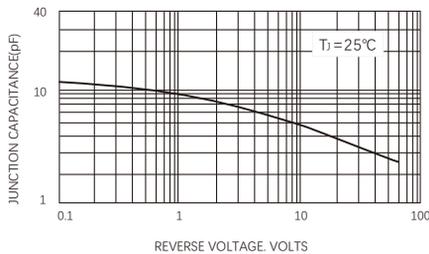
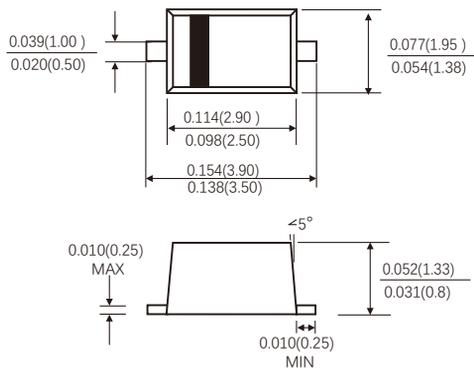


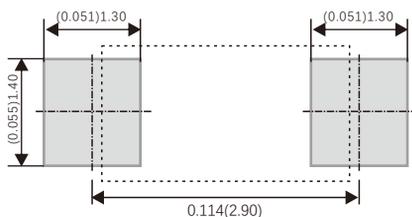
FIG.5-TYPICAL JUNCTION CAPACITANCE



SOD-123FL



Suggested PAD Layout



Designers can refer to the recommended values according to the manufacturing process requirements to determine the appropriate pad size

Dimensions in inches and (millimeters)

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