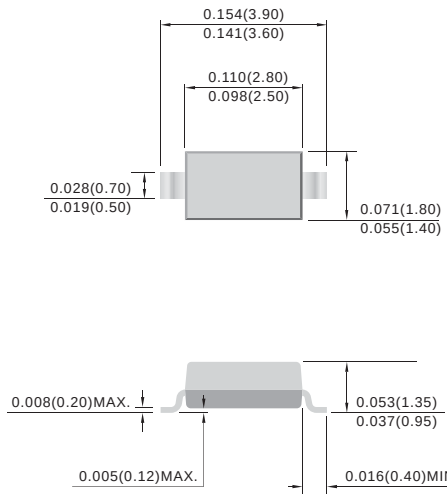
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SNUBBER DAMPING RECTIFIERS

Pb-Free ROHS COMPLIANT

VOLTAGE 600 Volts **CURRENT** 1.0 Amperes

SOD-123 Unit:Inch(mm)



FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High current capability
- High surge capability
- Low profile surface mounted package
- High temperature soldering guaranteed:260℃/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

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
- Mark:216

TYPICAL APPLICATIONS

For suitable use in snubber damping circuit (RCD) in the primary of SMPS

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C(UNLESS OTHERWISE NOTED)

· Maximum Ratings (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	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}	9	A
Operating junction temperature range	T_J	-55 to+150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

· Electrical Characteristcs (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Voltage	V_R [1]	I_R=200μA	600	-	-	V
Forward Voltage	V_F1 [2]	I_F=100mA	-	-	0.9	V
	V_F2 [2]	I_F=100mA	-	-	1.1	
Reverse current	I_R [1]	V_R=540V	-	-	100	nA
	I_R [1]	V_R=540V,T_J=125℃	-	-	10	μA
Typical Reverse Recovery Time	trr	I_F=0.5A, I_R=1.0A,I_{RR}=0.25A	-	900	-	ns
Typical Junction Capacitance	C_j	V_R=1V, f=1MHz	-	-	8.6	pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle 2.Pulse test: pulse width≤40ms

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RATINGANDCHARACTERISTICCURVES

(TA=25°C(UNLESS OTHERWISE NOTED)

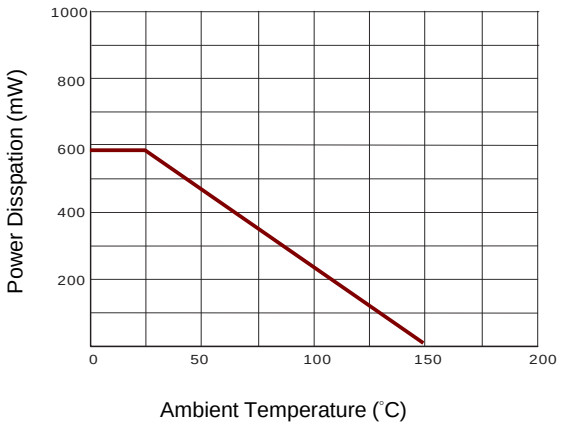


Fig.1-POWER DRATING CURVE

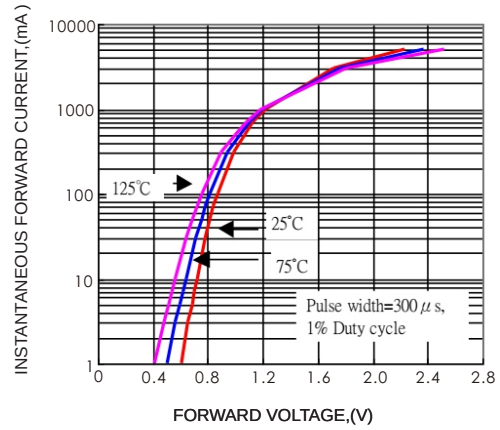


Fig.2-TYPICAL INSTANTANEOUS FORWARD

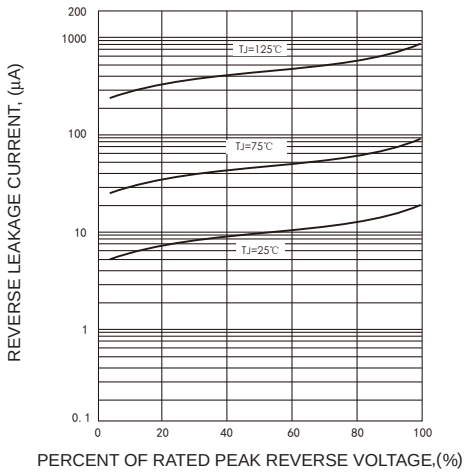


Fig.3 TYPICAL REVERSE CHARACTERISTICS

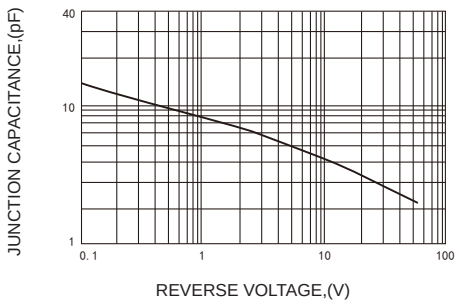


Fig.4 TYPICAL JUNCTION CAPACITANCE

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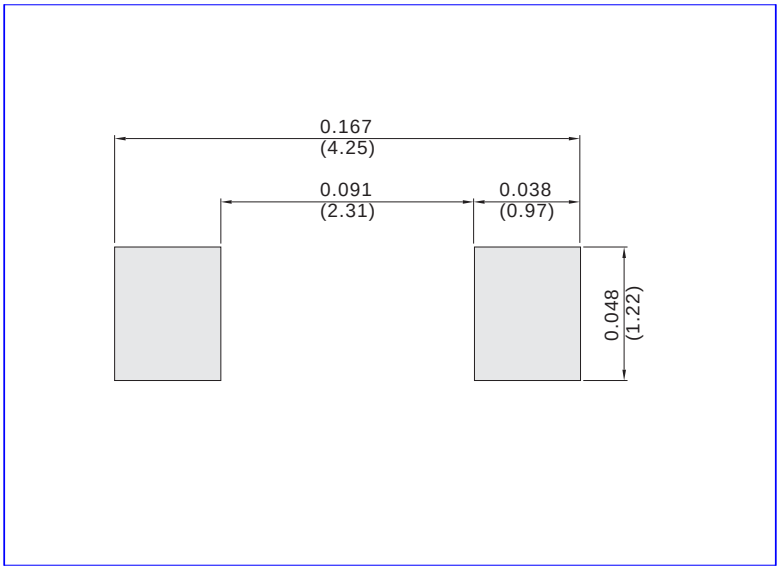
• Thermal Characteristcs (Ratings at 25℃ ambient temperature unless otherwise specified)

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

3.PCB Mounted with The Suggested PAD Size

MOUNTING PAD LAYOUT

SOD-123 Unit : inch(mm)



ORDER INFORMATION

• Packing 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)
SD1J-SOD-123	T/R	Φ330	3000	330×35×333	2	364×364×360	8

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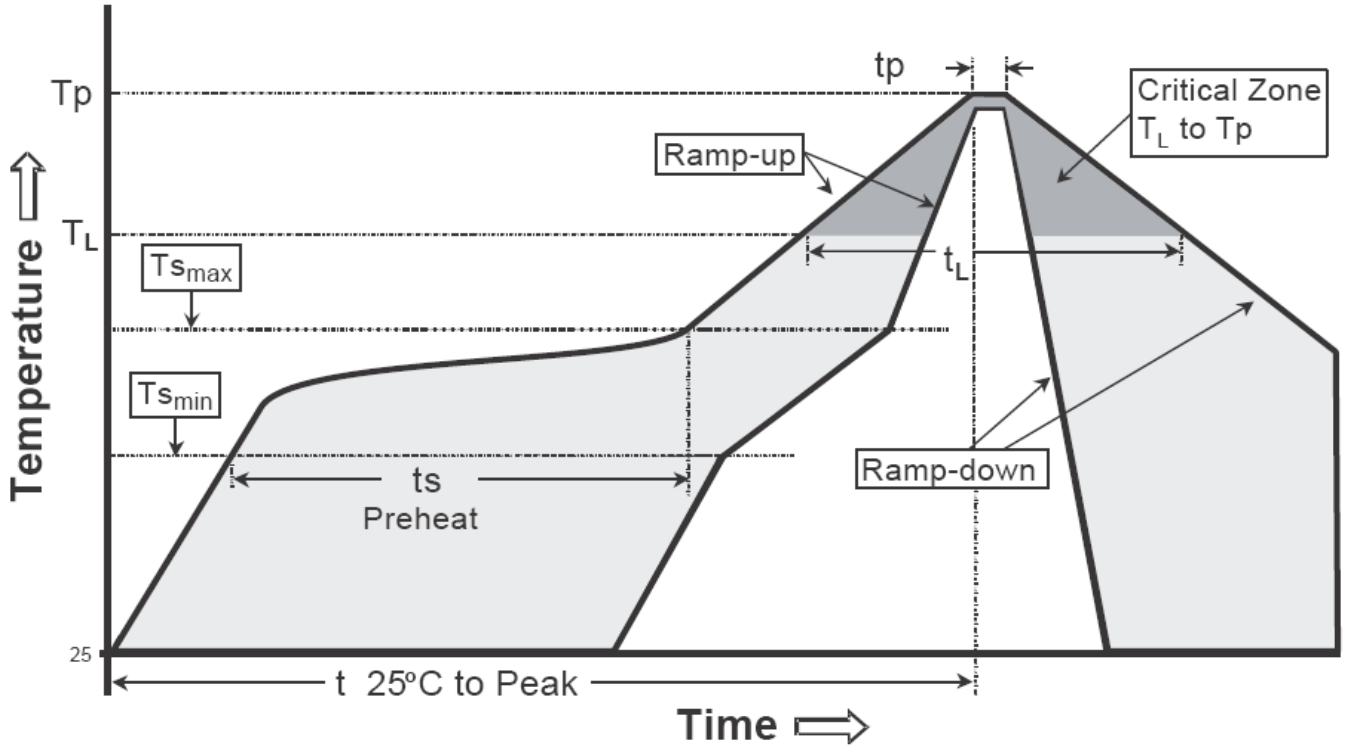
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(T_S min) −Temperature Max(T_S max) −Time($t_{s\ min}$ to $t_{s\ max}$)	 100°C 150°C 60-120 seconds	 150°C 200°C 60-180 seconds
Time maintained above: −Temperature (T_L) − Time (t_L)	 183°C 60-150 seconds	 217°C 60-150 seconds
Peak Temperature(T_P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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