

SR580L

SUPER LOW VF SCHOTTKY RECTIFIERS



VOLTAGE	80 Volts	CURRENT	5.0 Amperes	DO-27(DO-201AD)	Marking and Polarity
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FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Softest, fast switching capability
- Low Forward Voltage Drop
- High temperature soldering guaranteed:260 C/10 seconds at terminals
- Lead Free Finish, RoHS Compliant

MECHANICAL DATA

- **Case:** JEDEC DO-201AD molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750,method 2026
- **Mounting Position:** Any
- **Weight:**App. 1.05 grams (0.0353 ounce)

TYPICAL APPLICATIONS

- Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

Remark:

- ①. SR580L=Module No.
- ②. NH=niuhang trademark
- ③. White band denotes cathode

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

Parameter	Symbol	SR580L	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	80	V
Maximum RMS voltage	V_{RMS}	56	V
Maximum DC blocking voltage	V_{DC}	80	V
Maximum average forward rectified current(see fig.1)	$I_{F(AV)}$	5	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)(see fig.5)	I_{FSM}	120	A

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

Parameter	Test Conditions		Symbol	SR580L			Unit
				Min.	Typ.	Max.	
Maximum instantaneous forward voltage(see fig.2)(Note 1)	$T_A=25^\circ C$	$I_F= 5.0 A$	V_F	--	0.53	0.56	V
	$T_A=125^\circ C$			--	0.47	0.52	
Maximum instantaneous reversecurrent at rated DC blockingvoltage (see fig.3)(Note 1)	$T_A=25^\circ C$	$V_R= 80 V$	I_R	--	5	30	μA
	$T_A=125^\circ C$			--	--	20	mA
Typical junction capacitance(see fig.4)	4V, 1MHz		C_J	--	370	--	pF

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

Parameter	Symbol	SR580L	Unit
Operating junction	T_J	-55 to 150	°C
Storage temperature range	T_{STG}	-55 to 150	
Typical thermal resistance (Note 2)	$R_{\theta JA}$	25	°C/W
	$R_{\theta JL}$	8	

Note:

1. Pulse width < 300 uS, Duty cycle < 2%
2. Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm)lead length,Polymide PCB, 2 oz Copper.

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RATING AND CHARACTERISTIC CURVES

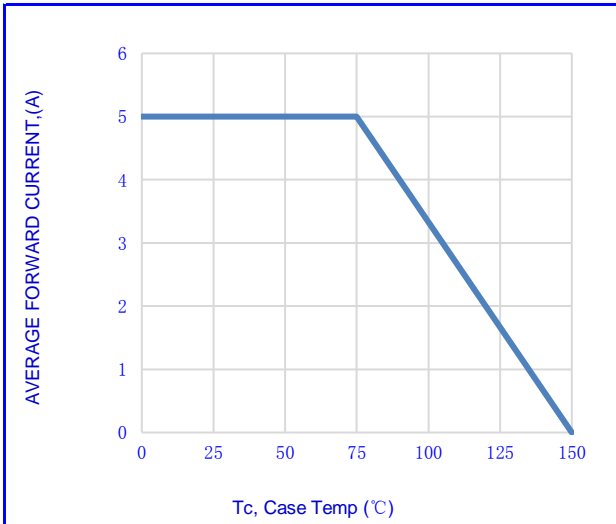


Fig.1- FORWARD CURRENT DERATING CURVE

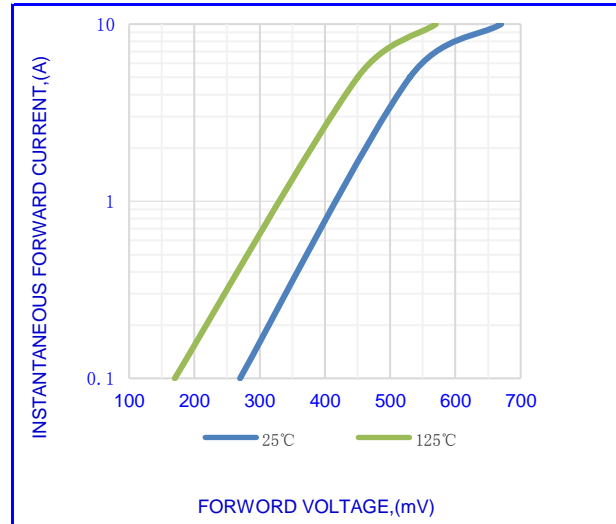


Fig.2-TYPICAL INSTANTANEOUS FORWARD

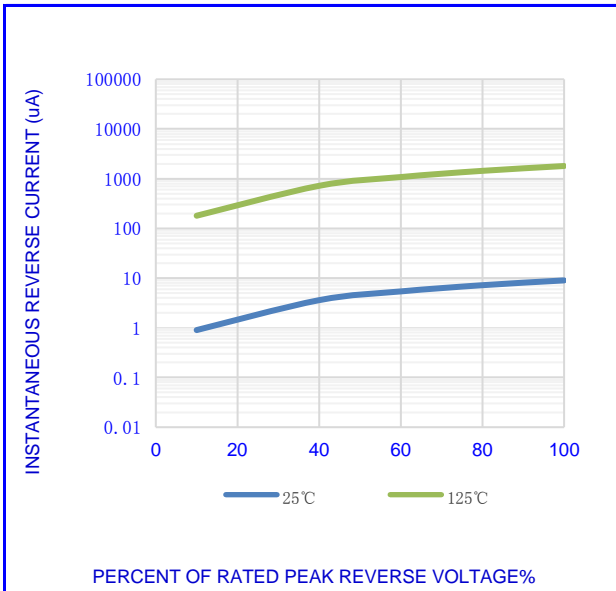


Fig.3-TYPICAL REVERSE CHARACTERISTICS

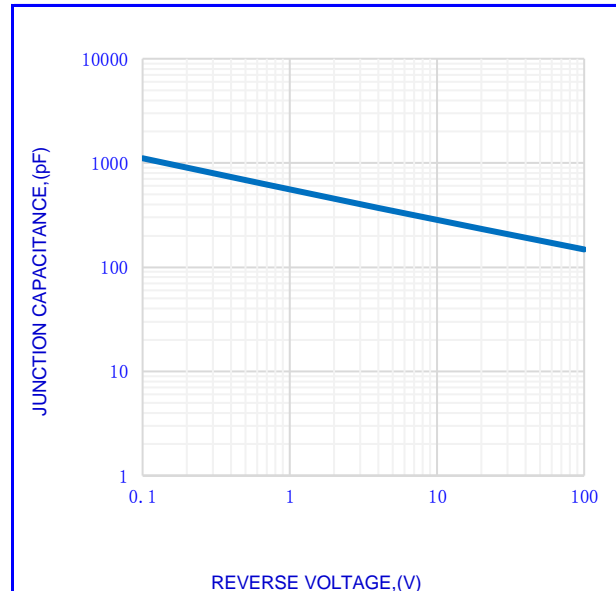


Fig.4- TYPICAL JUNCTION CAPACITANCE

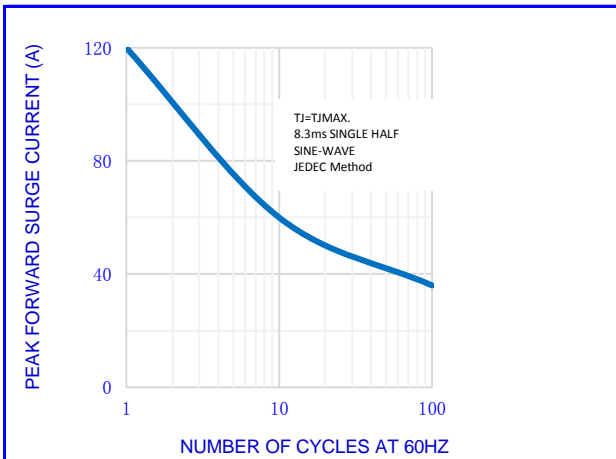


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

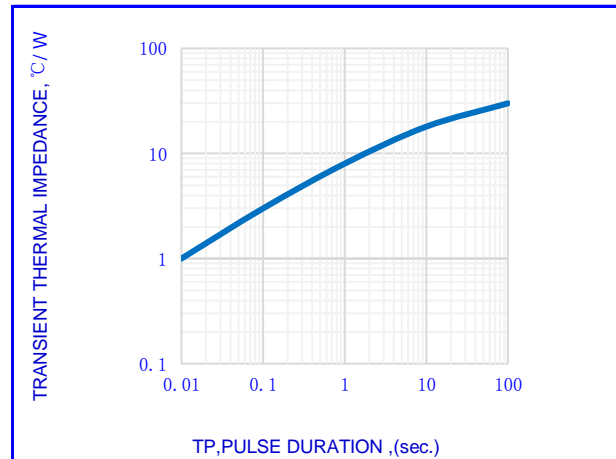


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

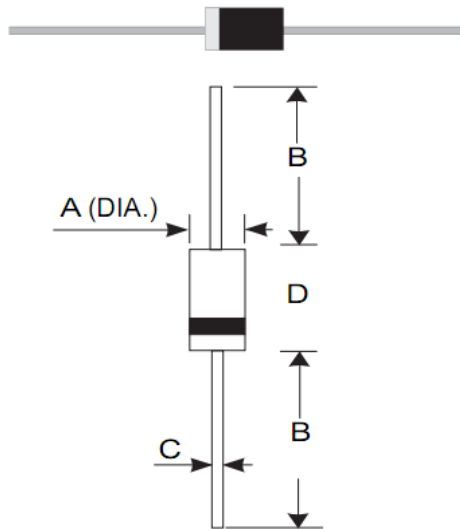
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OUTLINE DRAWINGS

DO-27(DO-201AD)



OUTLINE DIMENSIONS

Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.9	-	5.6	0.193	-	0.220
B	24.5	-	26.4	0.965	-	1.039
C	0.9	-	1.3	0.035	-	0.051
D	7.2	-	9.5	0.285	-	0.374

Packing Information

Package	Pack	Box Size LxWxH(mm)	Quantity (pcs/box)	Carton Size LxWxH(mm)	Quantity (pcs/carton)
DO-27(DO-201AD)	B/G	255*75*140	1250	410*280*330	12500

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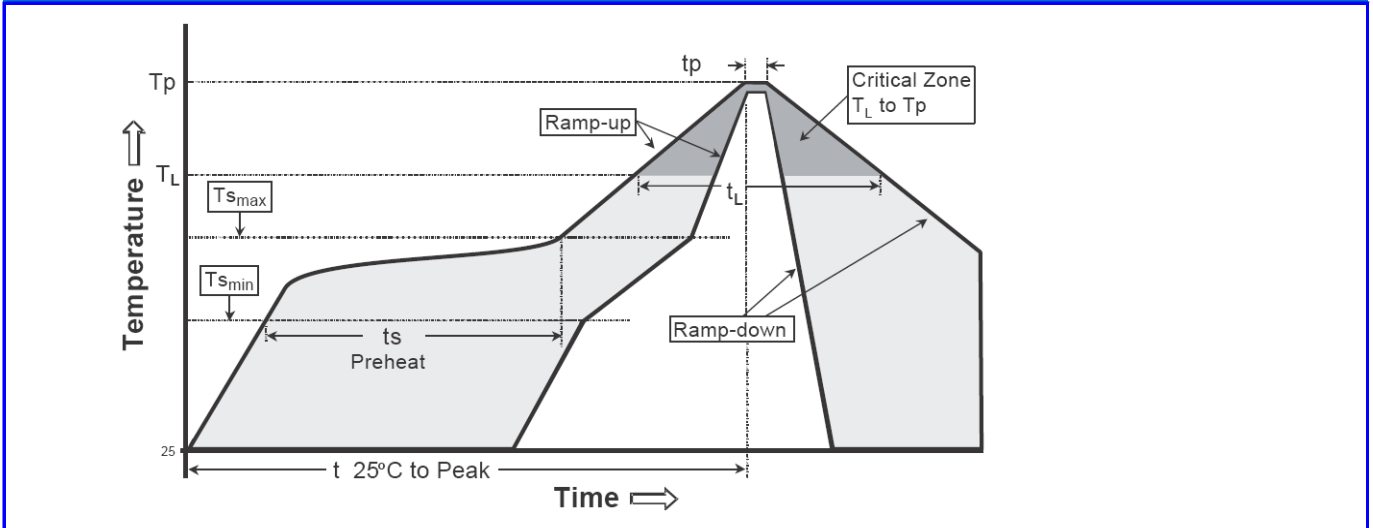
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Recommended wave soldering condition

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 (T _{smax} to T _p)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(T _{smin}) -Temperature Max(T _{smax}) -Time(ts min to ts 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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