

SR5200SL

SUPER LOW VF SCHOTTKY RECTIFIERS



VOLTAGE: 200 Volts

CURRENT: 5.0 Amperes

DO-27(DO-201AD)

Marking and Polarity

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
- For use in low voltage ,high frequency inverters, free wheeling ,and polarity protection applications
- High temperature soldering guaranteed:260 C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

MECHANICAL DATA

- Case: 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 ou)

TYPICAL APPLICATIONS

- For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications



Remark:

- ①. SR5200SL=Module
- ②. NH=niuhang trademark
- ③. FFDDK=Internal control code,According to actual changes
- ④. White band denotes cathode

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

Parameter	Symbol	SR5200SL	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Maximum RMS voltage	V_{RMS}	140	V
Maximum DC blocking voltage	V_{DC}	200	V
Maximum average forward rectified current(see fig.2)	$I_{F(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	200	A

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

Parameter	Symbol	SR5200SL					Unit
		Test Conditions		Min.	Typ.	Max.	
Maximum instantaneous forward voltage (Note 1)	V_F	TA=25℃	IF= 5.0 A	--	0.76	0.80	V
Maximum instantaneous reversecurrent at rated DC blockingvoltage (Note 1)	I_{RRM}	VR= 200 V	TA=25℃	--	--	5	uA
			TA=125℃	--	--	5	mA
Typical junction capacitance	C_J	4V,1MHz		--	400	--	pF

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

Parameter	Symbol	SR5200SL	Unit
Operating junction	T_J	-55 to + 175	°C
Storage temperature range	T_{STG}	-55 to + 175	
Typical thermal resistance (Note 2)	$R_{\theta JA}$	25	°C/W
	$R_{\theta JL}$	8	

Not Pulse width < 300 uS, Duty cycle < 2%

Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm)lead length,Polymide PCB, 2 oz Copper.

Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)

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RATING AND CHARACTERISTIC CURVES

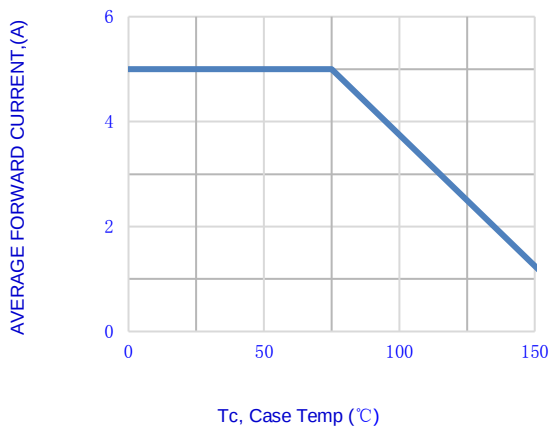


Fig.1- FORWARD CURRENT DERATING CURVE

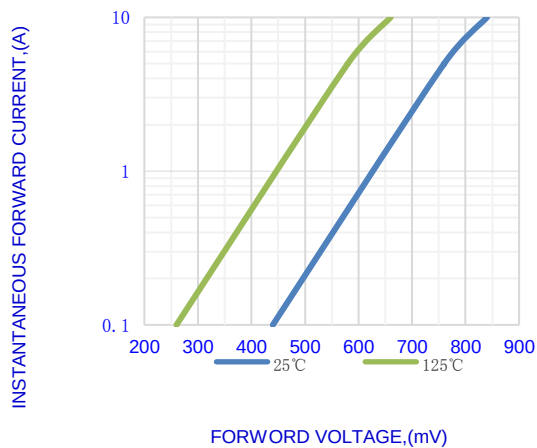


Fig.2-TYPICAL INSTANTANEOUS FORWARD

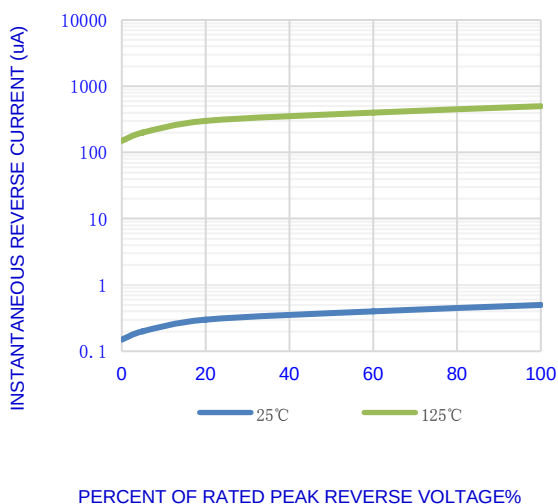


Fig.3-TYPICAL REVERSE CHARACTERISTICS

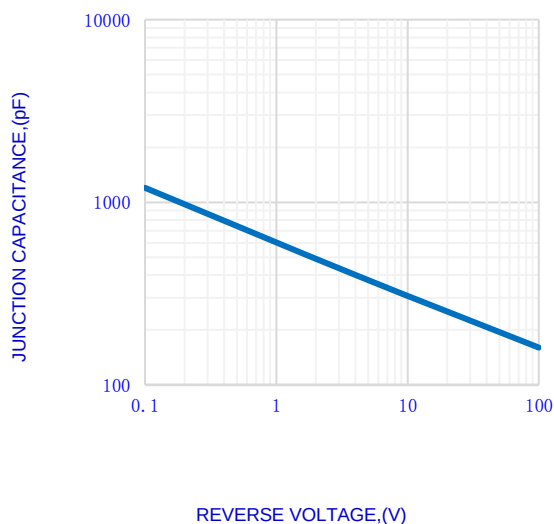


Fig.4- TYPICAL JUNCTION CAPACITANCE

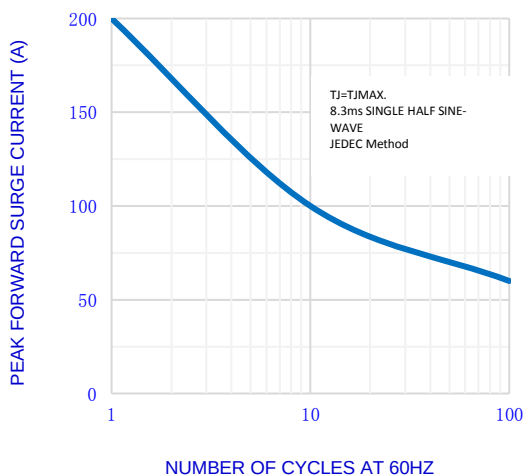


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

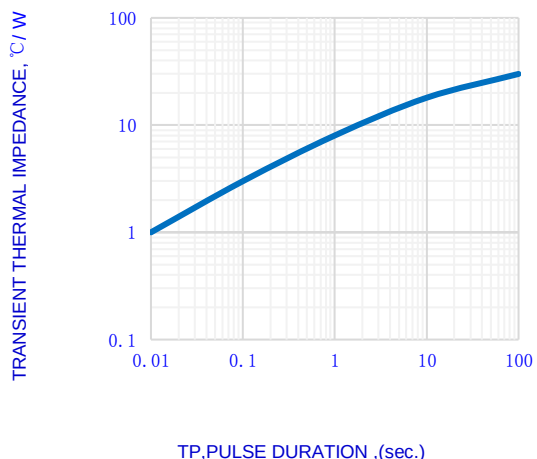


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

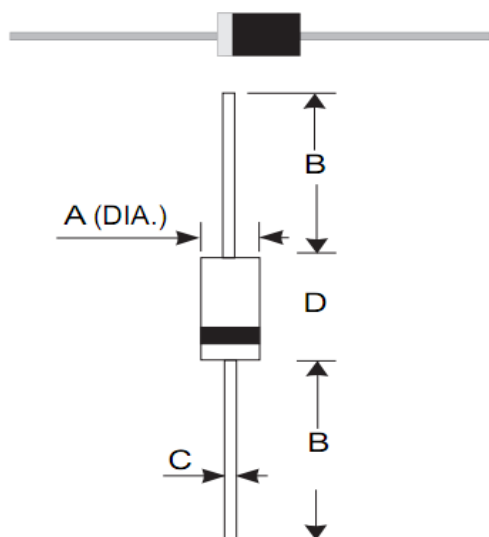
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OUTLINE DRAWINGS

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 L×W×H(mm)	Quantity (pcs/box)	Carton Size L×W×H(mm)	Quantity (pcs/carton)
DO-27(DO-201AD)	B/G	250*75*140	1250	420*280*310	12500

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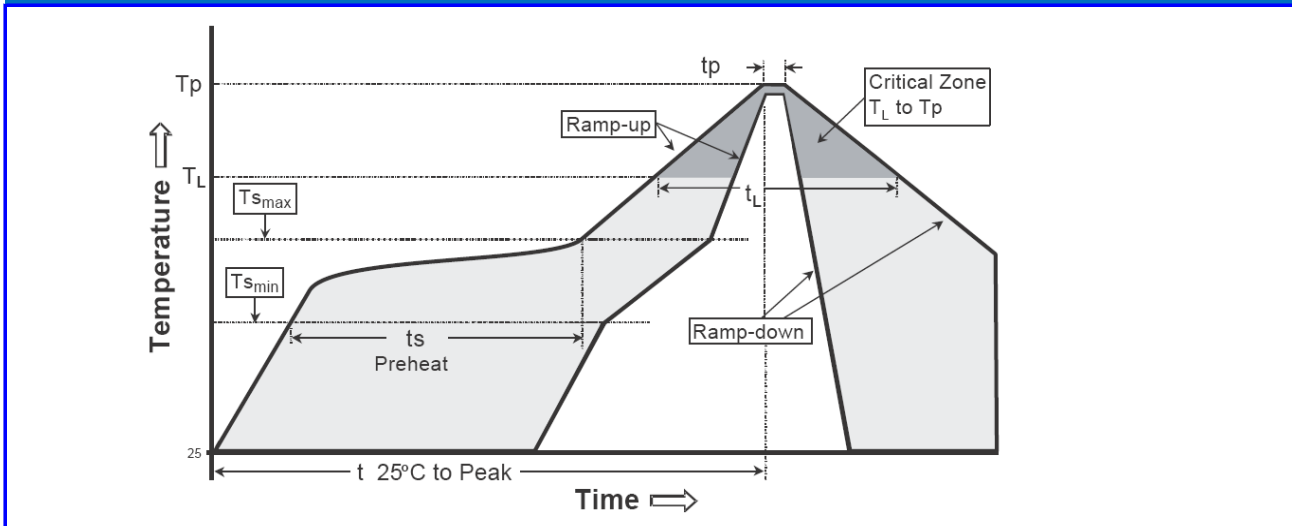
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Recommended wave soldering condition

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 (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(TS min) -Temperature Max(TS max) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (TL) - Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	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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