

SR5300L

LOW VF SCHOTTKY RECTIFIERS



VOLTAGE 300 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

SR5300L
NH FFDDK

Remark:
①. SR5300L=Modle
②. NH=niuhang trademark
③. FFDDK=Inernal control code,According to actual changes
④. White band denotes cathode

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

Parameter	Symbol	SR5300L	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	300	V
Maximum RMS voltage	V_{RMS}	210	V
Maximum DC blocking voltage	V_{DC}	300	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}	110	A

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

Parameter	Symbol	SR5300L				Unit	
		Test Conditions		Min.	Typ.		Max.
Maximum instantaneous forward voltage (Note 1)	V_F	TA=25°C	IF= 5.0 A	--	0.88	0.92	V
Maximum instantaneous reversecurrent at rated DC blockingvoltage (Note 1)	I_{RRM}	VR= 300 V	TA=25°C	--	--	5	uA
			TA=125°C	--	--	15	mA
Typical junction capacitance	C_J	4V,1MHz		--	370	--	pF

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

Parameter	Symbol	SR5300L	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: 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

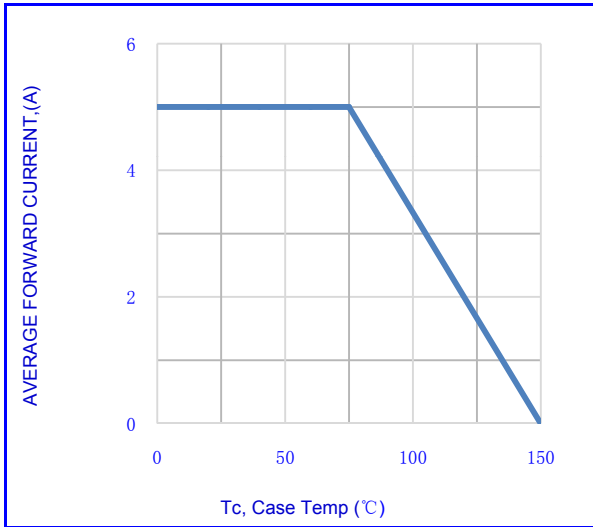


Fig.1- FORWARD CURRENT DERATING CURVE

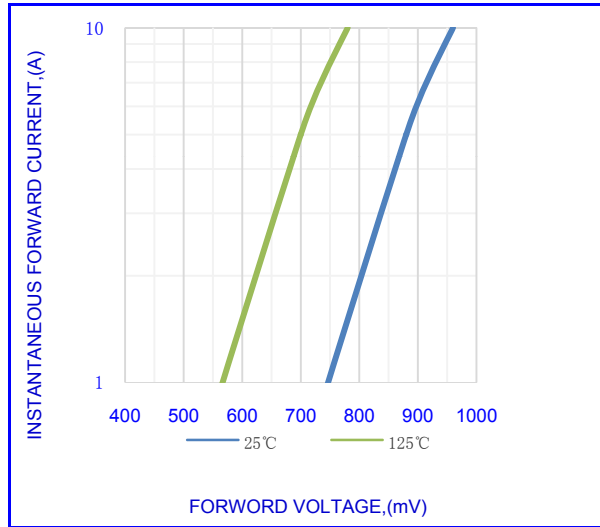


Fig.2-TYPICAL INSTANTANEOUS FORWARD

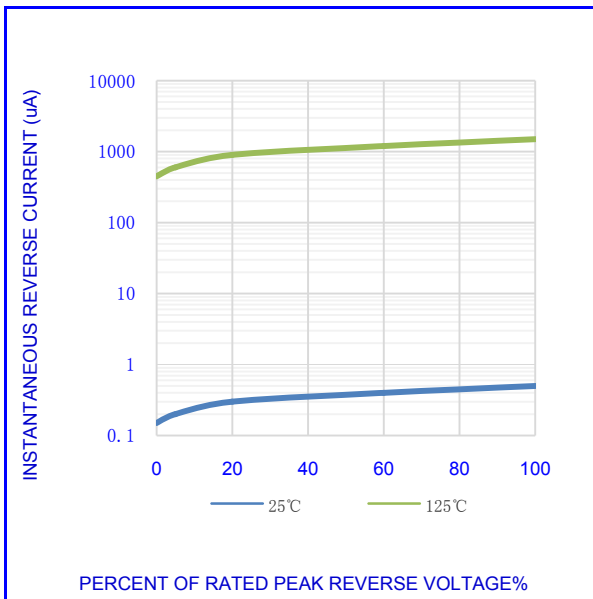


Fig.3-TYPICAL REVERSE CHARACTERISTICS

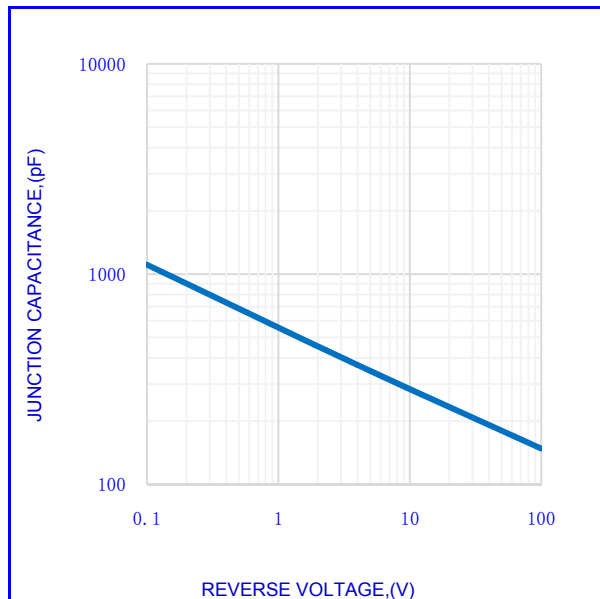


Fig.4- TYPICAL JUNCTION CAPACITANCE

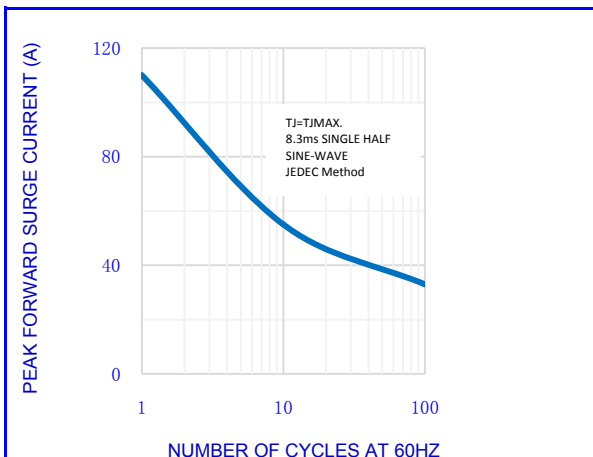


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

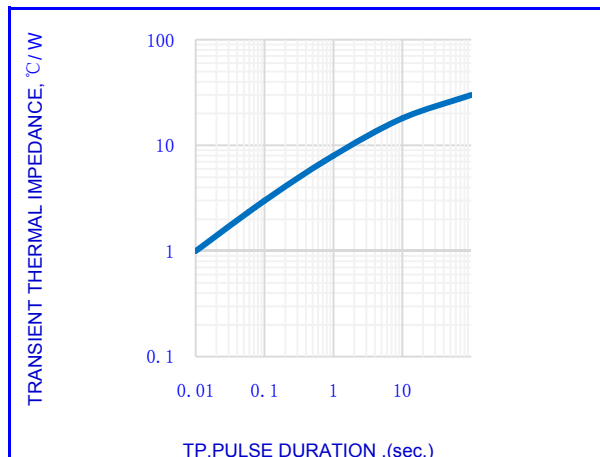


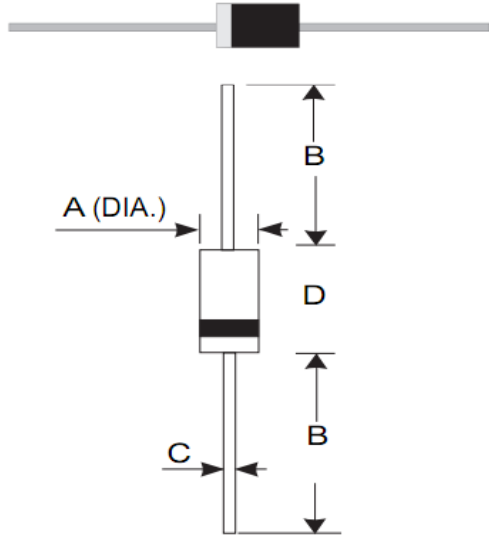
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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OUTLINE DRAWINGS



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

DO-27(DO-201AD)

Packing Information

Package	Pack	Box Size L×W×H(mm)	Quantity (pcs/box)	Carton Size L×W×H(mm)	Quantity (box/carton)
DO-27(DO-201AD)	B/G	250*75*140	1250	420*280*310	10

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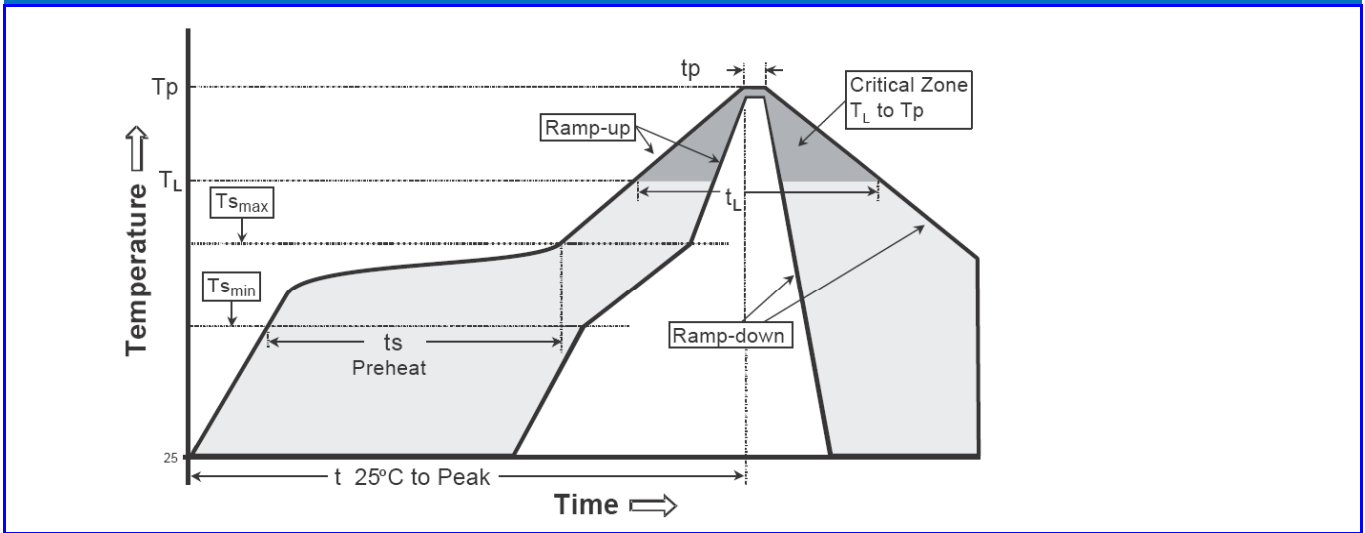
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Recommended wave soldering condition

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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