



**SR5100L**

LOW VF SCHOTTKY RECTIFIERS



<b>VOLTAGE</b>	100 Volts	<b>CURRENT</b>	5.0 Amperes	<b>DO-27(DO-201AD) Marking and Polarity</b>
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**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: 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**

For use in switch power supply ,high frequency inverters ,DC/DC  
 converters,free wheeling ,and PD power supply applications



SR5100L  
NH FFDDK

Remark:  
 ①. SR5100L=Model No.  
 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	SR5100L			Unit
		Test Conditions	Min.	Typ.	
Maximum repetitive peak reverse voltage	$V_{RRM}$		100		V
Maximum RMS voltage	$V_{RMS}$		70		V
Maximum DC blocking voltage	$V_{DC}$		100		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)	$I_{FSM}$		80		A

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

Parameter	Symbol	SR5100L					Unit
		Test Conditions		Min.	Typ.	Max.	
Maximum instantaneous forward voltage (Not	$V_F$	TA=25°C	IF= 5.0 A	--	0.65	0.70	V
Maximum instantaneous reversecurrent at rated DC blockingvoltage (Note 1)	$I_{RRM}$	TA=25°C	VR= 100 V	--	15	50	uA
		TA=125°C	VR= 100 V	--	--	15	mA
Typical junction capacitance	$C_J$	4V,1MHz		280		pF	

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

Parameter	Symbol	SR5100L	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

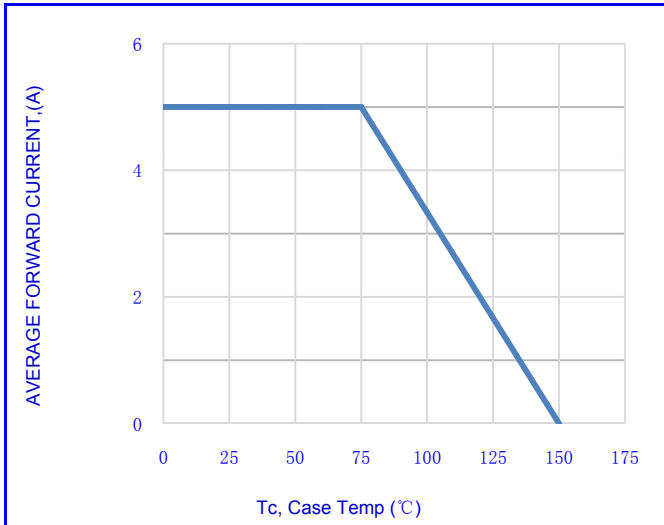


Fig.1- FORWARD CURRENT DERATING CURVE

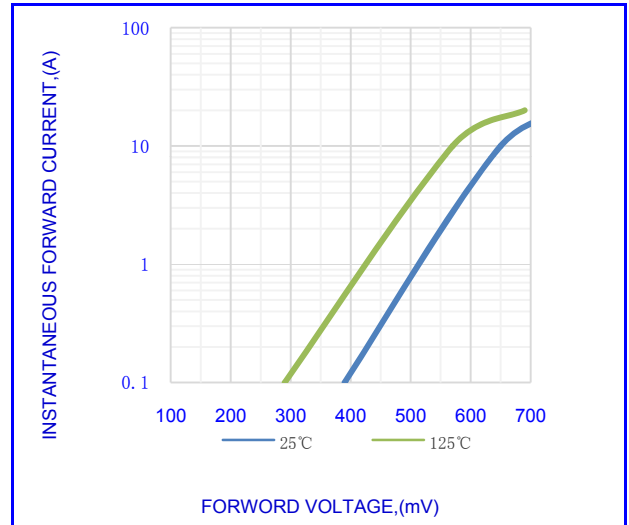


Fig.2-TYPICAL INSTANTANEOUS FORWARD

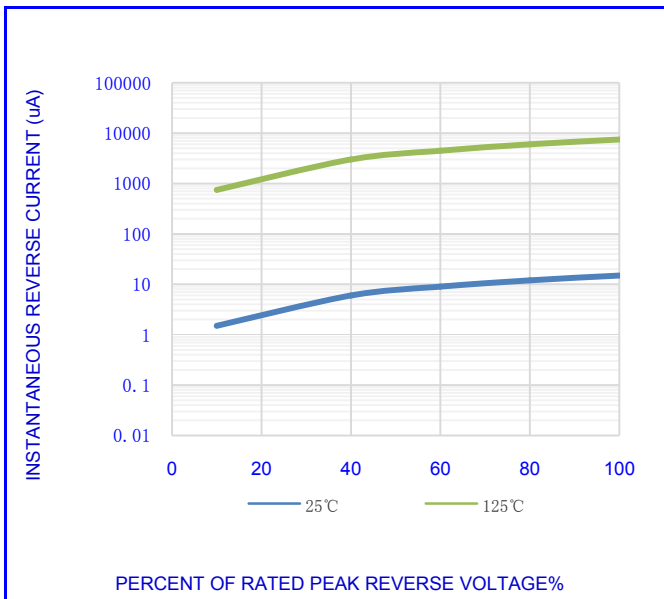


Fig.3-TYPICAL REVERSE CHARACTERISTICS

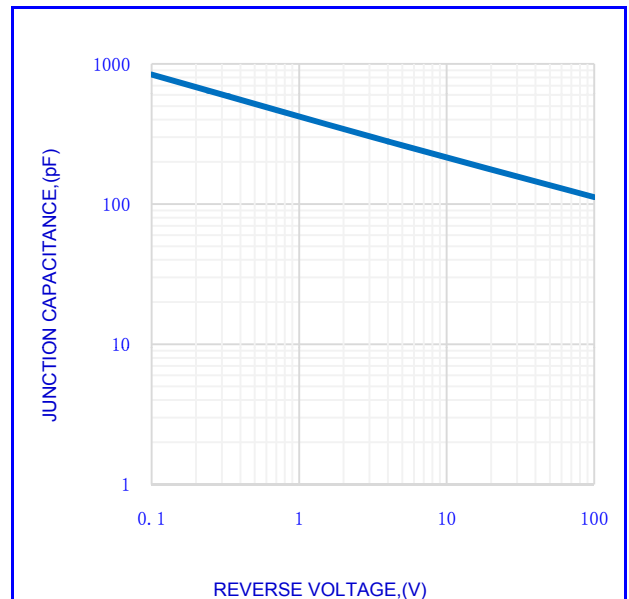


Fig.4- TYPICAL JUNCTION CAPACITANCE

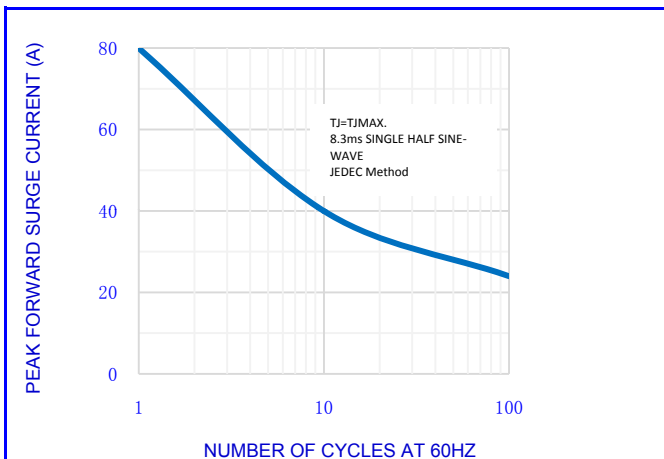


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

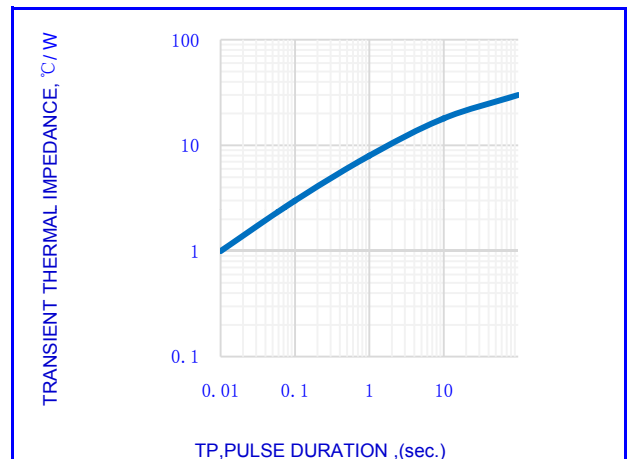


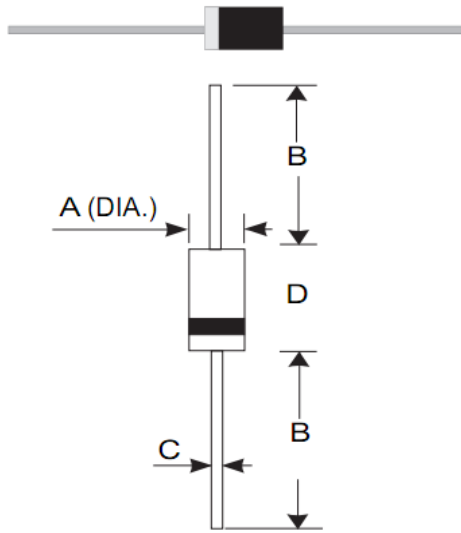
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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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

**SR5100L**

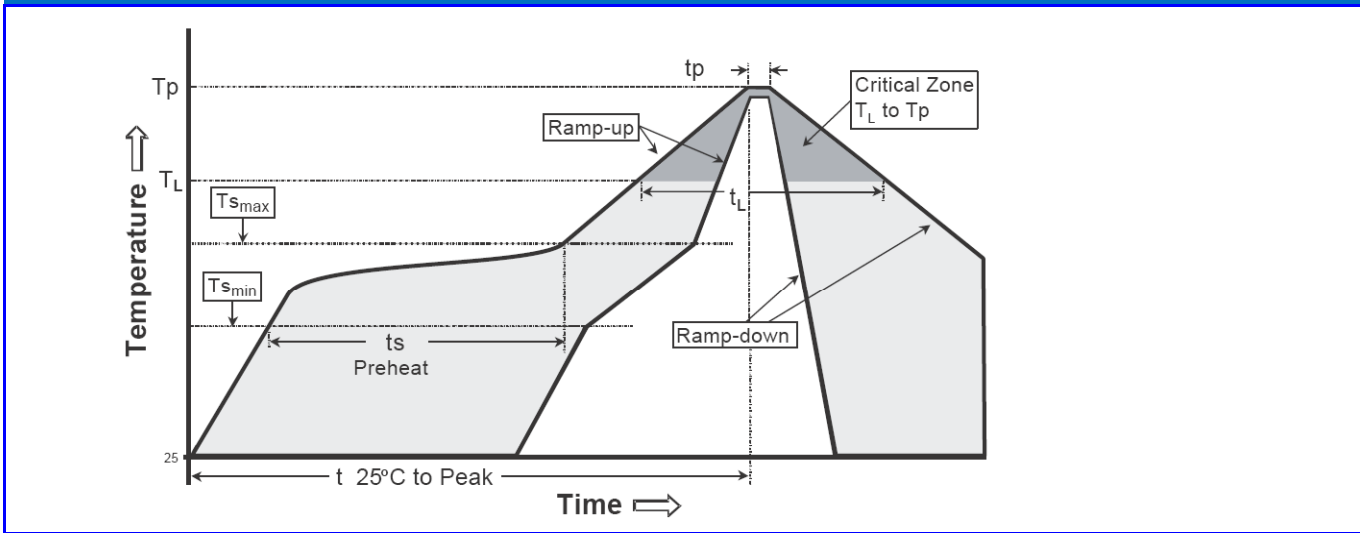
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**Recommended wave soldering condition**

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 <sub>smax</sub> to T <sub>p</sub> )	3°C/second max.	3°C/second max.
Preheat -Temperature Min(T <sub>S min</sub> ) -Temperature Max(T <sub>S max</sub> ) -Time(t <sub>s min</sub> to t <sub>s max</sub> )	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (T <sub>L</sub> ) - Time (t <sub>L</sub> )	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T <sub>P</sub> )	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(t <sub>p</sub> )	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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