



**SR5100SL**

SUPER LOW VF SCHOTTKY RECTIFIERS



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

**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



SR5100SL  
NH FFDDK

Remark:

- ①. SR5100SL=Modle No.
- 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	SR5100SL		Unit
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)	$I_{FSM}$	120		A

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

Parameter	Symbol	SR5100SL				Unit	
		Test Conditions		Min.	Typ.		Max.
Maximum instantaneous forward voltage (Note 1)	$V_F$	TA=25°C	IF= 5.0 A	--	0.58	0.61	V
Maximum instantaneous reversecurrent at rated DC blockingvoltage (Note 1)	$I_{RRM}$	TA=25°C	VR= 100 V	--	20	80	uA
		TA=125°C	VR= 100 V	--	--	20	mA
Typical junction capacitance	$C_J$	4V,1MHz		370		pF	

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

Parameter	Symbol	SR5100SL		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)

SR5100SL

SUPER LOW VF SCHOTTKY RECTIFIERS



RATING AND CHARACTERISTIC CURVES

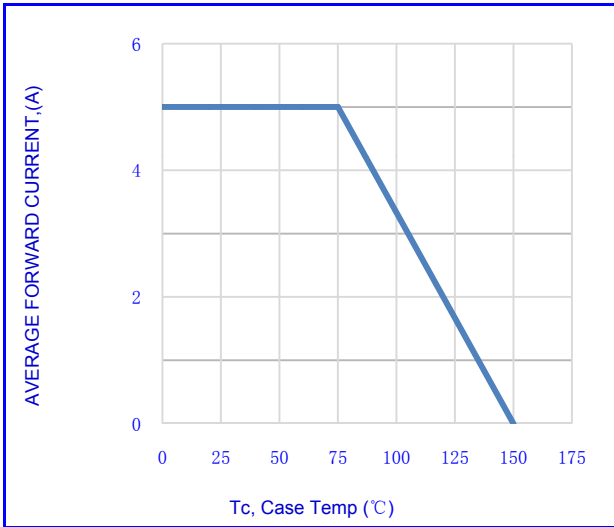


Fig.1- FORWARD CURRENT DERATING CURVE

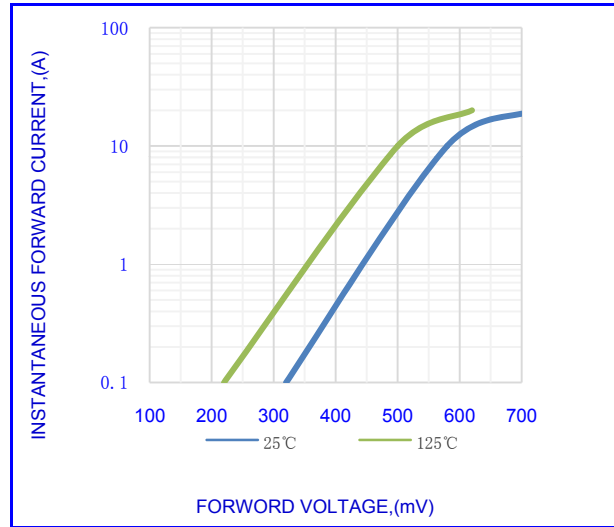


Fig.2-TYPICAL INSTANTANEOUS FORWARD

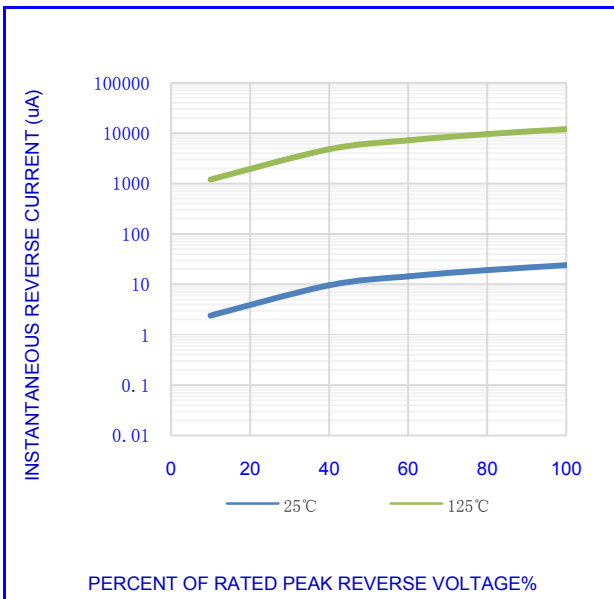


Fig.3-TYPICAL REVERSE CHARACTERISTICS

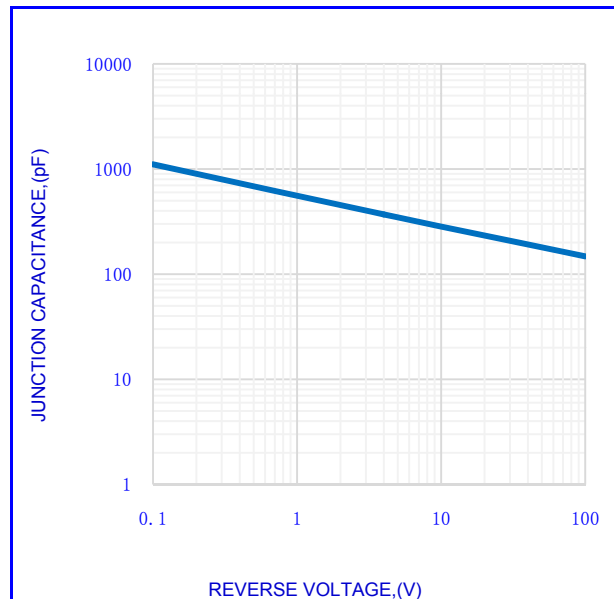


Fig.4- TYPICAL JUNCTION CAPACITANCE

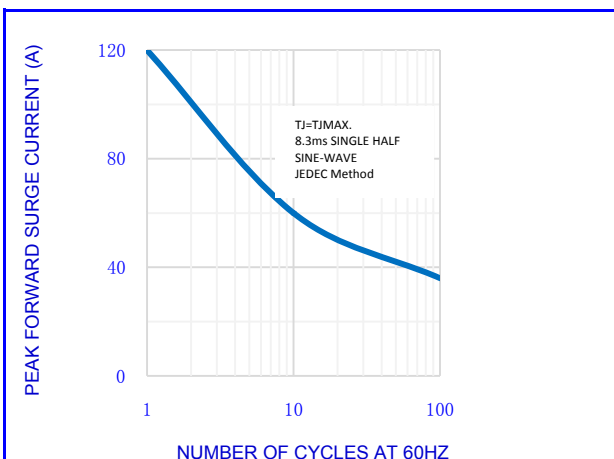


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

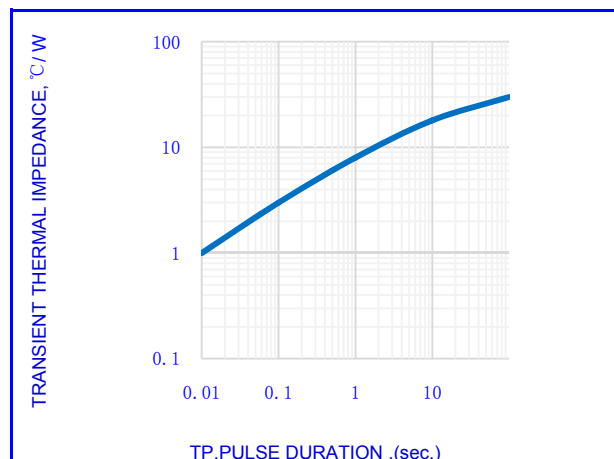


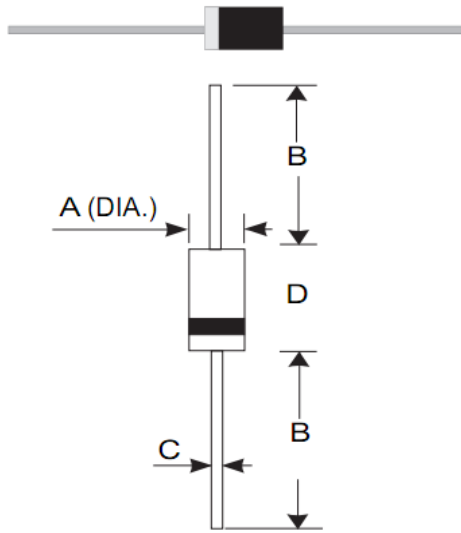
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

**SR5100SL**

**SUPER LOW VF SCHOTTKY RECTIFIERS**



**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

**SR5100SL**

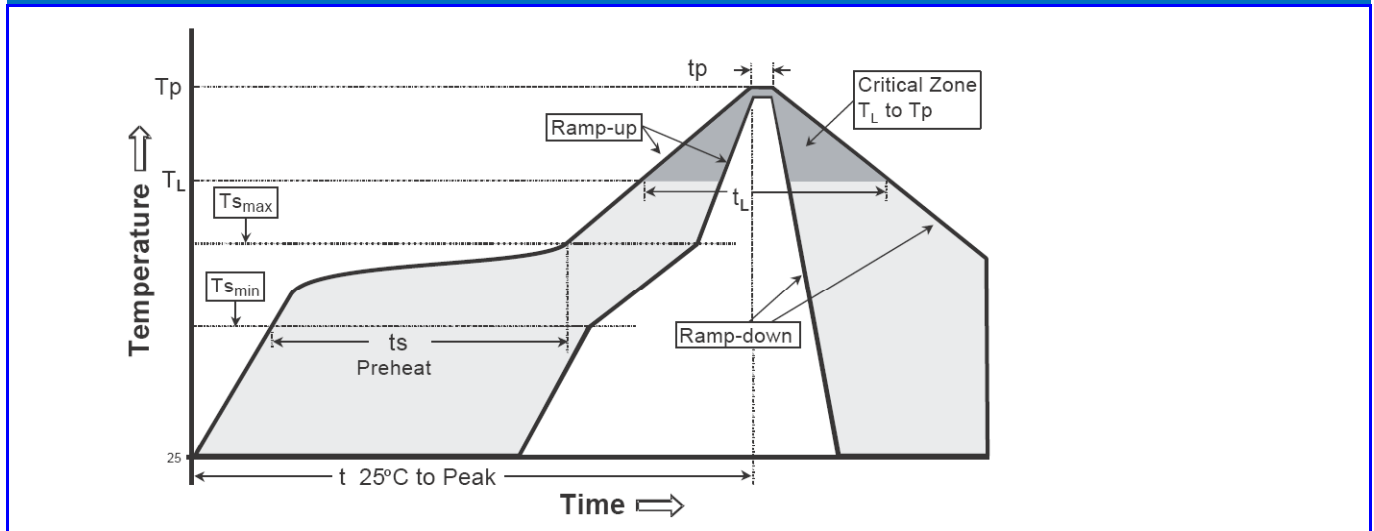
SUPER LOW VF SCHOTTKY RECTIFIERS



**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(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.

## SR5100SL

## SUPER LOW VF SCHOTTKY RECTIFIERS

**Disclaimer**

- Reproducing and modifying information of the document is prohibited without permission from niuhang Electronics co., LTD
- Niuhan Electronics co., LTD. reserves the rights to make changes of the content herein the document anytime without notification.
- Niuhan Electronics co., LTD. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Niuhan Electronics co., LTD. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Niuhan Electronics co., LTD. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Niuhan Electronics co., LTD. for any damages resulting from such improper use or sale.
- When the appearance of the product and chip size does not change, in order to product the customer quality, change the internal structure and the production process Niuhan can not notify