

SR1045L

LOW VF SCHOTTKY RECTIFIERS



VOLTAGE: 45 Volts

CURRENT 10 Amperes

DO-27(DO-201AD) Marking and Polarity

FEATURES

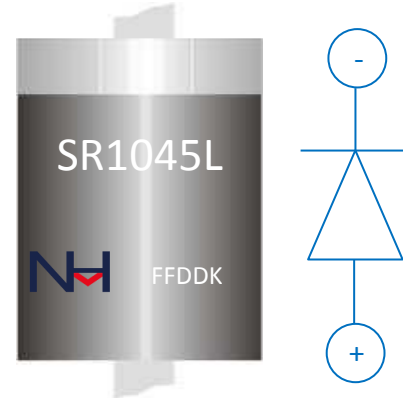
- Reliable High Temperature Operation
- Softest, fast switching capability
- Super Low Forward Voltage Drop
- High temperature soldering guaranteed:260 C/10 seconds at terminals
- Lead Free Finish, RoHS Compliant

MECHANICAL DATA

- **Package:** DO-27(DO-201AD)
- **Epoxy UL:** 94V-0
- **Mounting position:** Any
- **Weight:** approx. 1.0 grams (0.0353 ounce)

TYPICAL APPLICATIONS

- For use in switch power supply ,high frequency inverters , and PD power supply applications



Remark:

- ①. SR1045L=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	SR1045L	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum RMS voltage	V_{RMS}	32	V
Maximum DC blocking voltage	V_{DC}	45	V
Maximum average forward rectified current(see fig.2)	$I_{F(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	250	A

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

Parameter	Test Conditions		Symbol	SR1045L			Unit
				Min.	Typ.	Max.	
Maximum instantaneous forward voltage (Note 1)	$T_A=25^\circ\text{C}$	$I_F= 10 \text{ A}$	V_F	--	0.43	0.49	V
	$T_A=125^\circ\text{C}$			--	0.36	0.41	
Maximum instantaneous reversecurrent at rated DC blockingvoltage (Note 1)	$T_A=25^\circ\text{C}$	$V_R= V_{RRM}$	I_{RRM}	--	65	200	uA
	$T_A=125^\circ\text{C}$			$V_R= 80\%*V_{RRM}$	--	--	20
Typical junction capacitance	4V,1MHz		C_J	--	300	--	pF

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

Parameter	Symbol	SR1045L	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

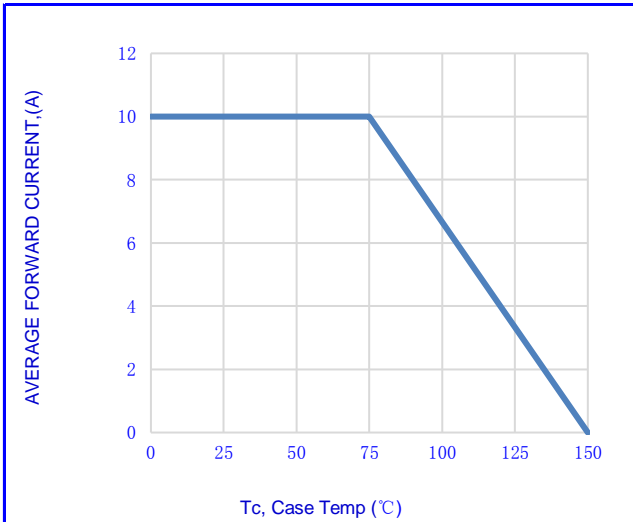


Fig.1- FORWARD CURRENT DERATING CURVE

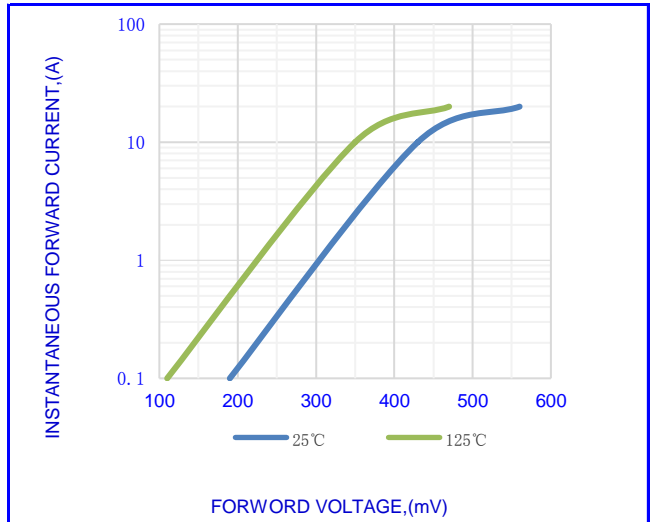


Fig.2-TYPICAL INSTANTANEOUS FORWARD

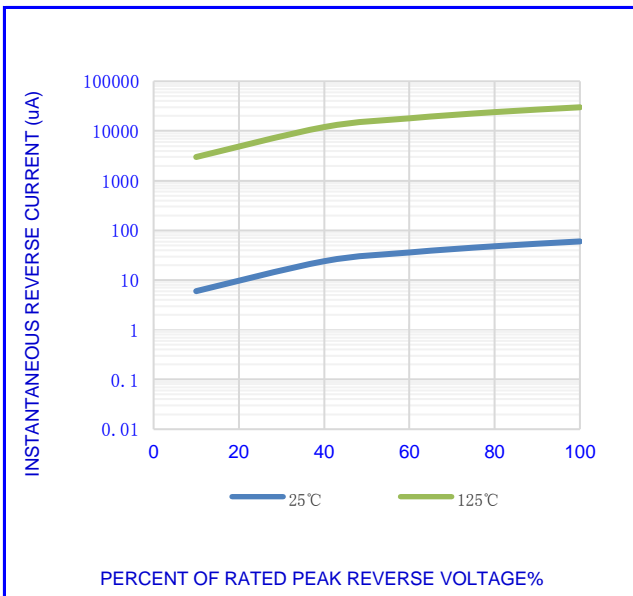


Fig.3-TYPICAL REVERSE CHARACTERISTICS

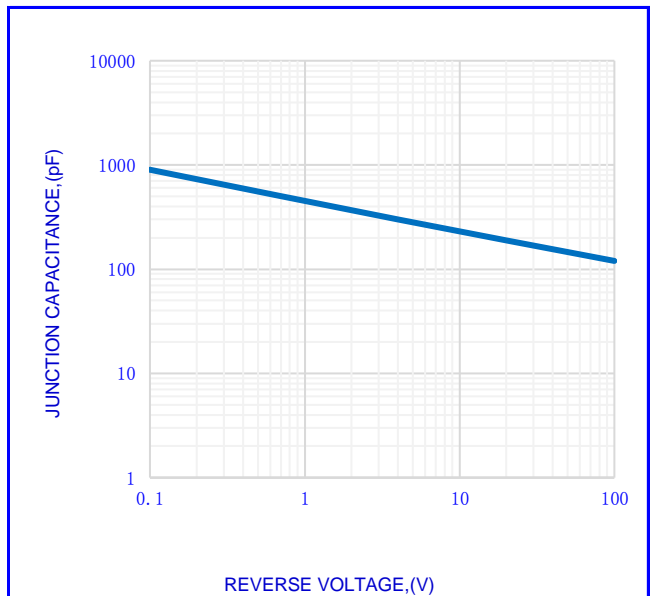


Fig.4- TYPICAL JUNCTION CAPACITANCE

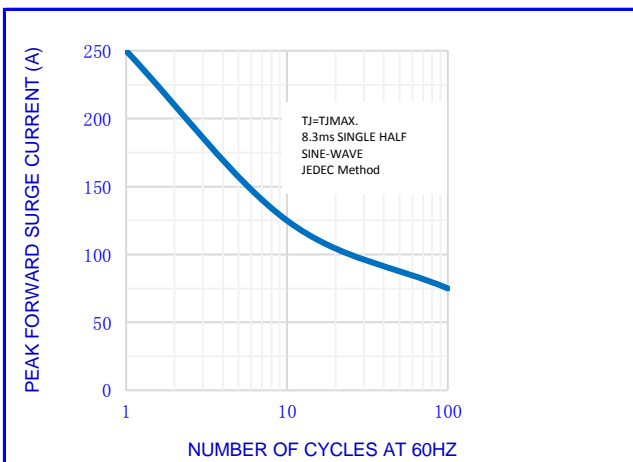


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

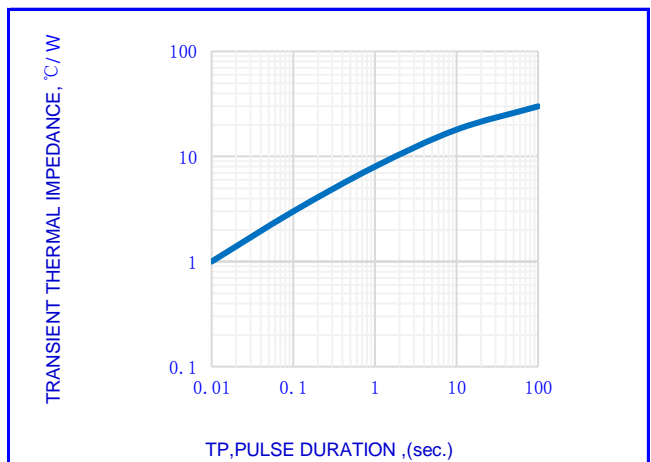


Fig.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

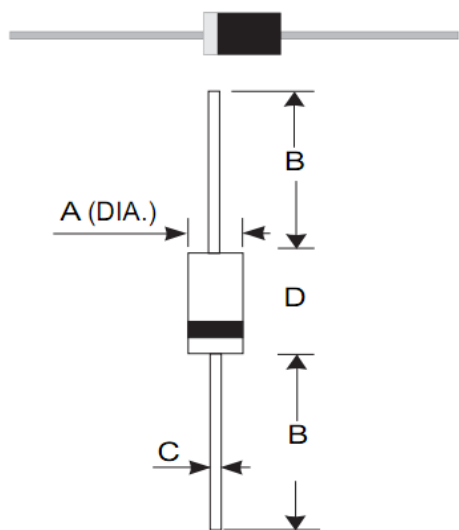
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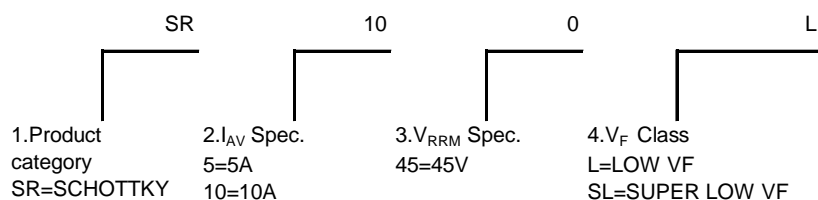
OUTLINE DRAWINGS

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

MODEL AND IDENTIFICATION INSTRUCTIONS



Packing Information

Package	Pack	Box Size LxWxH(mm)	Quantity (pcs/box)	Carton Size LxWxH(mm)	Quantity (box/carton)
DO-27(DO-201AD)	B/G	250*75*140	1250	420*280*310	12500

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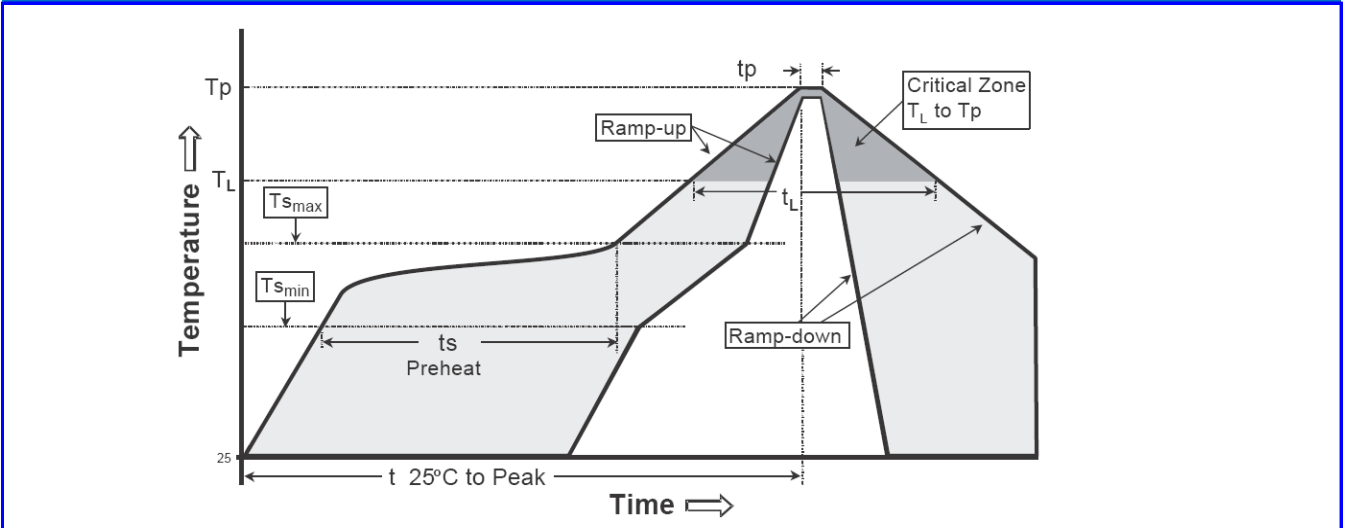
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Recommended wave soldering condition

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 (T _{Smax} to T _p)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(T _{S min}) -Temperature Max(T _{S max}) -Time(t _{s min} to t _{s 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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