

SR545SL

SUPER LOW VF SCHOTTKY RECTIFIERS



VOLTAGE	45 Volts	CURRENT	5.0 Amperes	DO-27(DO-201AD) Marking and Polarity
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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



Remark:

- ①. SR545SL=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	SR545SL	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)	$I_{F(AV)}$	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	SR545SL				Unit	
		Test Conditions		Min.	Typ.		Max.
Maximum instantaneous forward voltage (Note 1)	V_F	TA=25°C	IF= 5.0 A	--	0.42	0.45	V
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)	I_{RRM}	TA=25°C	VR= 45 V	--	30	100	uA
		TA=125°C	VR= 45 V	--	--	20	mA
Typical junction capacitance	C_J	4V,1MHz		350		pF	

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

Parameter	Symbol	SR545SL	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

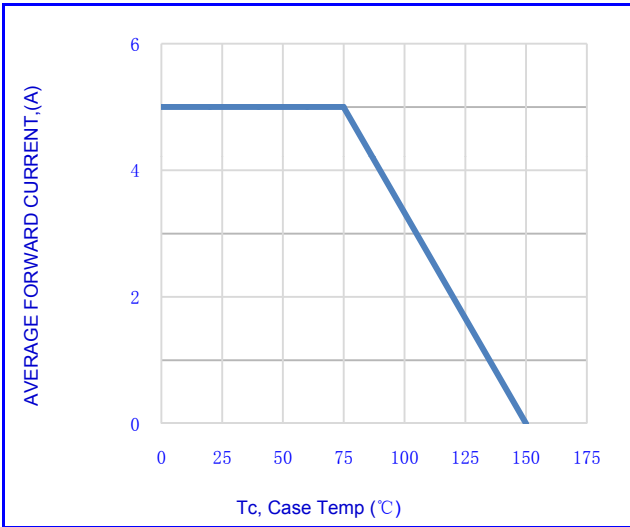


Fig.1- FORWARD CURRENT DERATING CURVE

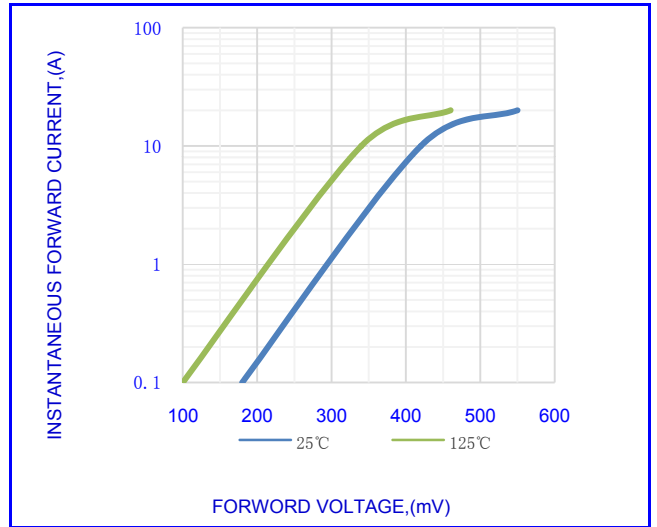


Fig.2-TYPICAL INSTANTANEOUS FORWARD

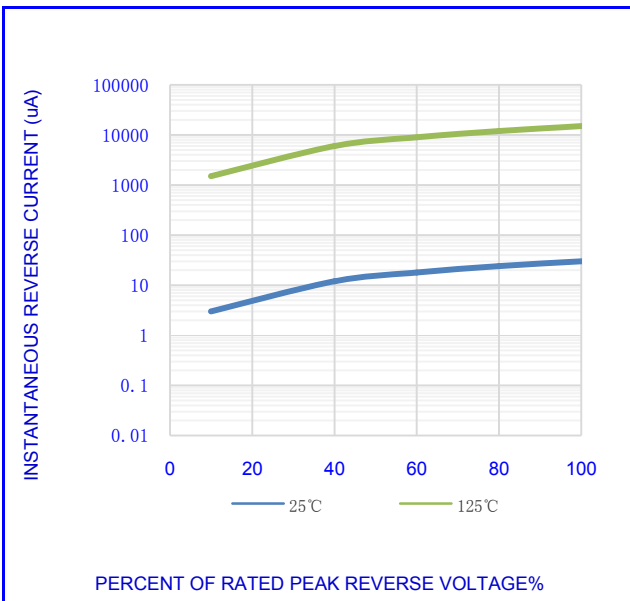


Fig.3-TYPICAL REVERSE CHARACTERISTICS

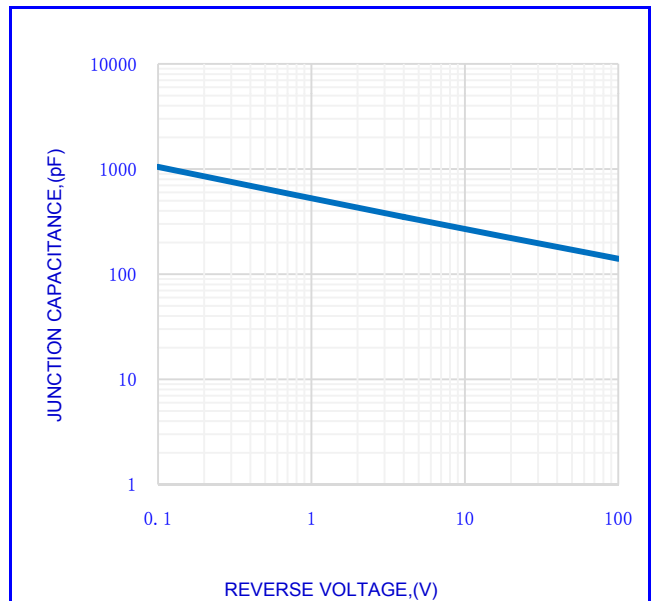


Fig.4- TYPICAL JUNCTION CAPACITANCE

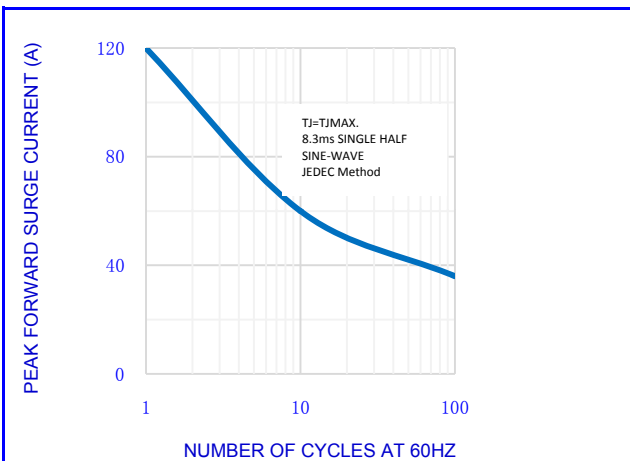


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

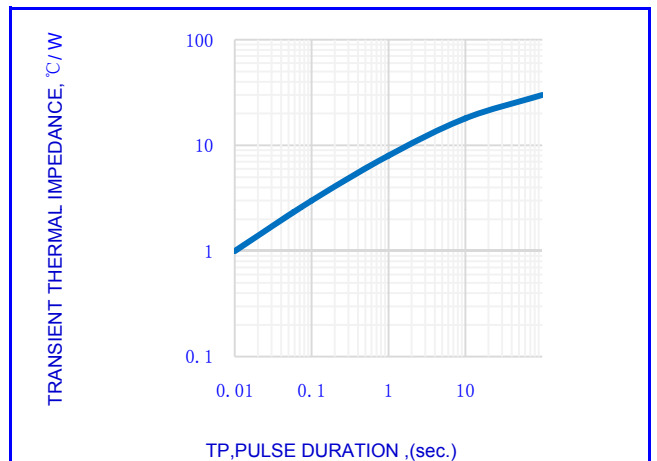


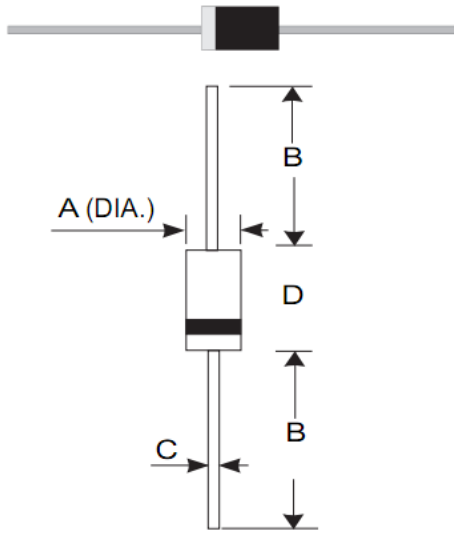
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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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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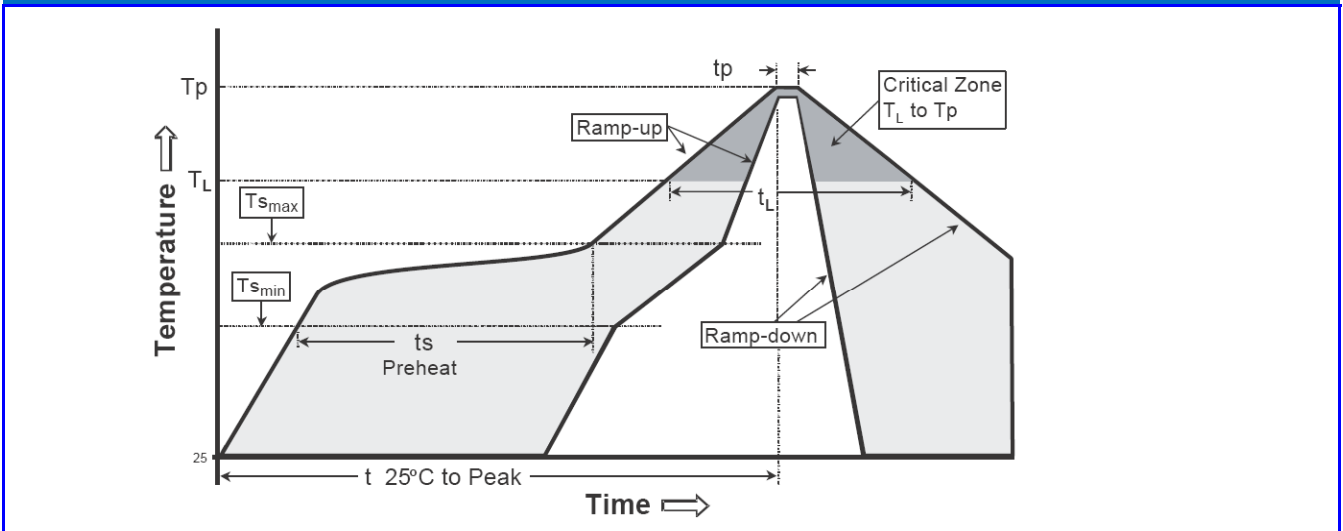
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Recommended wave soldering condition

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 (Tsmmax 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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