

**SR220 THRU SR2200**  
SCHOTTKY RECTIFIERS



**VOLTAGE:** 20-200 Volts

**CURRENT:** 2.0 Amperes

**DO-15** 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
- High current capability ,ultra low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

**MECHANICAL DATA**

- Case: JEDEC DO-201AD molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Polarity: color band denotes cathode end
- Mounting Position: Any
- Weight:0.40 grams

**TYPICAL APPLICATIONS**

- For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications



**Remark:**

- ①. SR2xxx=Modle,xxx=20,30,40,50,60,80,100,150,200
- ②. NH=niuhang trademark
- ③. FFDDK=Internal control code,According to actual changes
- ④. White band denotes cathode

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

Parameter	Symbol	SR 220	SR 230	SR 240	SR 250	SR 260	SR 280	SR 2100	SR 2150	SR 2200	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	45	60	80	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	32	42	56	70	105	140	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	45	60	80	100	150	200	V
Maximum average forward rectified current(see fig.1)	$I_{F(AV)}$	2.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	50									A

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

Parameter	Symbol	SR 220	SR 230	SR 240	SR 250	SR 260	SR 280	SR 2100	SR 2150	SR 2200	Unit
Maximum instantaneous forward voltage (Note 1) @ 2.0 A	$V_F$	0.55		0.70		0.85		0.90	0.95		V
Maximum instantaneous reversecurrent at rated DC blockingvoltage (Note 1)	$I_{RRM}$	50				10					uA
		20				10		2			mA
Typical junction capacitance (Note 2)	$C_J$	500				400					pF
Operating junction and Storage temperature range	$T_J$	-65 to +125				-65 to +150					°C
Storage temperature range	$T_{STG}$	-65 to +150									

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

Parameter	Symbol	SR 220	SR 230	SR 240	SR 250	SR 260	SR 280	SR 2100	SR 2150	SR 2200	Unit
Typical thermal resistance (Note 3)	$R_{\theta JA}$	50									°C/W
	$R_{\theta JL}$	16									

- Note:
- 1 Pulse width < 300 uS, Duty cycle < 2%
  - 2 Measured at 1MHz and applied reverse voltage of 4.0V D.C.
  - 3 Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm)lead length,Polymide PCB, 2 oz Copper.
  - 4 Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)

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RATING AND CHARACTERISTIC CURVES

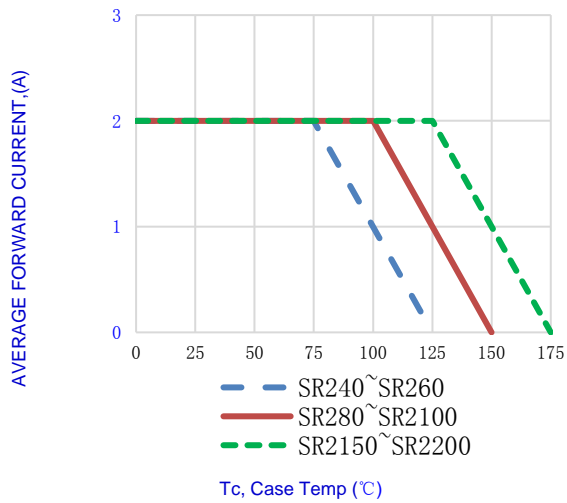


Fig.1-FORWARD CURRENT DERATING CURVE

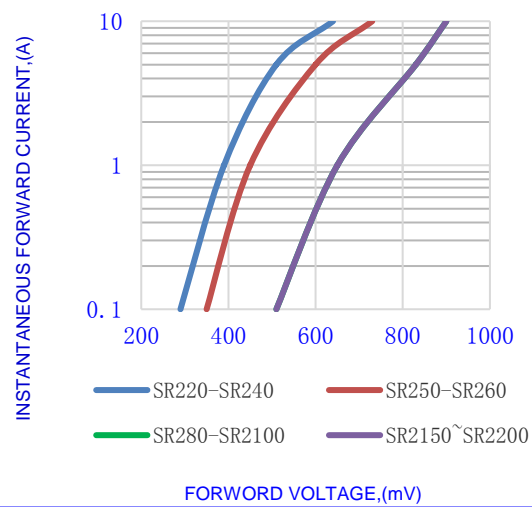


Fig.2-TYPICAL INSTANTANEOUS FORWARD

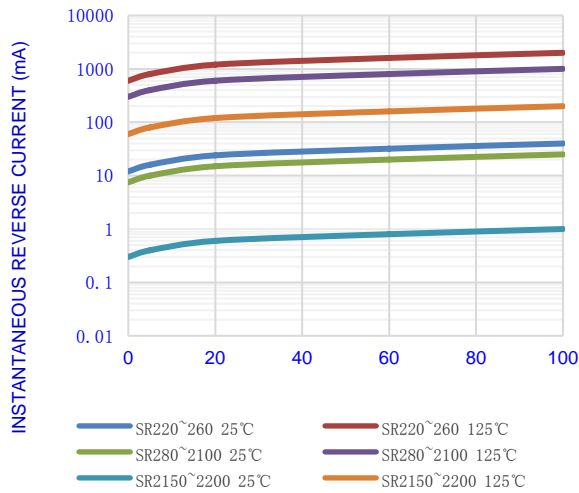


Fig.3- TYPICAL REVERSE CHARACTERISTICS

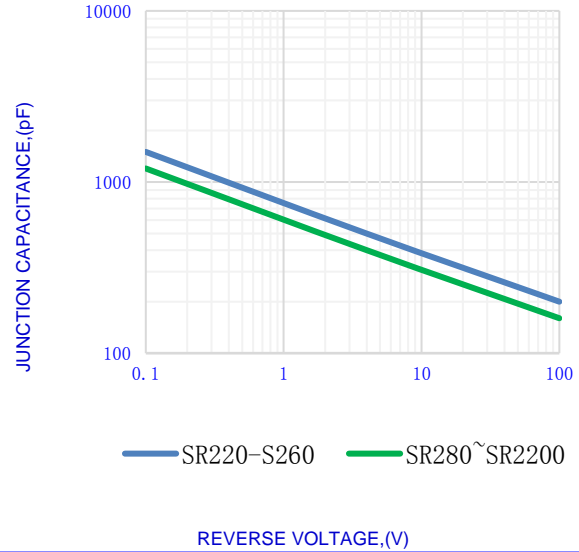


Fig.4-TYPICAL JUNCTION CAPACITANCE

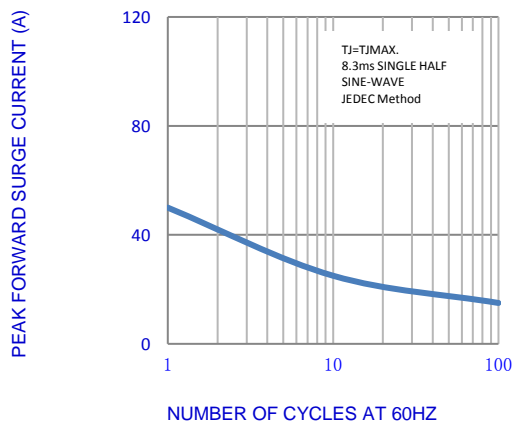


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

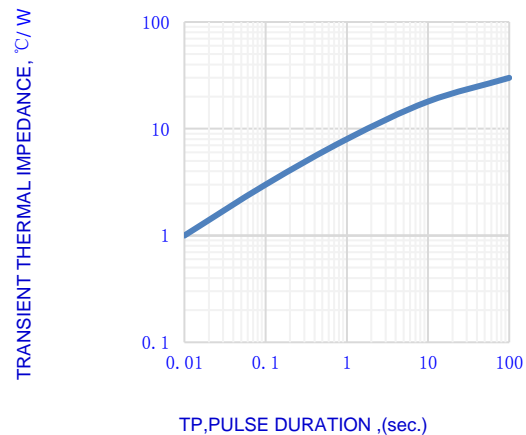


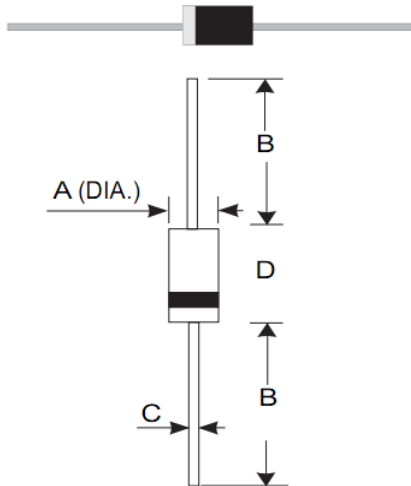
Fig.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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**OUTLINE DRAWINGS**

**DO-15**



OUTLINE DIMENSIONS						
DIM	MILLIMETERS			INCHES		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.6	-	3.6	0.104	-	0.140
B	24.0	-	27.0	0.945	-	1.063
C	0.7	-	0.9	0.028	-	0.035
D	5.8	-	7.6	0.230	-	0.300

**Packing Information**

Package	Pack	Box Size LxWxH(mm)	Quantity (pcs/box)	Carton Size LxWxH(mm)	Quantity (pcs/carton)
DO-15	B/G	250*75*140	3000	420*280*310	30000

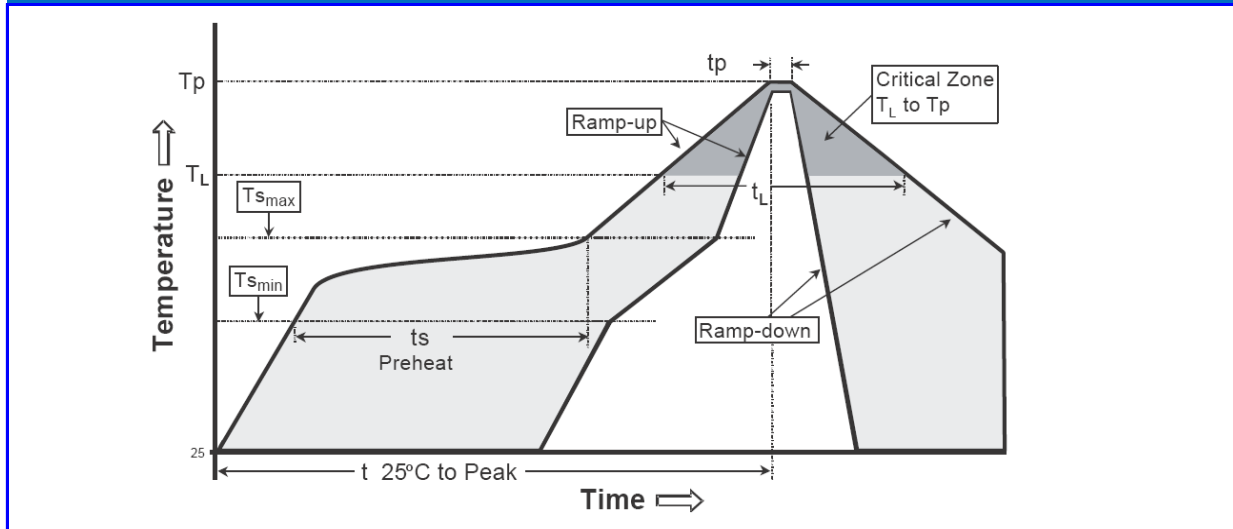
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**Recommended wave soldering condition**

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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