

SR520 THRU SR5200

SCHOTTKY RECTIFIERS



VOLTAGE: 20~200 Volts

CURRENT: 5 A

Package: DO-27 **Marking And Polarity**

FEATURES

- Plane Schottky Potential Barrier Chip
- Low Forward Voltage Drop For High Efficiency
- Low Leakage Current For High Reliability
- High Forward Surge Capability For High Reliability
- High Frequency Operation

MECHANICAL DATA

- **Package:** Molding Compound Meets UL 94 V-0 Flammability Rating, RoHS-Compliant
- **Polarity:** As Marked On Case
- **Mounting Position:** Any
- **Weight:** DO-27: App. 1.892 Grams (0.06673 Ounce)

TYPICAL APPLICATIONS

- For Use In High Frequency Inverters, Switching Mode Power Supply
AC/DC Converters, LED Driver Etc. Applications



Remark:

- ①. SR5XXX=Model, xxx=20,30,40,45,60,80,100,150,200
- ②. NH=nihang trademark
- ③. EDDKF=Internal code, According to actual changes
- ④. White band denotes cathode

Single Phase, Half Wave, 60Hz, Resistive Or Inductive Load. For Capacitive Load, Derate Current By 20%

Maximum Ratings (Ta=25°C Unless otherwise specified)

Parameter	Symbol	SR 520	SR 530	SR 540	SR 545	SR 560	SR 580	SR 5100	SR 5150	SR 5200	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 @TC= 100 °C	$I_{F(AV)}$	5									A
Peak Forward Surge Current 8.3ms Single HalfSine-wave Superimposed On Rate Load	I_{FSM}	120									A
Current Squared Time Per Diode t<8.3ms	I^2t	59.8									A ² sec

Electrical Characteristics (Ta=25°C Unless otherwise specified)

Parameter	Symbol	SR 520	SR 530	SR 540	SR 545	SR 560	SR 580	SR 5100	SR 5150	SR 5200	Unit
Instantaneous forward voltage per diode(note1)	V _F	0.55				0.70	0.80		0.90		V
		0.47				0.63	0.72		0.82		
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 1)	I _{RRM}	100				50		10			uA
		15				10		5			mA
Typical Junction Capacitance Per Diode	C _J	500				400					pF

Thermal Characteristics (Ta=25°C Unless otherwise specified)

Parameter	Symbol	SR	SR	SR	SR	SR	SR	SR	SR	SR	Unit	
		520	530	540	545	560	580	5100	5150	5200		
Operating Junction Temperature Range	T _J	-65 to +125					-65 to +150		-65 to +175		℃	
Storage Temperature Range	T _{STD}	-65 to +125					-65 to +150		-65 to +175			
Typical thermal resistance (Note 2)	R _{θJA}	25.0										℃/W
	R _{θJC}	8.0										

Notes: 1. Pulse Test: 300 Us Pulse Width, 1% Duty Cycle

2. Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm) lead length

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Typical Characteristics Curves

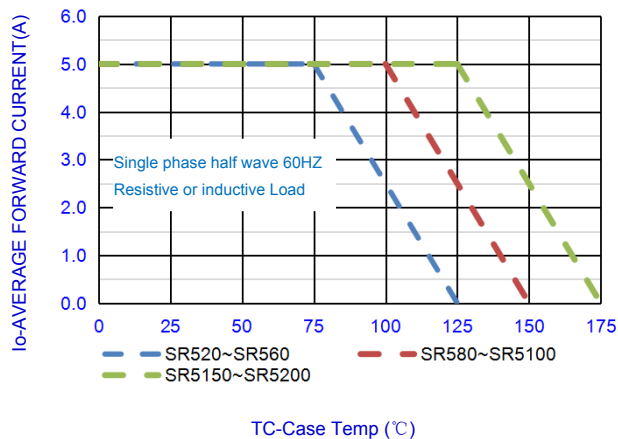


Fig.1-FORWARD CURRENT DERATING CURVE

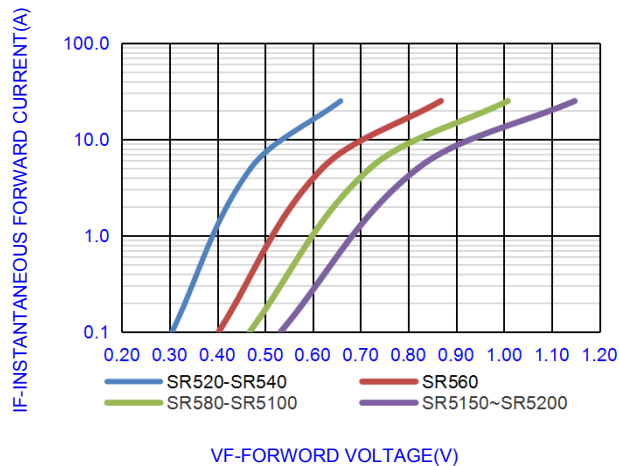


Fig.2- TYPICAL INSTANTANEOUS FORWARD

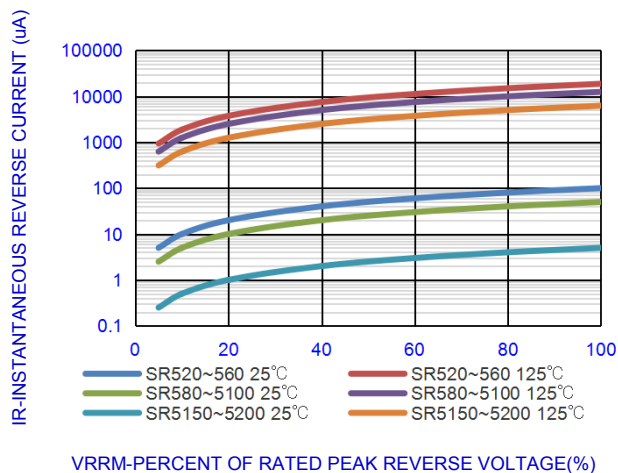


Fig.3- TYPICAL REVERSE CHARACTERISTICS

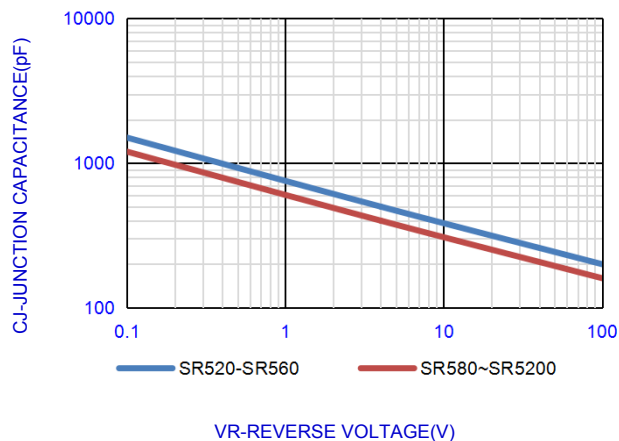


Fig.4- TYPICAL JUNCTION CAPACITANCE

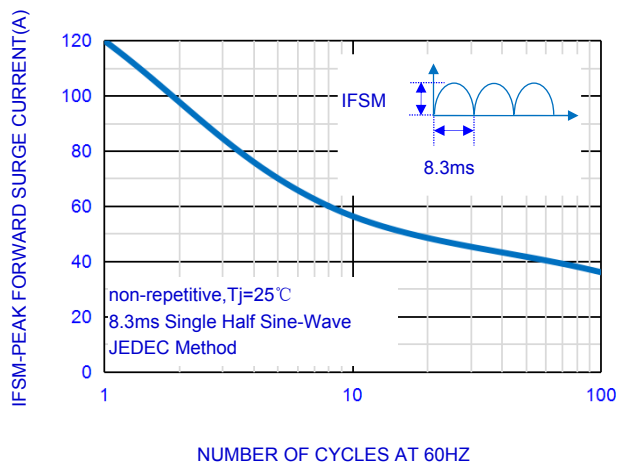


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

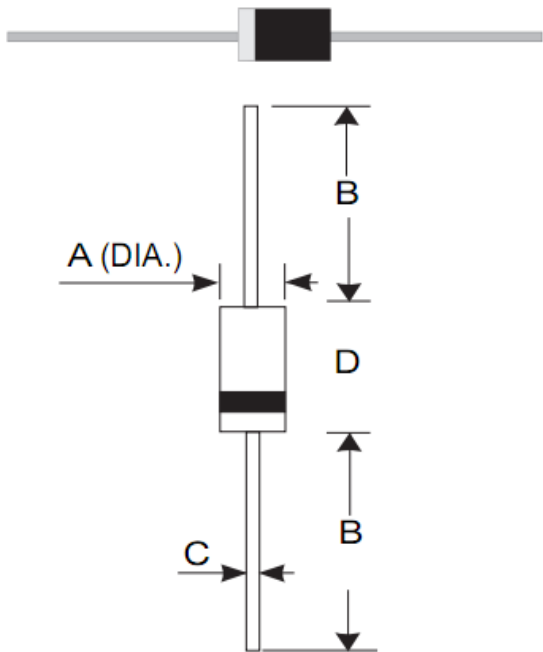
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OUTLINE DRAWINGS

DO-27



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	0.283	-	0.374

PACKING INFORMATION

Package Code	Package Method	Inner Box Size L×W×H(mm)	Quantity (pcs/Inner Box)	Outer Carton Size L×W×H(mm)	Quantity (pcs/carton)
DO-27	Braided/boxed	250x75x140	1250	420x280x310	12500

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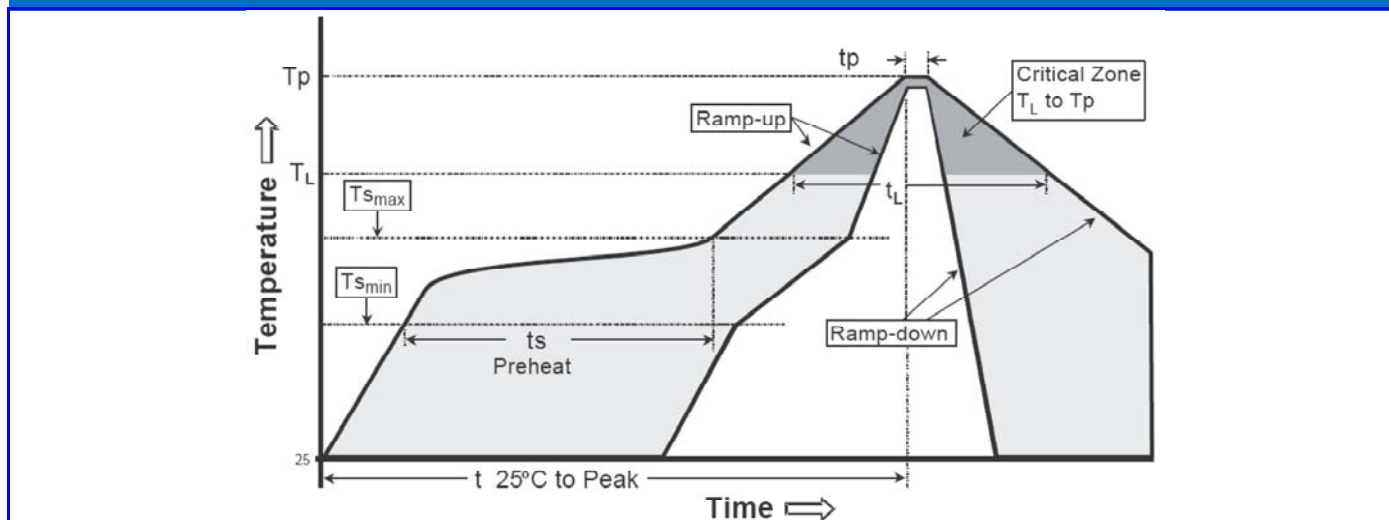
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Recommended wave soldering condition

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(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 (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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