

SR340 THRU SR3200

Schottky Barrier Rectifiers


Voltage: 40~200 Volts

Current: 3 Amperes

Polarity And Marking
Package: DO-27

Features

- NH'S Plane Schottky Barrier Chip Technology
- Low Forward Voltage Drop For High Efficiency
- Low Power Loss For High Reliability
- High Frequency Switching Speed

Mechanical Data

- Case:** Molded With UL-94 Class V-0 Recognized, RoHS-Compliant
- Polarity:** Look At The Polarity And Marking On The Right
- Terminals:** Tin Plated Leads, Solderable Per J-STD-002 And JESD22-B102
- Weight:** App. 1 Grams (0.035273 Ounce)

Typical Applications

- Switch Mode Power Supplies (SMPS)
- Fast Chargers
- LED Driver And Monitor Lighting
- Automotive Electronics And Charging Posts



Remark:

- NH=Niuhan Trademark
- LLWWF=Internal Code, According To Actual Changes
- SR3xx=Model, xx=40, 45, 60, 80, 100, 150, 200
- 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	Test Conditions	Symbol	SR 340	SR 345	SR 360	SR 380	SR 3100	SR 3150	SR 3200	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	40	45	60	80	100	150	200	V
Maximum RMS Voltage		V_{RMS}	28	32	42	56	70	105	140	V
Maximum DC Blocking Voltage		V_{DC}	40	45	60	80	100	150	200	V
Maximum Average Forward Rectified Current		$I_{F(AV)}$	3							A
Peak Forward Surge Current	8.3ms Single Half Sine-wave Superimposed On Rate Load	I_{FSM}	80							A
Current Squared Time	$t < 8.3$ ms	$I^2 t$	26.6							A ² sec

Electrical Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	SR 340	SR 345	SR 360	SR 380	SR 3100	SR 3150	SR 3200	Unit
Maximum Instaneous Forward Voltage	I _F = 3.0 A	V _F	0.55		0.70	0.85		0.90		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta=25°C V _R = V _{RRM} Ta=110°C V _R = V _{RRM} *80%	I _{RRM}	100 10		80 8	50 5		10 3		uA mA
Typical Junction Capacitance	4 V,1MHz	C _J	170		150	110		65		pF

Thermal Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	SR 340	SR 345	SR 360	SR 380	SR 3100	SR 3150	SR 3200	Unit	
Operating Junction Temperature Range		T _J	-55~125			-55~150		-55~175		℃	
Storage Temperature Range		T _{STD}	-55~125			-55~150		-55~175			
Thermal Resistance Junction To Ambient With Steady-State	Still Air Environment With Ta=25℃	R _{ΘJA}	58.0								℃/W
Thermal Resistance Junction-Case With Steady-State	At 0.375"(9.5mm) lead length Mounted On vertical P.C. Board	R _{ΘJC}	15.0								

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

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Typical Characteristics Curves

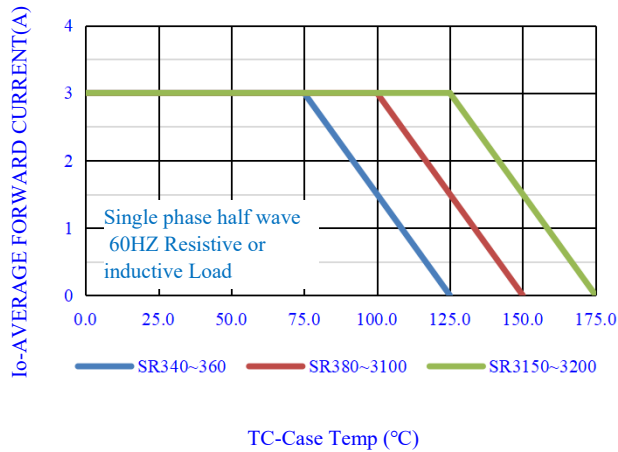


Fig.1-FORWARD CURRENT DERATING CURVE

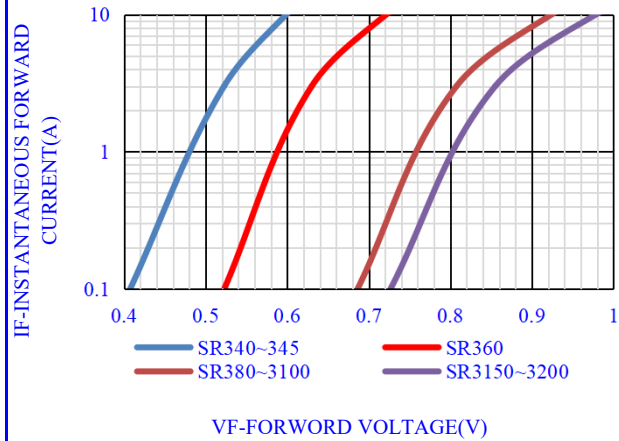


Fig.2- TYPICAL INSTANTANEOUS FORWARD

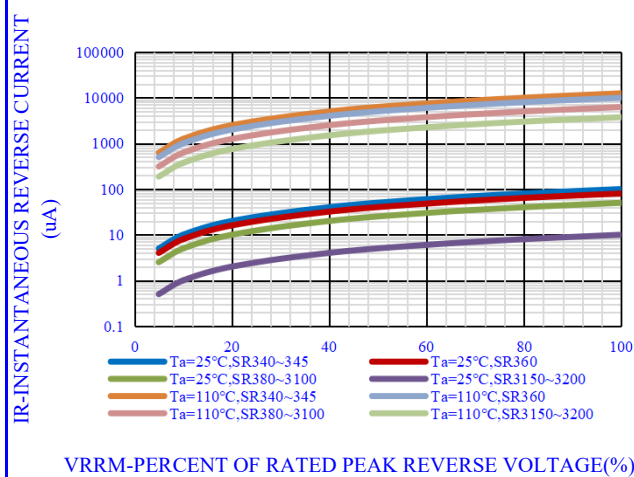


Fig.3- TYPICAL REVERSE CHARACTERISTICS

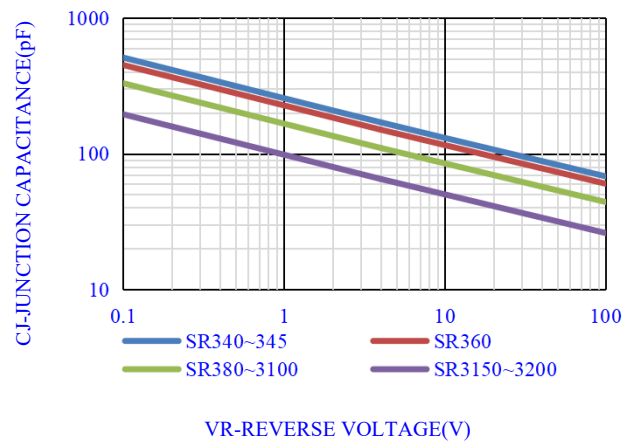


Fig.4- TYPICAL JUNCTION CAPACITANCE

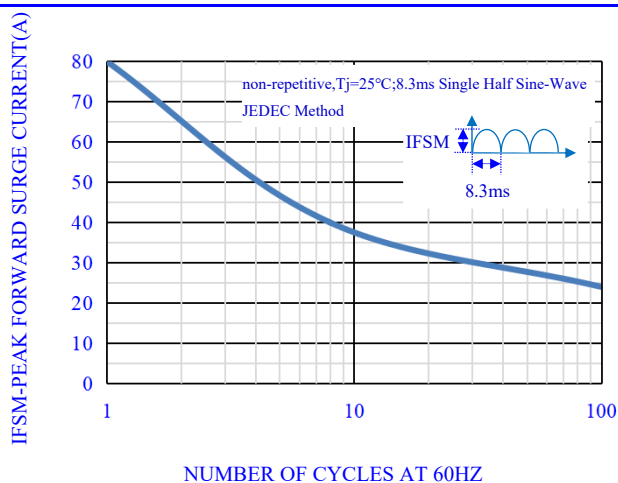
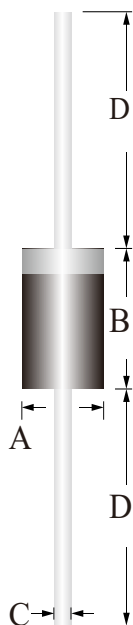


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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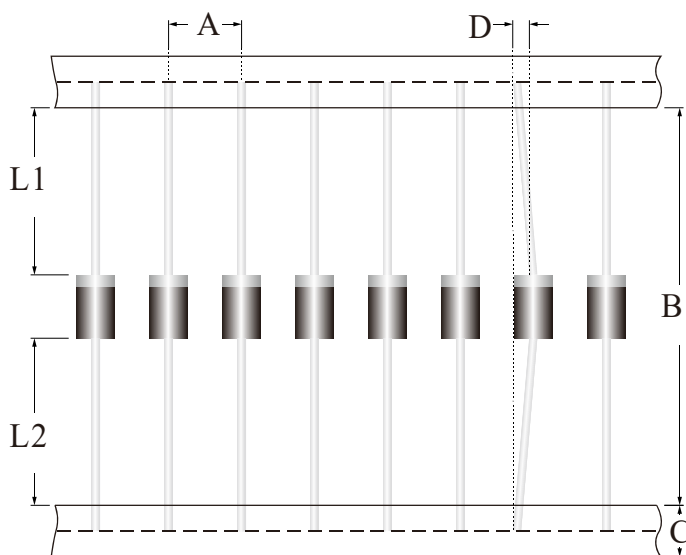
OUTLINE DRAWINGS



DO-27

OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.90	-	5.60	0.1929	-	0.2205
B	7.20	-	9.50	0.2835	-	0.3740
C	0.90	-	1.30	0.0354	-	0.0512
D	24.50	-	26.40	0.9646	-	1.0394

RECOMMEND EDITING WITH PICTURES



DO-27

OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.50	-	10.50	0.3740	-	0.4134
B	51.00	-	53.00	2.0079	-	2.0866
C	5.50	-	6.50	0.2165	-	0.2559
D	-	-	1.20	-	-	0.0472
L2-L1	-	-	1.00	-	-	0.0394

PACKING INFORMATION

Package Code	Package Method	Min. Pack. Size (mm)	Quantity (Pcs/Min. Pack.)	Inner Box Size L×W×H(mm)	Quantity (Pcs/Inner Box)	Outer Carton Size L×W×H(mm)	Quantity (Pcs/Carton)
DO-27	B/P	255x75x145	1250	255x75x145	1250	420x280x310	12500

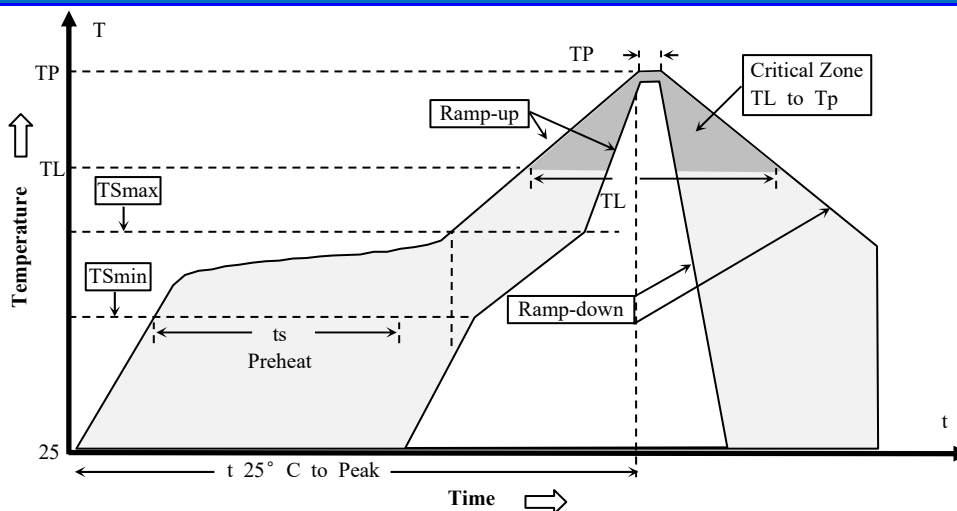
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Recommended wave soldering condition

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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