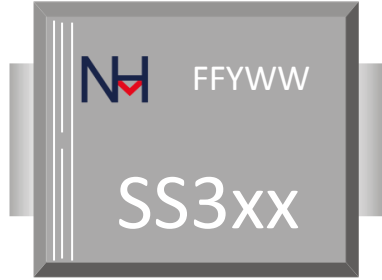


**SS34 THRU SS320**  
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<b>VOLTAGE:</b> 40~200 Volts	<b>CURRENT:</b> 3.0 Amperes	DO-214AA(SMB)	Marking and Polarity
<b>FEATURES</b>		 <p>Remark:</p> <ul style="list-style-type: none"> <li>①. NH=niuhang trademark</li> <li>②. FF=Product line,According to actual changes; YWW=Periodic code,According to actual changes;</li> <li>③. SS3xx=Modle,xxx=4,45,6,8,10,15,20</li> <li>④. White band denotes cathode</li> </ul>	
<ul style="list-style-type: none"> <li>■ Low Forward Voltage Drop for high efficiency</li> <li>■ Low leakage current for high reliability</li> <li>■ High forward surge capability for high reliability</li> </ul>			
<b>MECHANICAL DATA</b>			
<ul style="list-style-type: none"> <li>■ <b>Terminals:</b> Plated Leads Solderable per MIL-STD-202, Method 208</li> <li>■ <b>Mounting Position:</b> Any</li> <li>■ <b>Lead Free:</b> Lead Free Finish, RoHS Compliant</li> <li>■ <b>Weight:</b>App. 0.095 grams ( 0.0034 ounce)</li> </ul>			
<b>TYPICAL APPLICATIONS</b>			
<ul style="list-style-type: none"> <li>■ For use in high frequency inverters , DC/DC converters,LED driver etc. applications</li> </ul>			

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

Parameter	Symbol	SS34	SS345	SS36	SS38	SS310	SS315	SS320	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(see fig.1)	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	80							A
Current Squared Time Per Diode( $t < 8.3ms$ )	$I^2t$	26.56							A <sup>2</sup> sec

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

Parameter	Test Conditions		Symbol	SS34	SS345	SS36	SS38	SS310	SS315	SS320	Unit
Maximum Forward Voltage(Note 1)	Ta=25°C	IF= 3.0 A	$V_F$	0.55	0.70	0.80	0.90				V
Maximum instantaneous reversecurrent at rated DC blockingvoltage (Note 1)	Ta=25°C	VR= $V_{RRM}$	$I_{RRM}$	100	80	50	10				uA
	Ta=125°C	VR= 80%* $V_{RRM}$		10	8	5	3				mA
Typical junction capacitance	4V,1MHz		$C_J$	250	200	150	100				pF

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

Parameter	Symbol	SS34	SS345	SS36	SS38	SS310	SS315	SS320	Unit		
Operating junction and Storage temperature range	$T_J$	-55 to 125			-55 to 150		-55 to 175			°C	
Storage temperature range	$T_{STG}$	-55 to 125			-55 to 150		-55 to 175				
Typical thermal resistance (Note 2)	$R_{\theta JA}$	60									°C/W
	$R_{\theta JC}$	20									

Note: 1.Pulse width < 300 uS, Duty cycle < 2%

2.Mounted on P.C.B. with 0.3" x 0.3" (7.62 mm x 7.62 mm) copper pad areas

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RATING AND CHARACTERISTIC CURVES

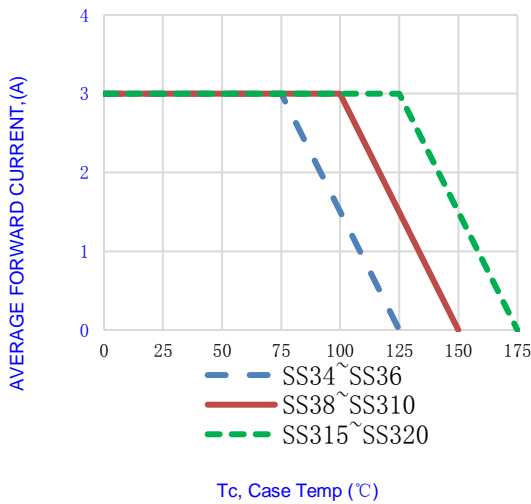


Fig.1-FORWARD CURRENT DERATING CURVE

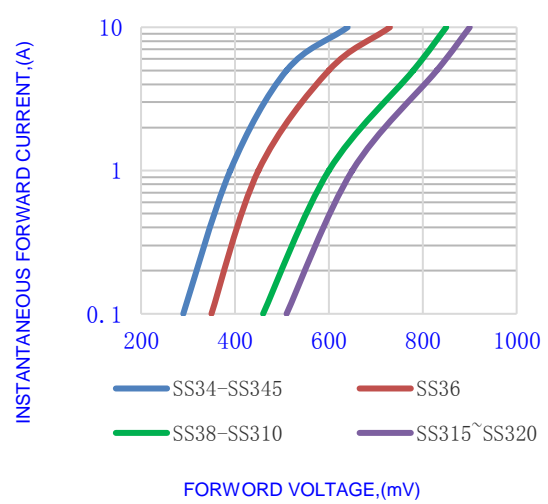


Fig.2- TYPICAL INSTANTANEOUS FORWARD

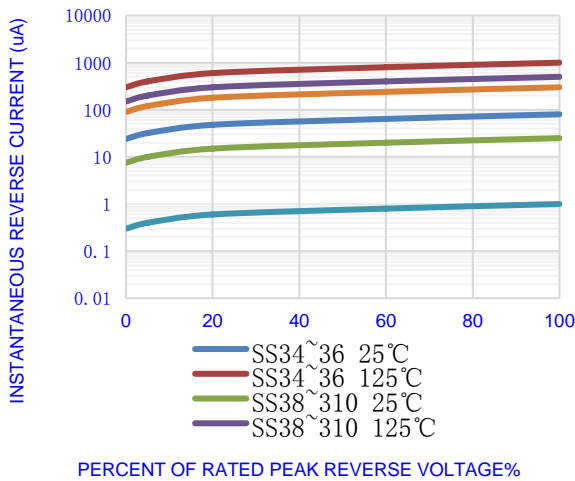


Fig.3- TYPICAL REVERSE CHARACTERISTICS

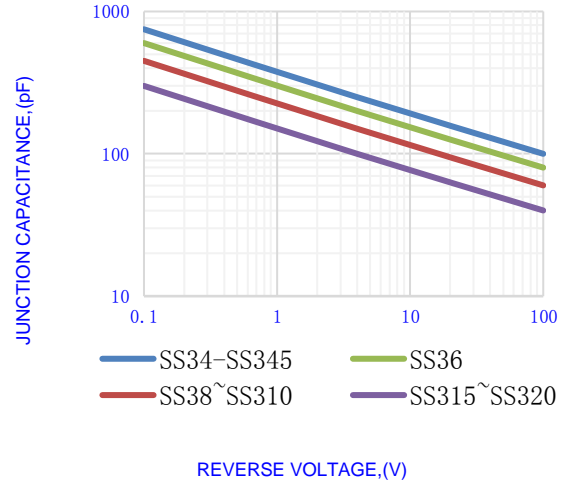


Fig.4-TYPICAL JUNCTION CAPACITANCE

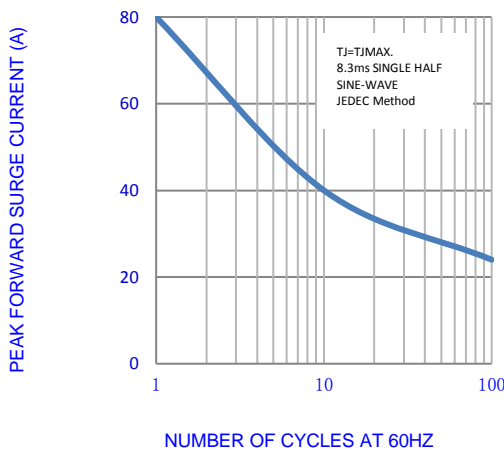


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

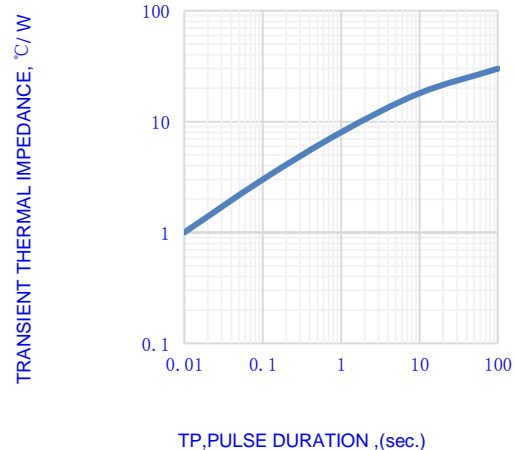


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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OUTLINE DRAWINGS				DO-214AA(SMB)			
				<b>OUTLINE DIMENSIONS</b>			
				<b>MILLIMETERS</b>		<b>INCHES</b>	
		<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>	<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>
A	4.060	-	4.700	0.160	-	0.185	
B	5.080	-	5.590	0.200	-	0.220	
C	3.300	-	3.940	0.130	-	0.155	
D	2.130	-	2.440	0.083	-	0.096	
E	1.910	-	2.110	0.075	-	0.083	
F	0.760	-	1.270	0.030	-	0.050	
G	0.051	-	0.203	0.002	-	0.008	
H	0.152	-	0.305	0.006	-	0.012	
RECOMMENDED LAYOUT DRAWINGS				DO-214AA(SMB)			
				<b>RECOMMENDED MOUNTING PAD DIMENSIONS</b>			
				<b>Millimeters</b>		<b>Inches</b>	
		<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>	<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>
A	-	6.340	-	-	0.250	-	
B	-	2.720	-	-	0.107	-	
C	-	1.760	-	-	0.069	-	
D	-	2.290	-	-	0.090	-	
PACKING INFORMATION				DO-214AA(SMB)			
Package Method	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size LxWxH(mm)	Quantity (pcs/Inner Box)	Carton Size LxWxH(mm)	Quantity (pcs/carton)	
Tape Reel	Φ330	3000	340x340x45	6000	360x360x470	60000	

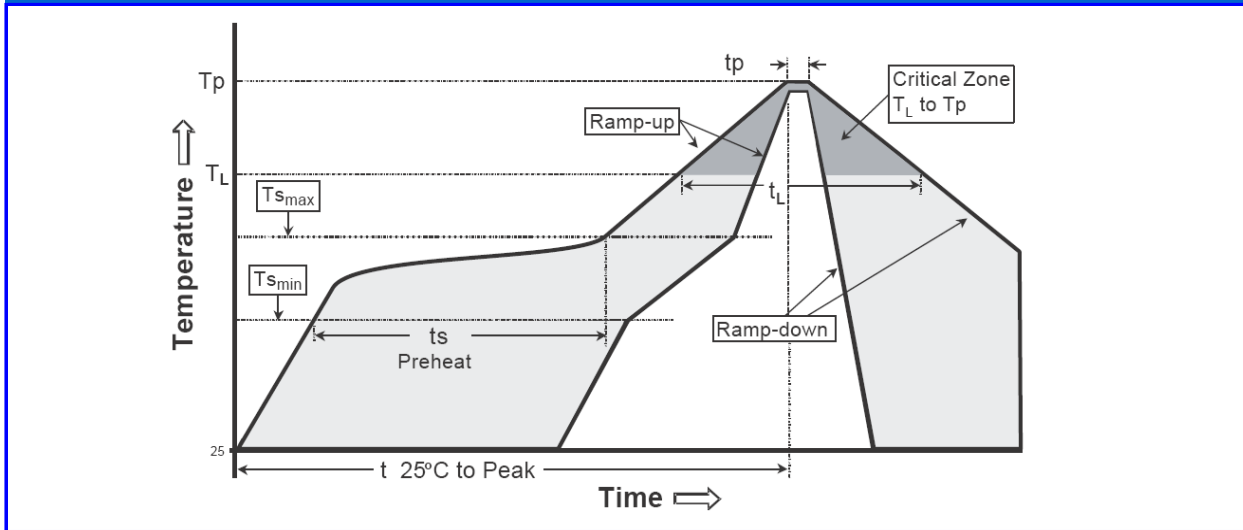
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Recommended wave soldering condition

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 <sub>smax</sub> to T <sub>p</sub> )	3°C/second max.	3°C/second max.
Preheat -Temperature Min(T <sub>s min</sub> ) -Temperature Max(T <sub>s max</sub> ) -Time(t <sub>s min</sub> to t <sub>s max</sub> )	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (T <sub>L</sub> ) - Time (t <sub>L</sub> )	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T <sub>P</sub> )	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(t <sub>p</sub> )	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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