SS34 THRU SS320

SCHOTTKY RECTIFIERS

VOLTAGE:	40~200 Volts	CURRENT:	3.0 Amperes

FEATURES

- Low Forward Voltage Drop for high efficiency
- Low leakage current for high reliability
- High forward surge capability for high reliability

MECHANICAL DATA

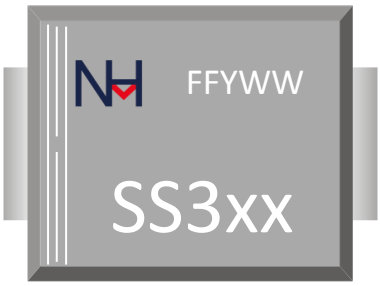
- **Terminals:** Plated Leads Solderable per MIL-STD-202, Method 208
- **Mounting Position:** Any
- **Lead Free:** Lead Free Finish, RoHS Compliant
- **Weight:**App. 0.095 grams（0.0034 ounce)

TYPICAL APPLICATIONS

- For use in high frequency inverters ,

  DC/DC converters,LED driver etc. applications

DO-214AA(SMB) **Marking and Polarity**



Remark:

①. NH=niuhang trademark

②. FF=Product line,According to actual changes;

YWW=Periodic code,According to actual changes;

③. SS3xx=Modle,xxx=4,45,6,8,10,15,20

④. White band denotes cathode

Maximum Ratings(Ratings at 25℃ 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)	$IF_{(AV)}$	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^2sec

Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Test Conditions		Symbol	SS34	SS345	SS36	SS38	SS310	SS315	SS320	Unit
Maximum Forward Voltage(Note 1)	Ta=25℃	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℃	VR= V_{RRM}	I_{RRM}	100		80	50		10		uA
	Ta=125℃	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℃ 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		℃
Storage temperature range	T_{STG}	-55 to 125			-55 to 150		-55 to 175		℃
Typical thermal resistance (Note 2)	$R_{\theta JA}$	60							℃/W
	$R_{\theta JC}$	20							℃/W

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

SS34 THRU SS320

SCHOTTKY RECTIFIERS

RATINGANDCHARACTERISTICCURVES

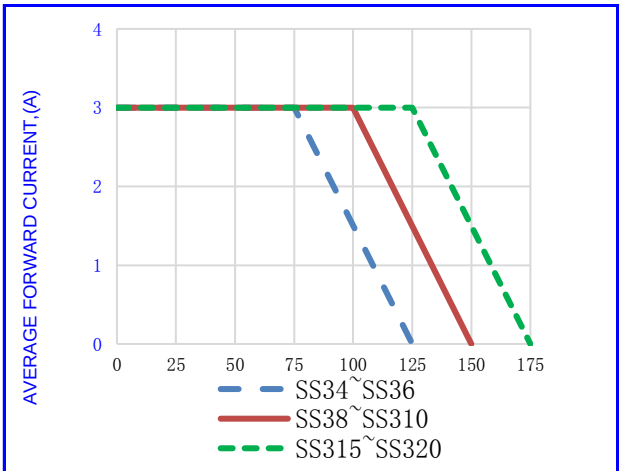


Fig.1-FORWARD CURRENT DERATING CURVE

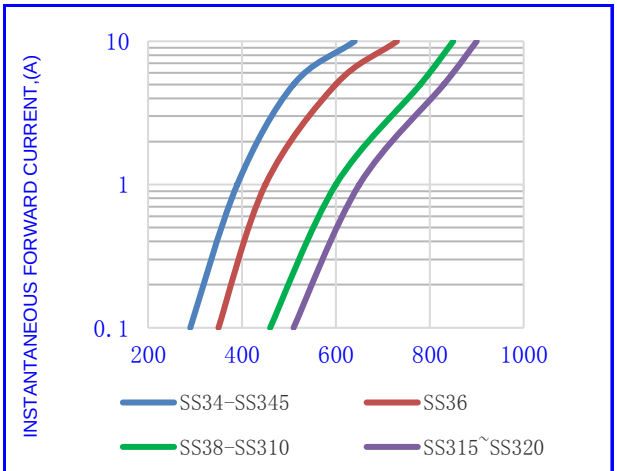


Fig.2- TYPICAL INSTANTANEOUS FORWARD

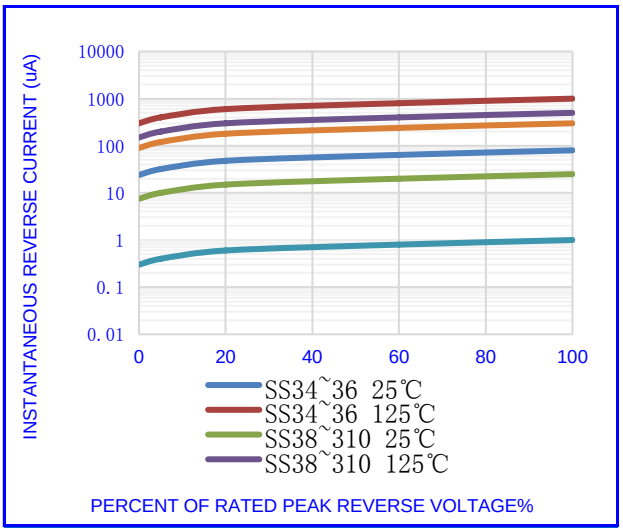


Fig.3- TYPICAL REVERSE CHARACTERISTICS

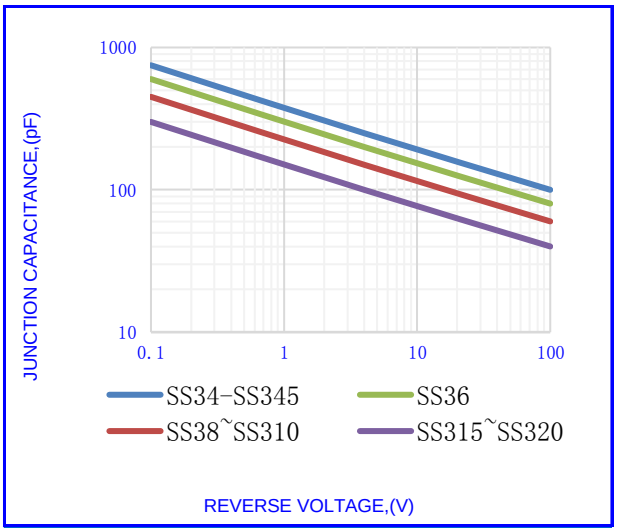


Fig.4-TYPICAL JUNCTION CAPACITANCE

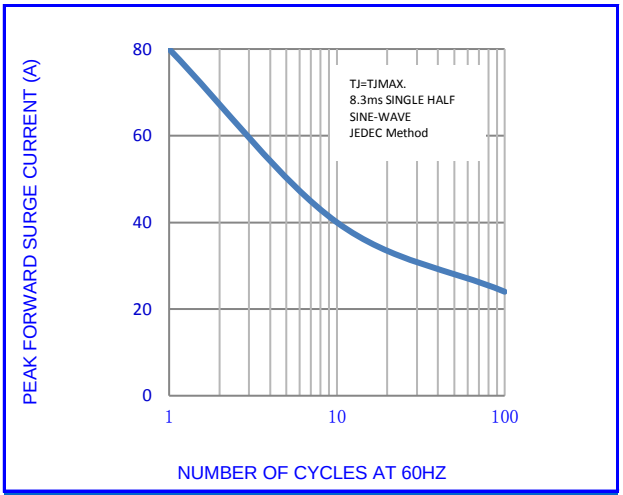


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

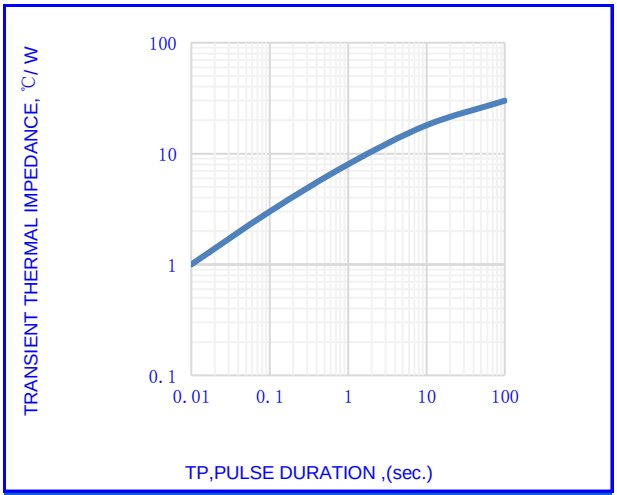


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

SS34 THRU SS320

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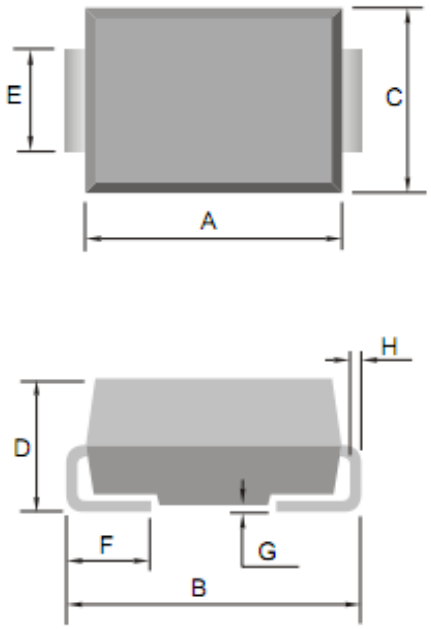
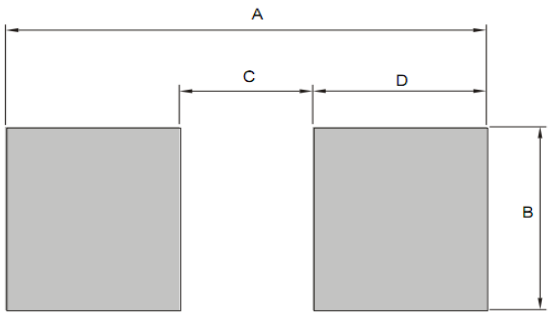
OUTLINE DRAWINGS — DO-214AA(SMB)



OUTLINE DIMENSIONS						
DIM	MILLIMETERS			INCHES		
	Min.	Typ.	Max.	Min.	Typ.	Max.
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

RECOMMEDNED LAYOUT DRAWINGS — DO-214AA(SMB)



RECOMMEDNED MOUNTING PAD DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
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 L×W×H(mm)	Quantity (pcs/Inner Box)	Carton Size L×W×H(mm)	Quantity (pcs/carton)
Tape Reel	Φ330	3000	340×340×45	6000	360×360×470	60000

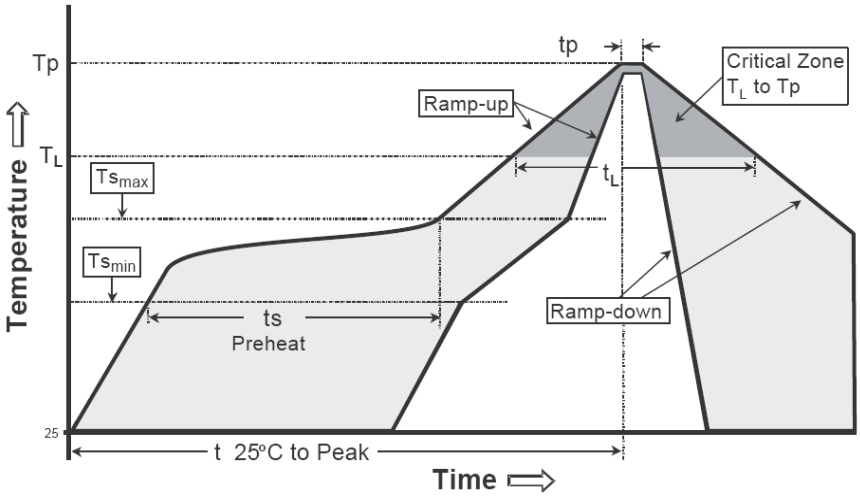
SS34 THRU SS320

SCHOTTKY RECTIFIERS

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.

SS34 THRU SS320

SCHOTTKY RECTIFIERS

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