

RABS208G

FAST RECOVERY BRIDGE RECTIFIERS



VOLTAGE: 800 Volts	CURRENT: 2.0 Amperes	ABS	Marking & Schematic diagram
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FEATURES

- Glass passivated die construction
- low forward voltage drop
- High surge current capability
- Good soft recovery features are good for EMC
- Plastic material-UL flammability 94V-0

MECHANICAL DATA

- **Case:** ABS
- **Terminals:** Plated Leads Solderable per MIL-STD-202, Method 208
- **Polarity:** As Marked on Case
- **Mounting Position:** Any
- **Lead Free:** For RoHS / Lead Free Version
- **Weight:** App. 0.1 grams (0.0035 ounce)

TYPICAL APPLICATIONS

- For use in switch power supply ,high frequency inverters , PD Charger applications

PIN	DISCRIPTION
1	Output Cathode(-)
2	Output Anode(+)
3	Input Pin(-)
4	Input Pin(-)

Remark:

- NH=niuhang trademark
- FF=Product line code,According to actual changes
YWW=Data code,According to actual changes
- RABS208G=Module
- "- "+"=Polarity mark

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

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

Parameter	Symbol	RABS208G	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	800	V
Maximum RMS Voltag	V_{RMS}	560	V
Maximum DC Blocking Voltage	V_{DC}	800	V
Maximum Average Forward Rectified Current @ TC=100°C (see fig.1)	$I_{F(AV)}$	2	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	70	A
Current Squared Time Per Diode(t<8.3ms)	I^2t	20.34	A ² sec

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

Parameter	Test Conditions	Symbol	RABS208G			Unit
			Min.	Typ.	Max.	
Maximum Forward Voltage Per Diode (Note 1)	Ta=25°C IF= 2.0 A	V_{FM}	--	--	1.0	V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 1)	Ta=25°C VR= 800 V Ta=125°C VR= 800 V	I_{RRM}	--	--	5 500	uA
Maximum Reverse Recovery Time (Note 3)	IF=0.5A, IR=1.0A, IRR=0.25A	T_{RR}	--	--	350	nS
Typical Junction Capacitance Per Diode	4V, 1MHz	C_J	--	40	--	pF

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

Parameter	Symbol	RABS208G	Unit
Operating Junction Temperature Range	T_J	-55 to 150	°C
Storage Temperature Range	T_{STD}	-55 to 150	°C
Typical thermal resistance (Note 2)	$R_{\theta JA}$	62.5	°C/W
	$R_{\theta JL}$	25.0	

- Notes:
- Pulse test: 300 μs pulse width, 1% duty cycle
 - Mounted on glass epoxy PC board with 4x1.5"x1.5" (3.81x3.81 cm) copper pad.

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RATING AND CHARACTERISTIC CURVES

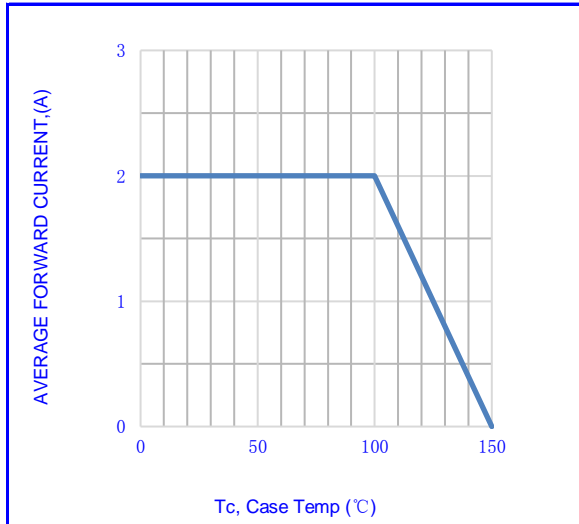


Fig.1-FORWARD CURRENT DERATING CURVE

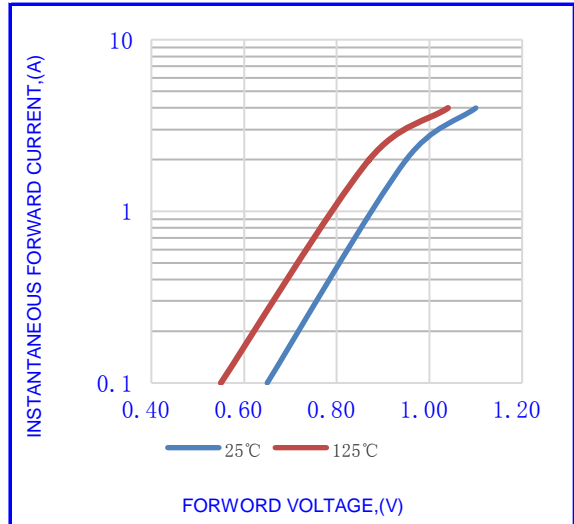


Fig.2- TYPICAL INSTANTANEOUS FORWARD

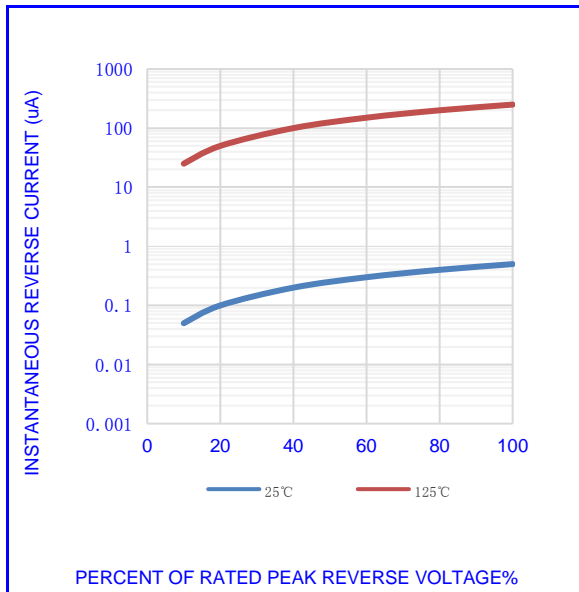


Fig.3- TYPICAL REVERSE CHARACTERISTICS

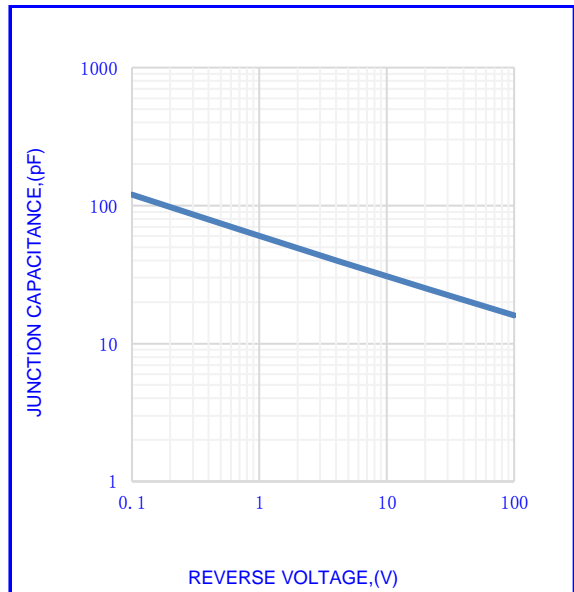


Fig.4- TYPICAL JUNCTION CAPACITANCE

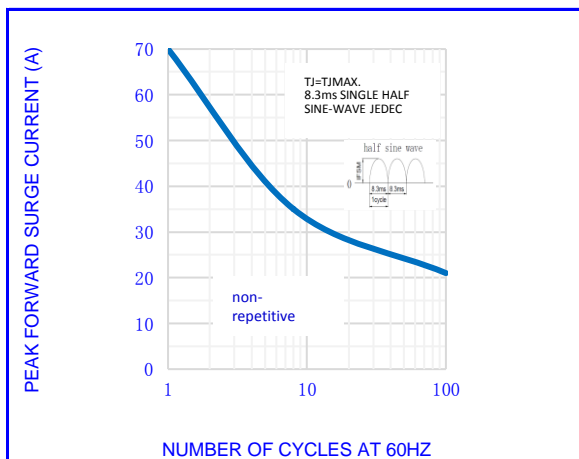


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

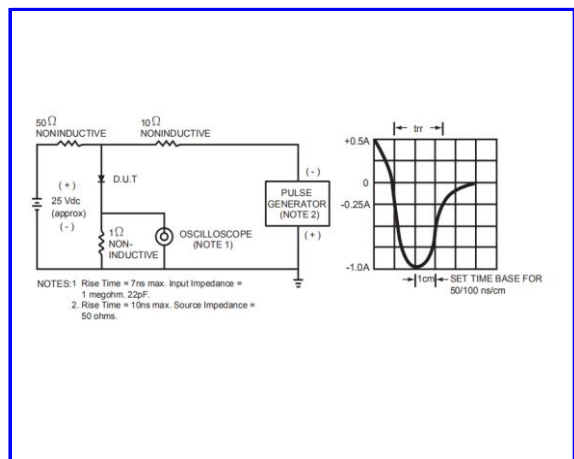


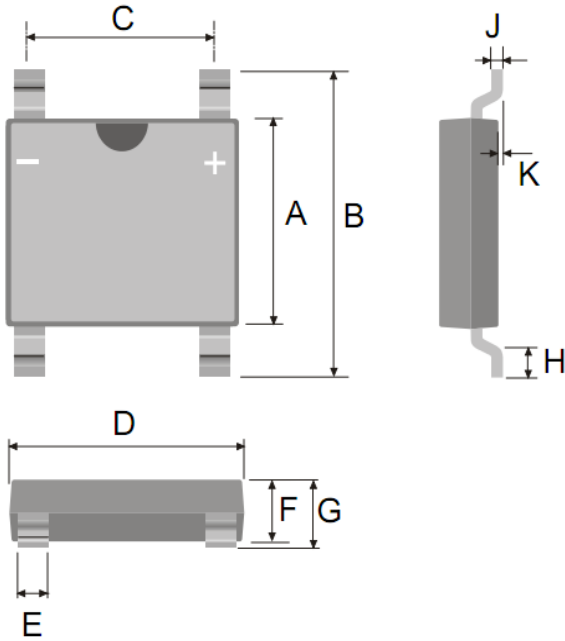
Fig.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

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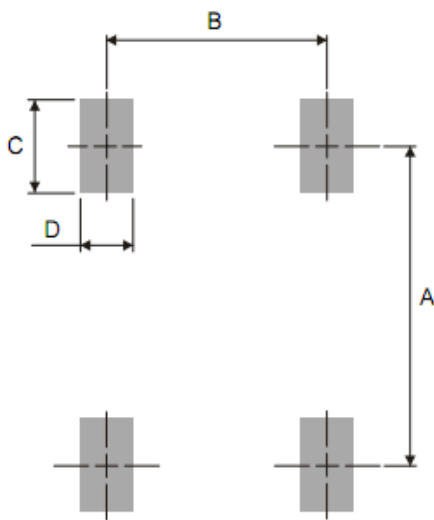
OUTLINE DRAWINGS



ABS

OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.300	-	4.500	0.169	-	0.177
B	6.000	-	6.500	0.236	-	0.252
C	3.800	-	4.400	0.150	-	0.173
D	4.900	-	5.400	0.193	-	0.213
E	0.550	-	0.850	0.022	-	0.033
F	1.220	-	1.450	0.048	-	0.056
G	-	-	1.500	-	-	0.059
H	0.300	-	0.800	0.012	-	0.031
J	0.150	-	0.250	0.006	-	0.010
K	0.030	-	0.150	0.001	-	0.006

RECOMMENDED LAYOUT DRAWINGS



ABS

RECOMMENDED LAYOUT DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	6.200	-	-	0.244	-
B	-	4.000	-	-	0.157	-
C	-	2.000	-	-	0.079	-
D	-	1.000	-	-	0.039	-

PACKING INFORMATION

ABS

Package Method	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size LxWxH(mm)	Quantity (pcs/Inner Box)	Outer Carton Size LxWxH(mm)	Quantity (pcs/carton)
Tape Reel	Φ330	5000	340x340x40	10000	360x360x260	60000

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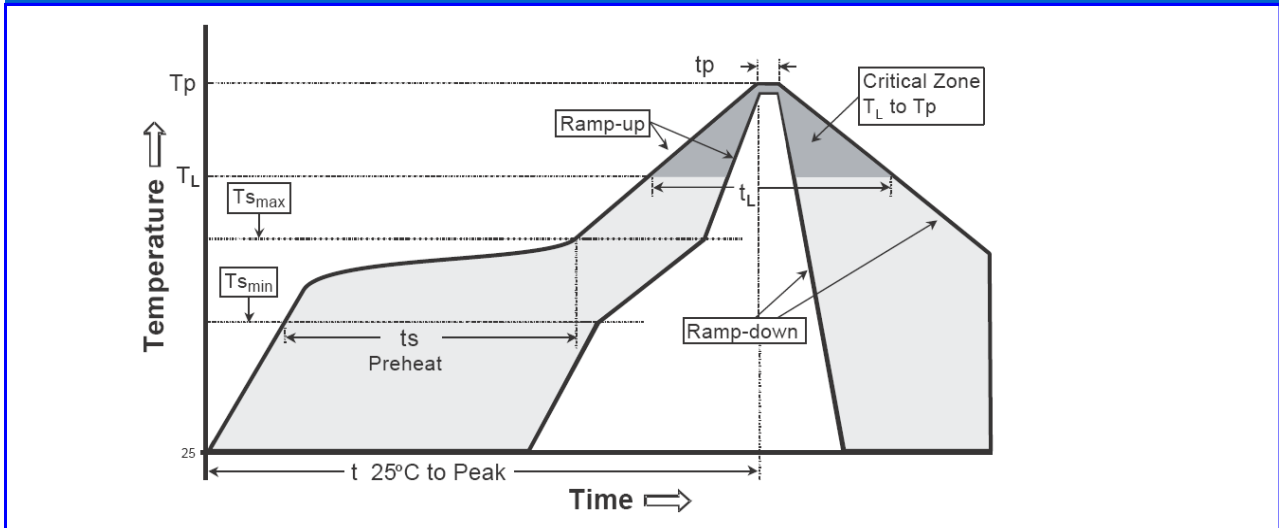
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Recommended wave soldering condition

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 (Tsmmax 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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