

DB107S

BRIDGE RECTIFIERS



VOLTAGE: 1000 Volts	CURRENT: 1.0 Amperes	DB-S	Marking & Schematic diagram
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FEATURES

- Glass passivated die construction
- low forward voltage drop
- High surge current capability
- Plastic material-UL flammability 94V-0

MECHANICAL DATA

- **Case:** DB-S
- **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. 0.339 grams (0.012 ounce)

TYPICAL APPLICATIONS

- For use in switch power supply ,high frequency inverters , PD power supply 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
- DB107S=Modle
- "- + ~ -"=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	DB107S	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1000	V
Maximum RMS Voltag	V_{RMS}	700	V
Maximum DC Blocking Voltage	V_{DC}	1000	V
Maximum Average Forward Rectified Current @ TC=100°C (see fig.1)	$I_{F(AV)}$	1	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	30	A
Current Squared Time Per Diode($t < 8.3ms$)	I^2t	3.74	A ² sec

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

Parameter	Test Conditions		Symbol	DB107S			Unit
				Min.	Typ.	Max.	
Maximum Forward Voltage Per Diode (Note 1)	Ta=25°C	IF= 1.0 A	V_{FM}	--	--	1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 1)	Ta=25°C	VR= 1000 V	I_{RRM}	--	--	5	uA
	Ta=125°C	VR= 1000 V		--	--	300	
Typical Junction Capacitance Per Diode	4V,1MHz		C_J	--	25	--	pF

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

Parameter	Symbol	DB107S	Unit
Operating Junction Temperature Range	T_J	-55 to 150	°C
Storage Temperature Range	T_{STD}	-55 to 150	
Typical thermal resistance (Note 2)	$R_{\theta JA}$	40	°C/W
	$R_{\theta JL}$	15	

- Notes:
- Pulse test: 300 μs pulse width,1% duty cycle
 - Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad.

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RATING AND CHARACTERISTIC CURVES

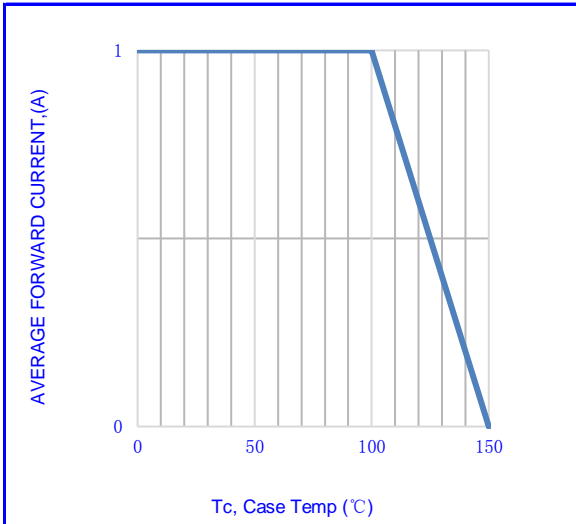


Fig.1-FORWARD CURRENT DERATING CURVE

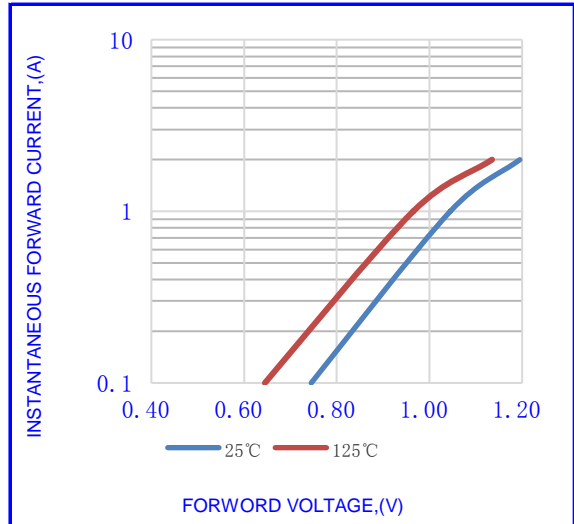


Fig.2- TYPICAL INSTANTANEOUS FORWARD

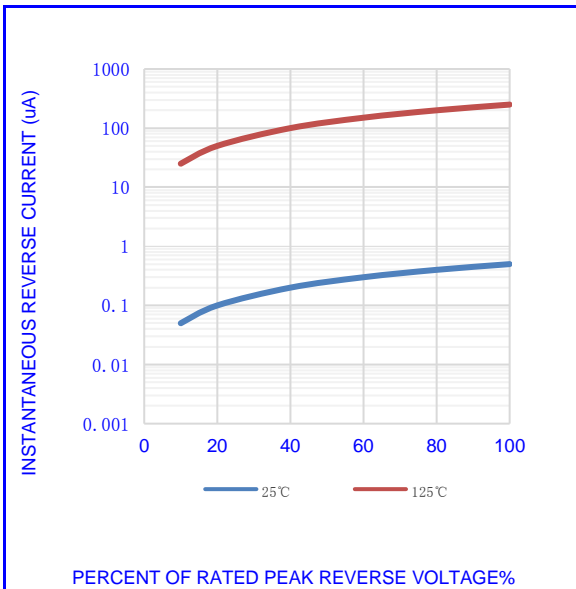


Fig.3- TYPICAL REVERSE CHARACTERISTICS

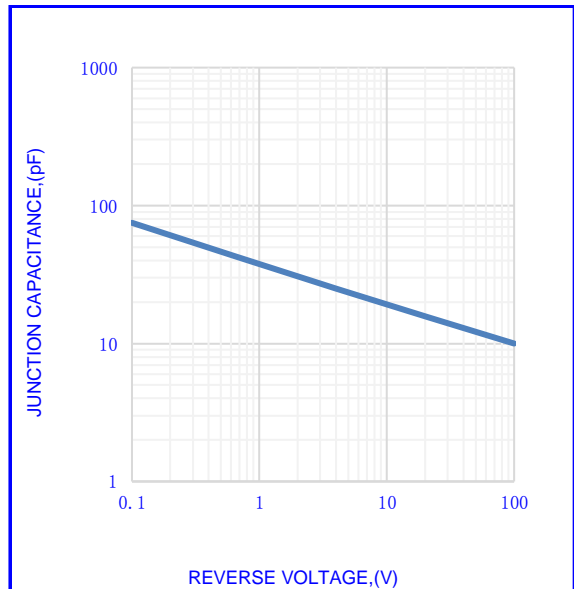


Fig.4- TYPICAL JUNCTION CAPACITANCE

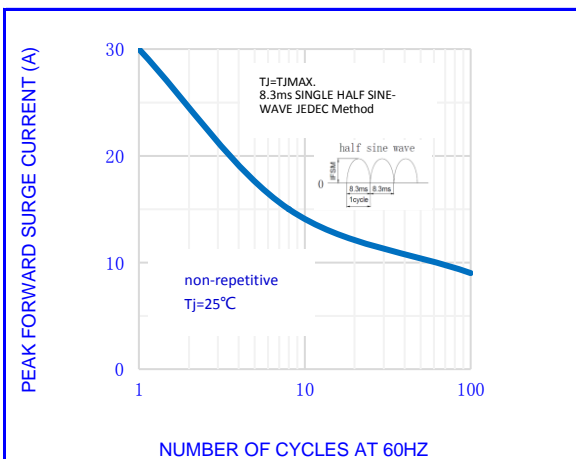
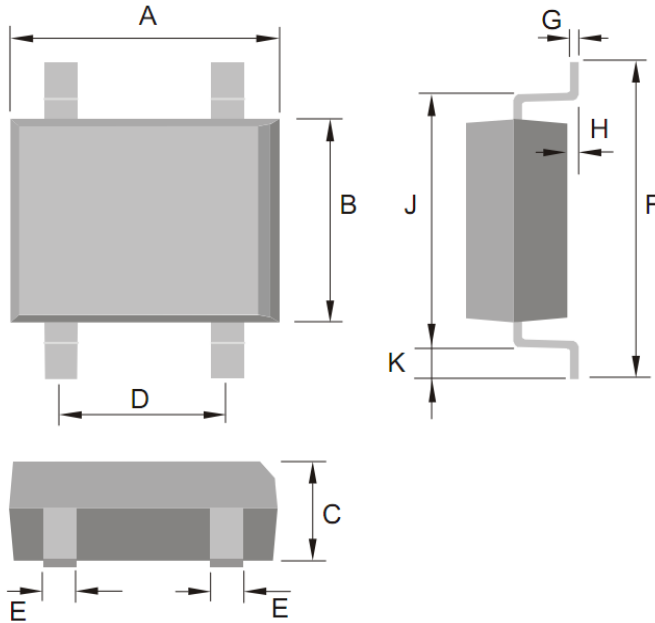


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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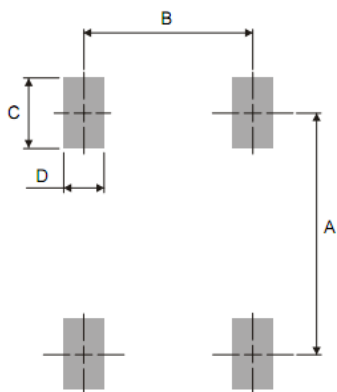
OUTLINE DRAWINGS



DB-S

OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	8.100	-	8.500	0.319	-	0.335
B	6.200	-	6.500	0.244	-	0.256
C	3.200	-	3.500	0.126	-	0.138
D	5.000	-	5.200	0.197	-	0.205
E	0.900	-	1.150	0.035	-	0.045
F	9.400	-	10.400	0.370	-	0.409
G	-	0.250	-	-	0.010	-
H	0.050	-	0.350	0.002	-	0.014
J	7.400	-	7.900	0.291	-	0.311
K	1.016	-	1.524	0.001	-	0.060

RECOMMENDED LAYOUT DRAWINGS



DB-S

RECOMMENDED LAYOUT DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	8.730	-	-	0.344	-
B	-	5.120	-	-	0.202	-
C	-	2.220	-	-	0.087	-
D	-	1.200	-	-	0.047	-

PACKING INFORMATION

DB-S

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	1500	340x340x40	3000	360x360x260	18000

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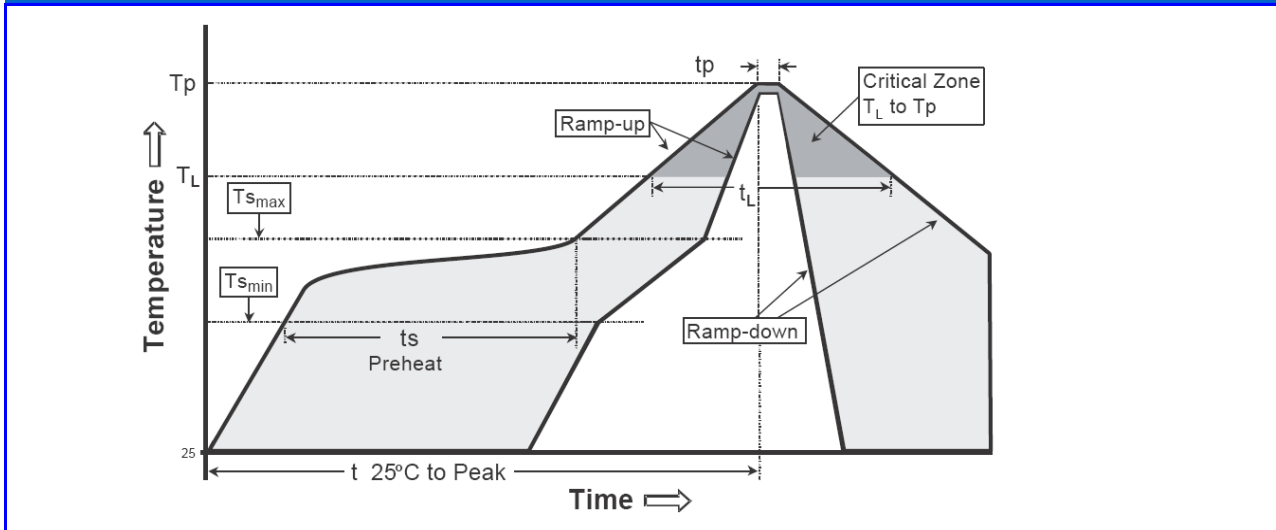
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Recommended wave soldering condition

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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