

DB107
BRIDGE RECTIFIERS



VOLTAGE: 1000 Volts

CURRENT: 1.0 Amperes

DB-1

Marking & Schematic diagram

FEATURES

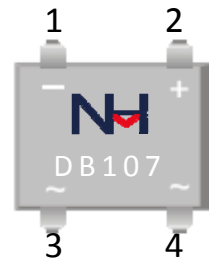
- Glass passivated die construction
- low forward voltage drop
- High surge current capability
- Plastic material-UL flammability 94V-0

MECHANICAL DATA

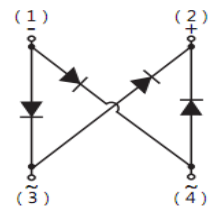
- **Case:** DB-1
- **Terminals:** Plated Leads Solderable per MIL-STD-202, Method 208
- **Polarity:** As Marked on Case
- **Mounting Position:** Any
- **Lead Free:** For RoHS / Lead Free Version
- **Weight:** App. 0.349 grams

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:

- ①. NH=niuhang trademark
- ②. DB107=Modle
- ③. "- + ~ ~"=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	DB107	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}	50	A
Current Squared Time Per Diode(t<8.3ms)	I^2t	10.38	A ² sec

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

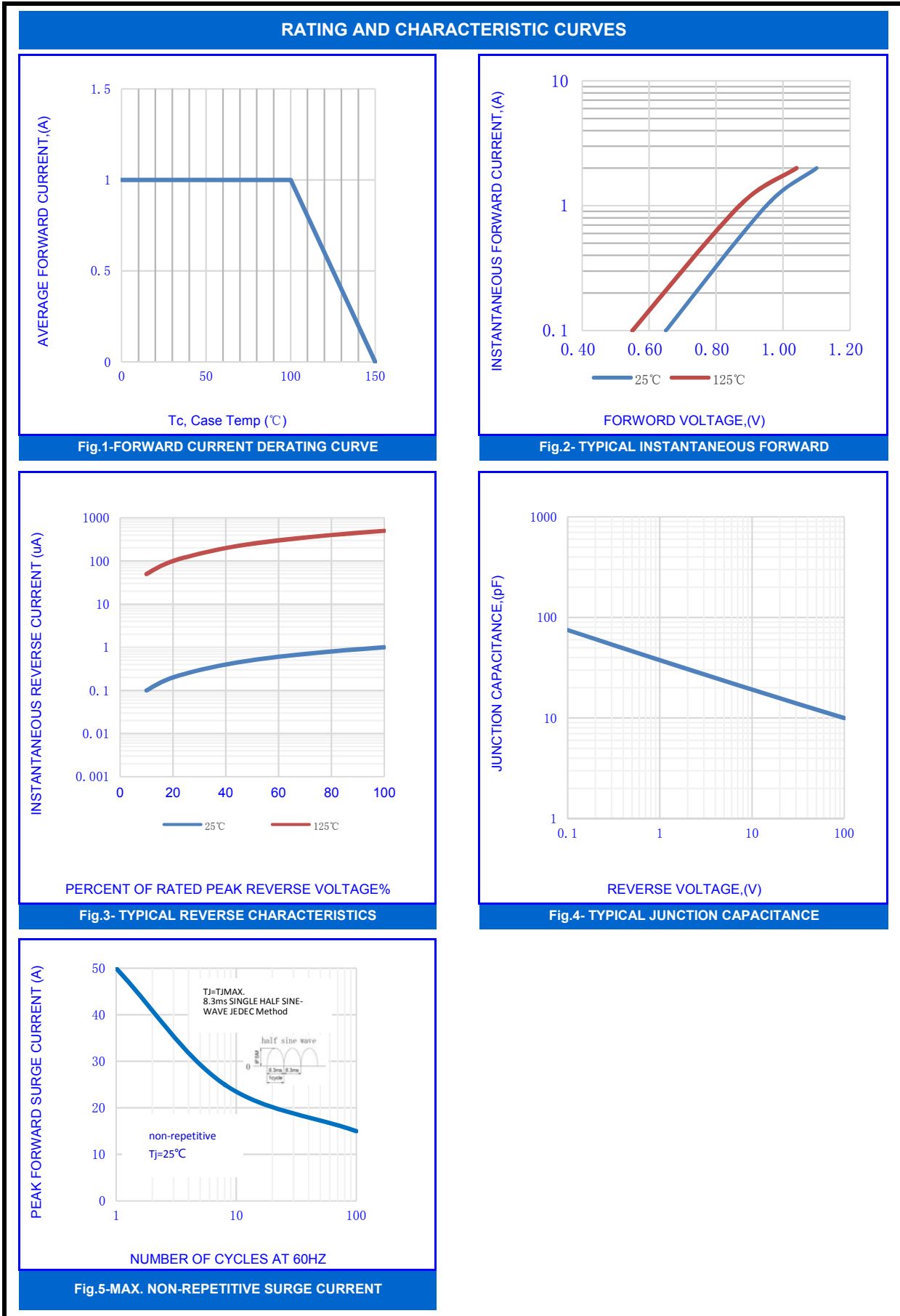
Parameter	Test Conditions		Symbol	DB107			Unit
				Min.	Typ.	Max.	
Maximum Forward Voltage Per Diode (Note 1)	Ta=25°C	IF= 1.0 A	V_{FM}	--	--	1.0	V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 1)	Ta=25°C	VR= 800 V	I_{RRM}	--	--	10	uA
	Ta=125°C	VR= 800 V		--	--	500	
Typical Junction Capacitance Per Diode	4V,1MHz		C_J	--	25	--	pF

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

Parameter	Symbol	DB107	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:
1. Pulse test: 300 μs pulse width,1% duty cycle
 2. Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad.

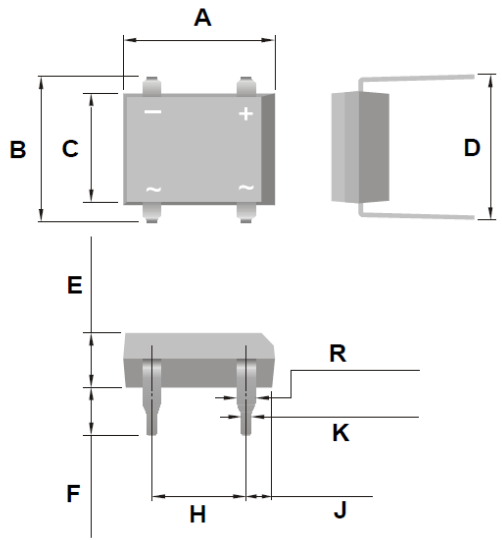
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OUTLINE DRAWINGS



DB-1

OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	8.000	-	8.400	0.315	-	0.331
B	7.200	-	8.000	0.283	-	0.315
C	6.000	-	6.800	0.236	-	0.268
D	-	7.700	-	-	0.303	-
E	2.300	-	2.900	0.091	-	0.114
F	4.000	-	5.000	0.157	-	0.197
H	4.200	-	4.900	0.165	-	0.193
R	0.900	-	1.200	0.035	-	0.047
K	0.400	-	0.700	0.016	-	0.028
J	-	1.600	-	-	0.063	-

Packing Information

Package Code	Package Method	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton SizeL×W×H(mm)	Quantity(box)	Quantity (pcs/carton)
DB-1	P/T	460×150×70	2500	480×230×175		12500

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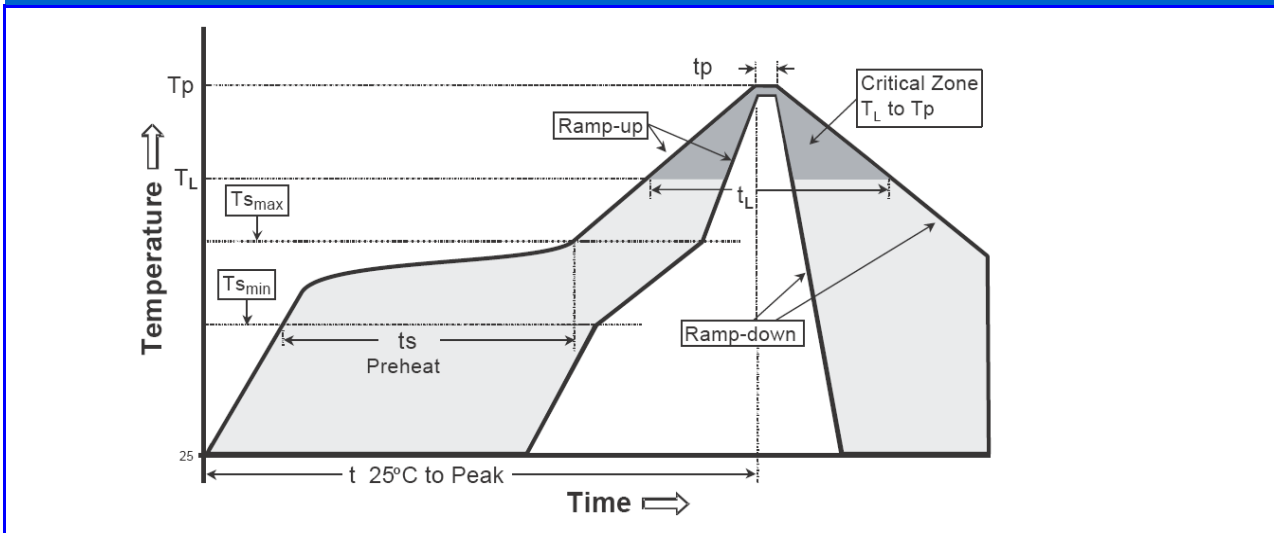
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Recommended wave soldering condition

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 (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(ts min to ts 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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