

TT8M
BRIDGE RECTIFIERS



VOLTAGE: 1000 Volts	CURRENT: 8.0 Amperes	HBS	Marking & Schematic diagram
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FEATURES

- Glass passivated die construction
- low forward voltage drop
- High surge current capability(IFSM)
- Small high-temperature leakage current(IR)
- Good consistency in electrical performance

MECHANICAL DATA

- **Case:** HBS
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Mounting Position:** Any
- **Weight:** App. 0.440 grams(0.0155ounce)

TYPICAL APPLICATIONS

- Applied to high-frequency power converters such as PD chargers and adapters

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
EDD=Inernal code,According to actual changes
- TT8M=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	TT8M	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)	$I_{F(AV)}$	8.0	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	160	A
Current Squared Time Per Diode(t<8.3ms)	$I^2 t$	106	A ² sec

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

Parameter	Test Conditions	Symbol	TT8M			Unit
			Min.	Typ.	Max.	
Maximum Forward Voltage Per Diode (Note 1)	Ta=25°C IF= 4.0 A	V_{FM}	--	0.92	1.0	V
	Ta=125°C IF= 4.0 A		--	0.84	0.98	
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 1)	Ta=25°C VR= 1000 V	I_{RRM}	--	1	5	uA
	Ta=125°C VR= 800 V		--	200	500	
Typical Junction Capacitance Per Diode	4V,1MHz	C_J	50			pF

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

Parameter	Symbol	TT8M		Unit
Operating Junction Temperature Range	T_J	-55	to 150	°C
Storage Temperature Range	T_{STD}	-55	to 150	
Typical thermal resistance (Note 2)	$R_{\theta JA}$	70.0		°C/W
	$R_{\theta JC}$	10.0		

Notes: 1. Pulse test: 300 μs pulse width, 1% duty cycle

2. Device mounted on Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

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RATING AND CHARACTERISTIC CURVES

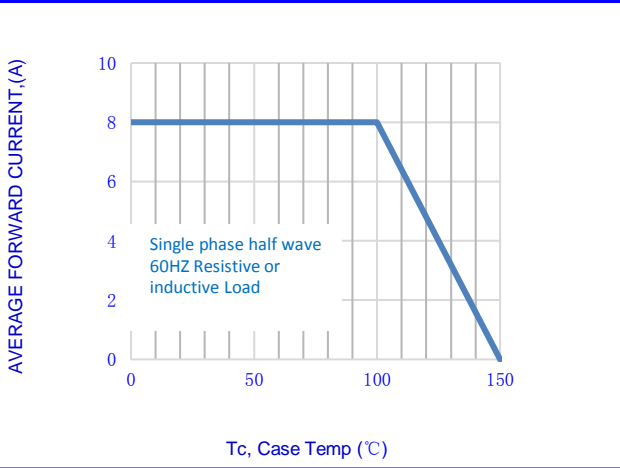


Fig.1-FORWARD CURRENT DERATING CURVE

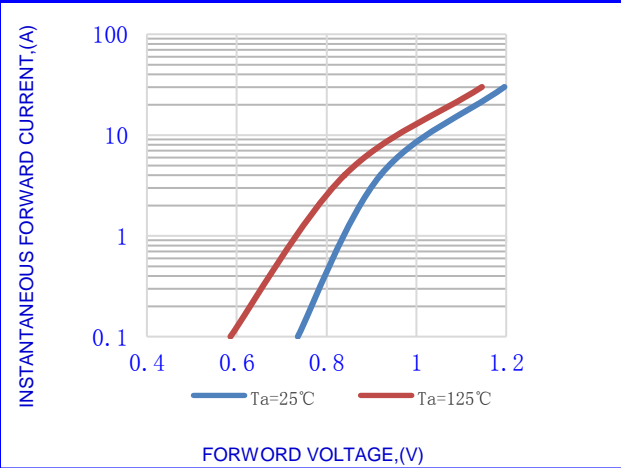


Fig.2- TYPICAL INSTANTANEOUS FORWARD

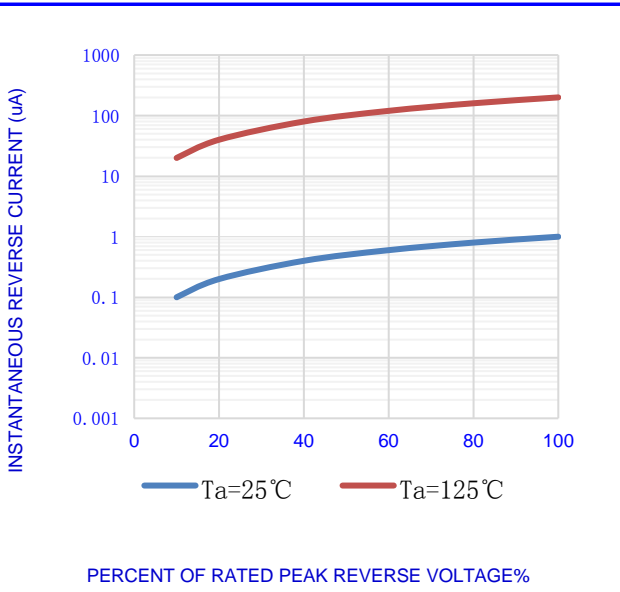


Fig.3- TYPICAL REVERSE CHARACTERISTICS

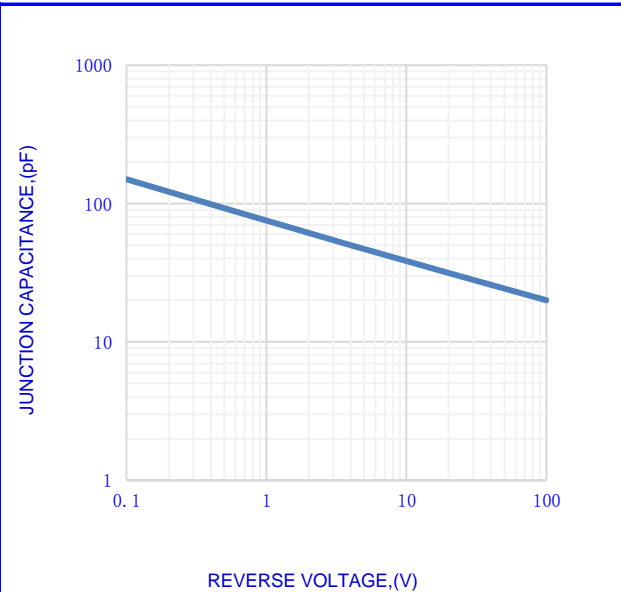


Fig.4- TYPICAL JUNCTION CAPACITANCE

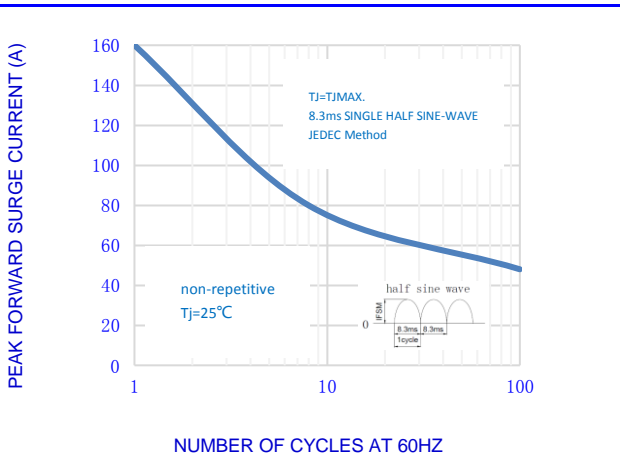
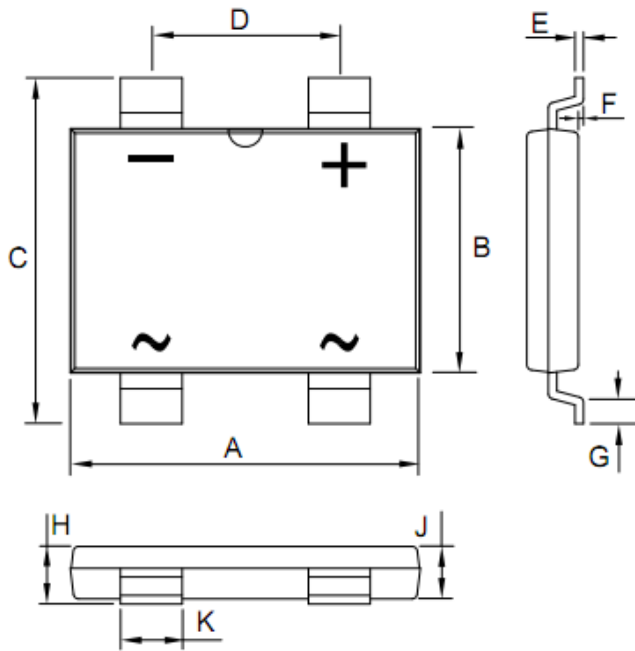


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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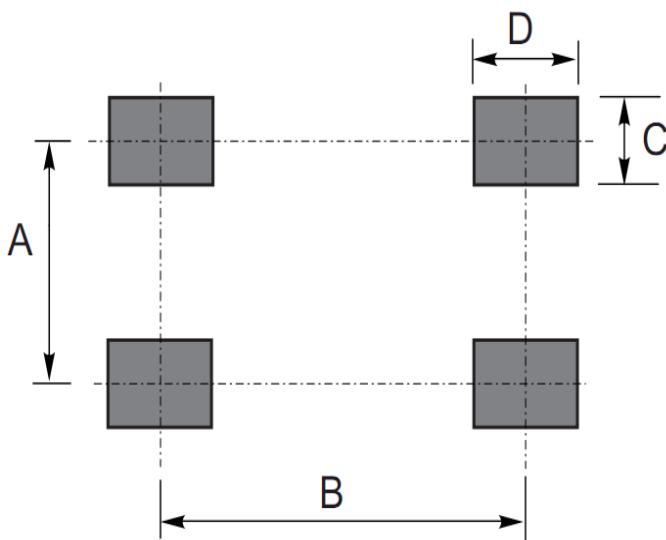
OUTLINE DRAWINGS



HBS

OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	10.000	-	10.400	0.394	-	0.409
B	6.850	-	7.150	0.270	-	0.281
C	9.750	-	10.050	0.384	-	0.396
D	5.200	-	5.600	0.205	-	0.220
E	0.150	-	0.350	0.006	-	0.014
F	0.000	-	0.200	0.000	-	0.008
G	0.450	-	0.950	0.018	-	0.037
H	1.450	-	1.800	0.057	-	0.071
J	1.450	-	1.650	0.057	-	0.065
K	1.700	-	1.900	0.067	-	0.075

RECOMMENDED LAYOUT DRAWINGS



HBS

RECOMMENDED LAYOUT DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	8.920	-	-	0.351	-
B	-	4.500	-	-	0.177	-
C	-	1.500	-	-	0.059	-
D	-	2.000	-	-	0.079	-

PACKING INFORMATION

HBS

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	2500	340x340x45	5000	360x360x240	25000

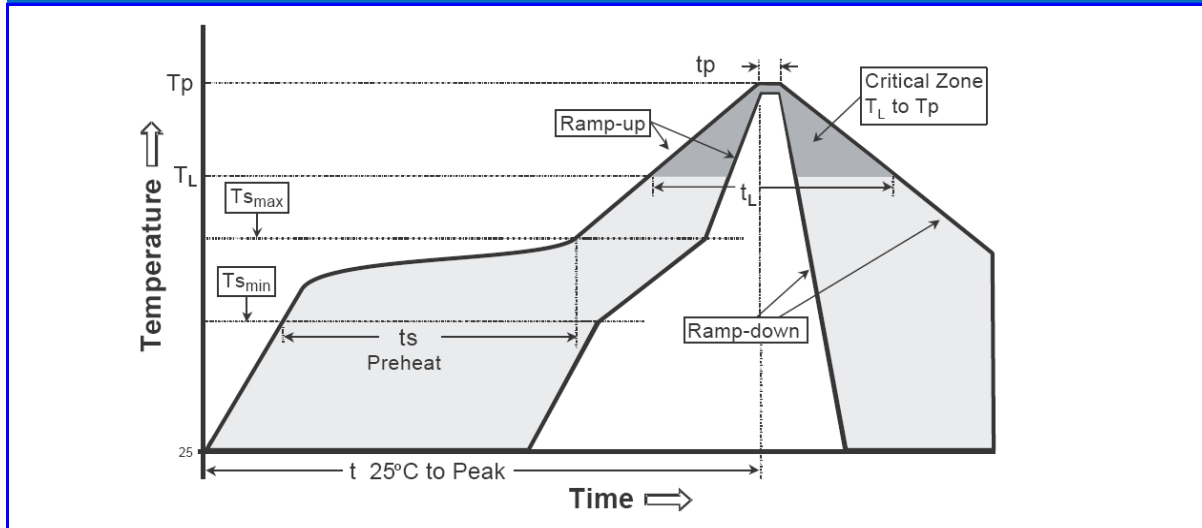
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Recommended wave soldering condition

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(t _{s min} to t _{s 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(t _p)	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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