ABS2 THRU ABS10

BRIDGE RECTIFIERS

VOLTAGE: 200-1000 Volts **CURRENT:** 1.0 Ampers

FEATURES

- Glass passivated die construction
- low forward voltage drop
- High surge current capability
- 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

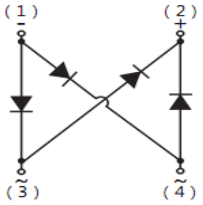
- For use in switch power supply ,high frequency inverters ,

  PD power supply applications

ABS

Marking & Schematic diagram

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



Remark:

①. NH=niuhang trademark

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

YWW=Data code,According to actual changes

③. ABSx=Modle;X=2,4,6,8,10

④. "- +"=Polarity mark

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

Maximum Ratings (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	ABS2	ABS4	ABS6	ABS8	ABS10	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS Voltag	V_{RMS}	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	200	400	600	800	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}	35					A
Current Squared Time Per Diode(t<8.3ms)	I^2t	5.08					A^2sec

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

Parameter	Test Conditions	Symbol	ABS2			Unit
			Min.	Typ.	Max.	
Maximum Forward Voltage Per Diode (Note 1)	Ta=25℃ IF= 1.0 A	V_{FM}	--	0.93	1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 1)	Ta=25℃ VR= V_{RRM}	I_{RRM}	--	1	5	uA
	Ta=125℃ VR= 80%*V_{RRM}		--	50	300	
Typical Junction Capacitance Per Diode	4V,1MHz	C_J	--	150	--	pF

Thermal Characteristcs (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	ABS2	Unit
Operating Junction Temperature Range	T_J	-55 to 150	℃
Storage Temperature Range	T_{STD}	-55 to 150	℃
Typical thermal resistance (Note 2)	$R_{\theta JA}$	62.5	℃/W
	$R_{\theta JL}$	25.0	

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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RATING AND CHARACTERISTIC CURVES

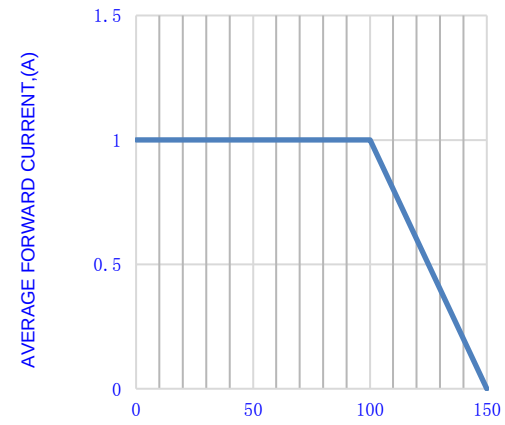

Fig.1-FORWARD CURRENT DERATING CURVE

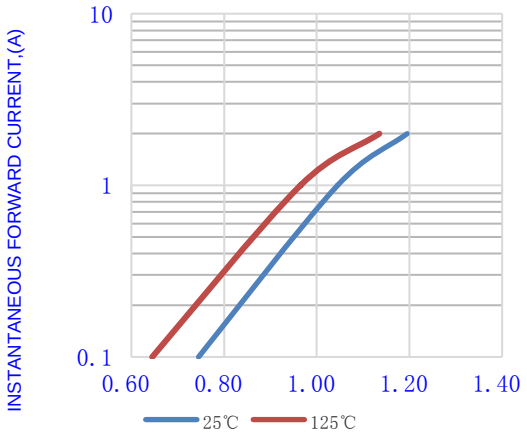

Fig.2- TYPICAL INSTANTANEOUS FORWARD

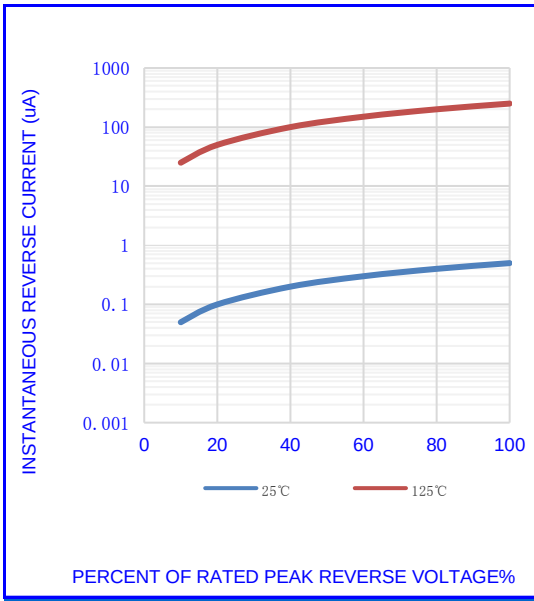

Fig.3- TYPICAL REVERSE CHARACTERISTICS

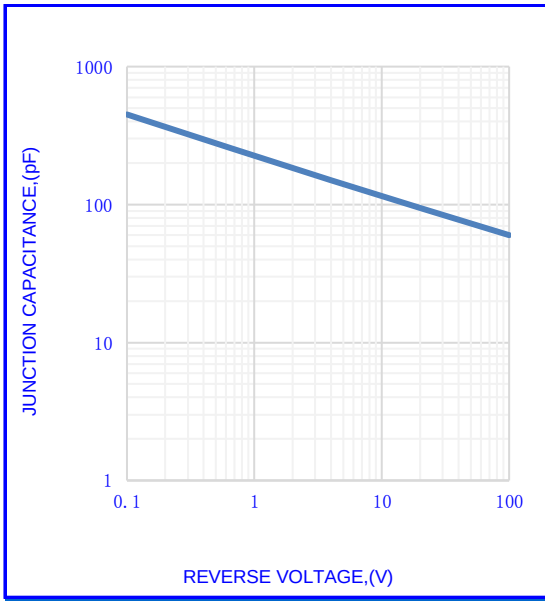

Fig.4- TYPICAL JUNCTION CAPACITANCE

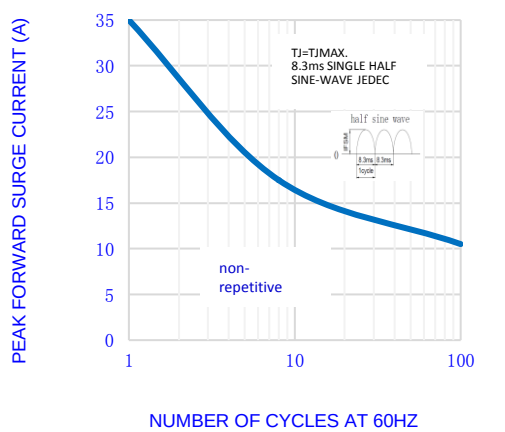

Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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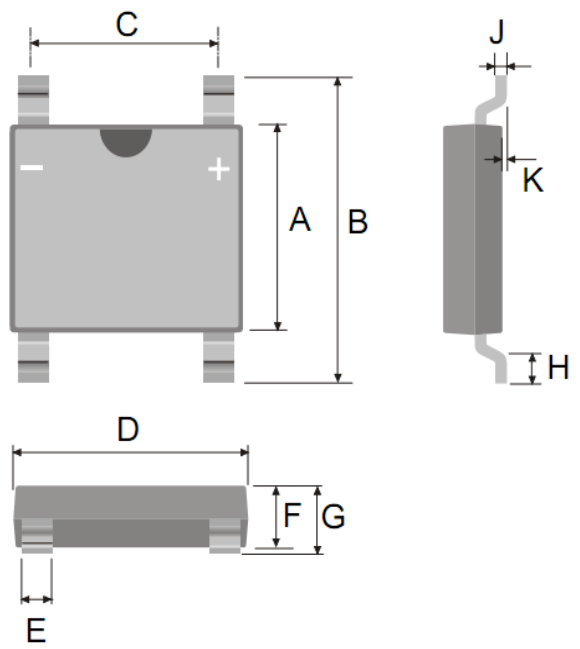
OUTLINE DRAWINGS



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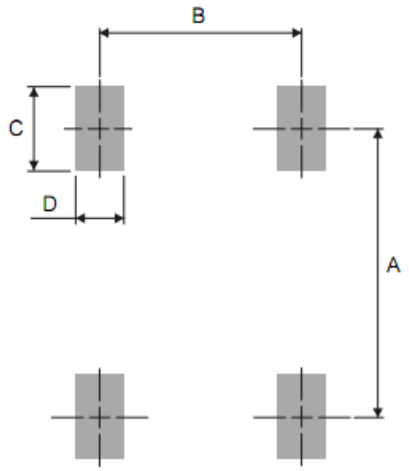
OUTLINE DIMENSIONS

Dim.	Milimeters			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

RECOMMEDNED LAYOUT DRAWINGS



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RECOMMENDED LAYOUT DIMENSIONS

Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	6.200	-	-	0.244	-
B	-	4.000	-	-	0.157	-
C	-	2.000	-	-	0.079	-
C	-	1.000	-	-	0.039	-

PACKING INFORMATION

ABS

Package Method	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size L×W×H(mm)	Quantity (pcs/Inner Box)	Outer Carton Size L×W×H(mm)	Quantity (pcs/carton)
Tape Reel	Φ330	5000	340×340×40	10000	360×360×260	60000

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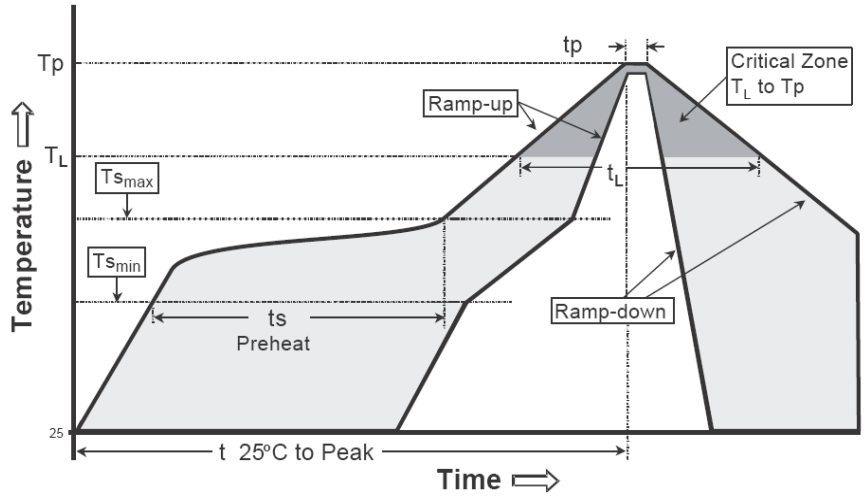
Recommended wave soldering condition

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 (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.

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