

YBS3010
BRIDGE RECTIFIERS



VOLTAGE: 1000 Volts	CURRENT: 3.0 Amperes	TMBF	Marking & Schematic diagram										
FEATURES		<table border="1"> <thead> <tr> <th>PIN</th> <th>DISCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output Cathode(-)</td> </tr> <tr> <td>2</td> <td>Output Anode(+)</td> </tr> <tr> <td>3</td> <td>Input Pin(-)</td> </tr> <tr> <td>4</td> <td>Input Pin(-)</td> </tr> </tbody> </table>		PIN	DISCRIPTION	1	Output Cathode(-)	2	Output Anode(+)	3	Input Pin(-)	4	Input Pin(-)
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<ul style="list-style-type: none"> ■ Glass passivated die construction ■ low forward voltage drop ■ High surge current capability ■ Plastic material-UL flammability 94V-0 													
MECHANICAL DATA													
<ul style="list-style-type: none"> ■ Case: TMBF ■ 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. 0.225 grams (0.0079 ounce) 													
TYPICAL APPLICATIONS		<p>Remark:</p> <ul style="list-style-type: none"> ①. NH=niuhang trademark ②. FF=Product line code,According to actual changes YWW=Data code,According to actual changes ③. EDD=Inernal code,According to actual changes ④. YBS3010=Modle ⑤. "- + ~ ~"=Polarity mark 											
<ul style="list-style-type: none"> ■ For use in switch power supply ,high frequency inverters , PD Charger applications 													

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	YBS3010	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)	$I_{F(AV)}$	3	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	95	A
Current Squared Time Per Diode(t<8.3ms)	I^2t	37.45	A ² sec

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

Parameter	Test Conditions	Symbol	YBS3010			Unit
			Min.	Typ.	Max.	
Maximum Forward Voltage Per Diode (Note 1)	Ta=25°C IF= 3.0 A	V_{FM}	--	--	1.05	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	--	50	--	pF

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

Parameter	Symbol	YBS3010	Unit
Operating Junction Temperature Range	T_J	-55 to 150	°C
Storage Temperature Range	T_{STD}	-55 to 150	
Typical thermal resistance (Note 2)	$R_{\theta JA}$	60	°C/W
	$R_{\theta JC}$	15	

- Notes:
1. Pulse test: 300 μs pulse width, 1% duty cycle
 2. 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

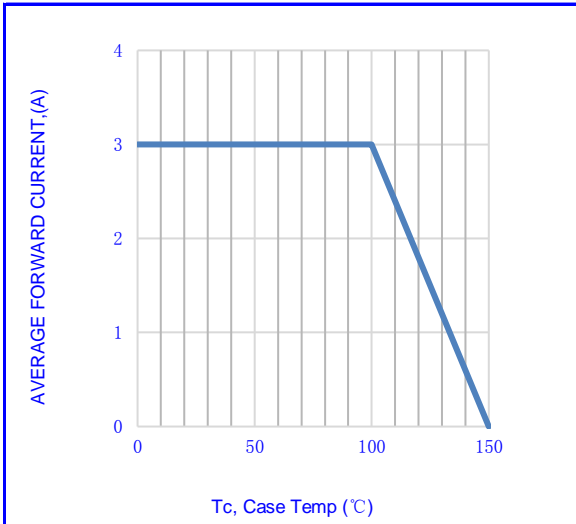


Fig.1-FORWARD CURRENT DERATING CURVE

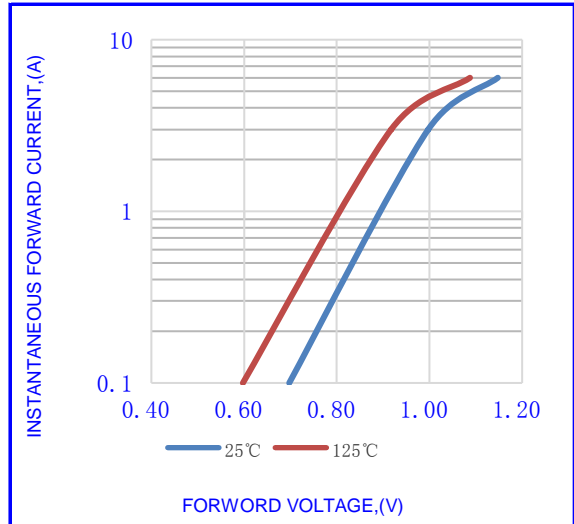


Fig.2- TYPICAL INSTANTANEOUS FORWARD

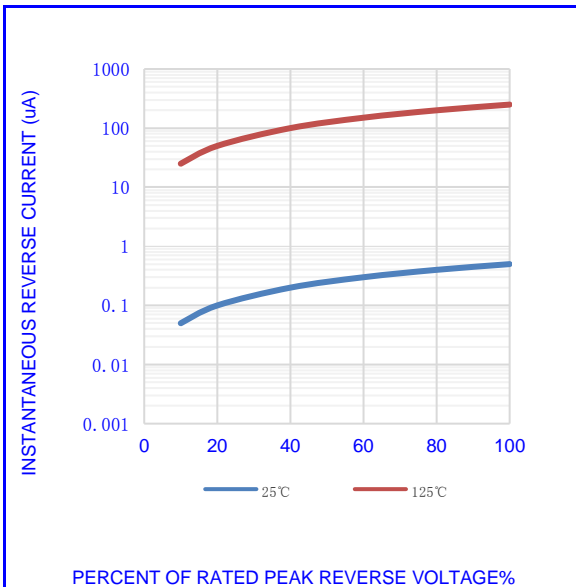


Fig.3- TYPICAL REVERSE CHARACTERISTICS

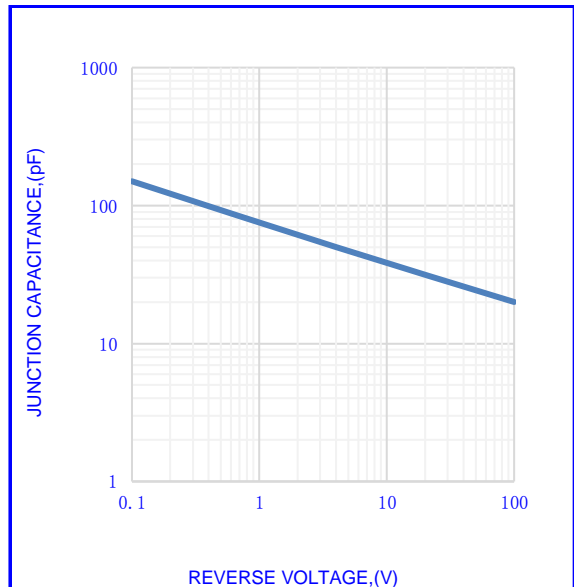


Fig.4- TYPICAL JUNCTION CAPACITANCE

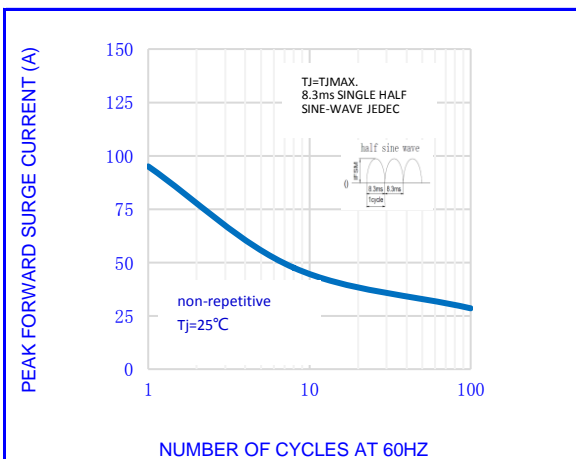


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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PACKING INFORMATION				TMBF		
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	3000	340x340x45	6000	360x360x240	30000

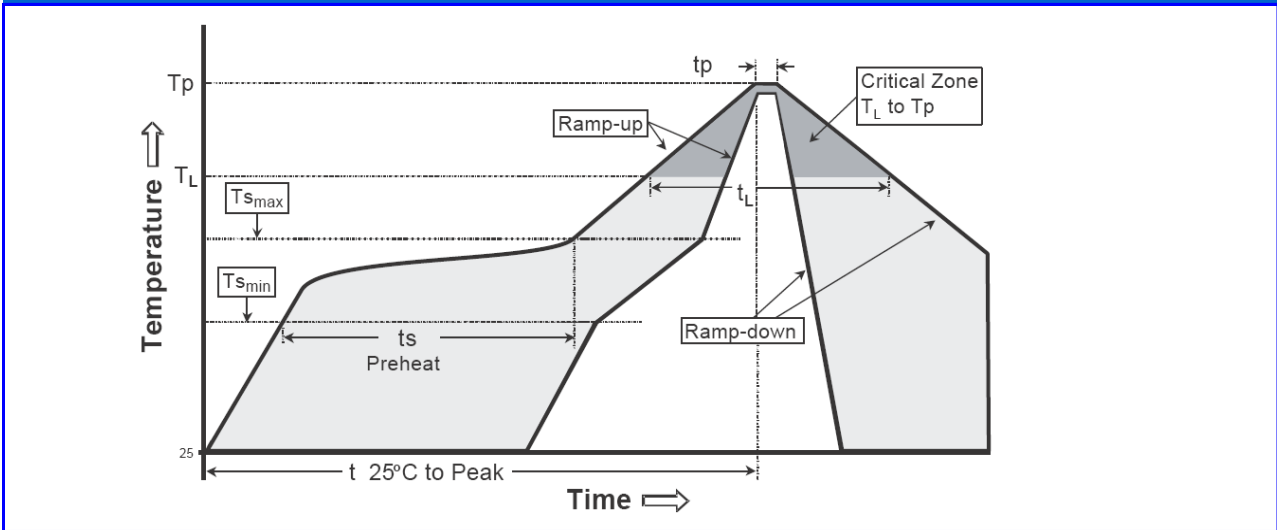
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Recommended wave soldering condition

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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