

RYBS4006 THRU RYBS4010

FAST RECOVERY BRIDGE RECTIFIERS



VOLTAGE 600~1000 Volts **CURRENT** 4.0 Amperes

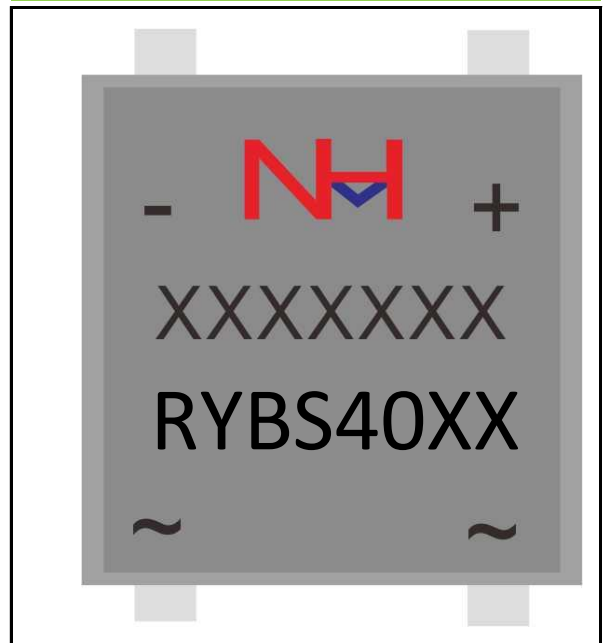
Marking

FEATURES

- Glass passivated junction.
- Ideal for printed circuit board.
- Reliable low cost construction utilizing molded plastic technique.
- High surge current capability.
- High temperature soldering guaranteed:
260°C/10 seconds at terminals.
- Improved circuit EMI

MECHANICAL DATA

- Case: Molded plastic, TMBF
- Epoxy: UL 94V-O rate flame retardant
- Terminals: Leads solderable per MIL-STD-202,method 208 guaranteed
- Mounting position: Any
- Weight: 0.204g (approximately)



Maximum Ratings and electrical characteristics(TA=25°C Unless otherwise noted)

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60HZ. For Capacitive load derate by 20%.

Type Number	Symbol	RYBS4006	RYBS4008	RYBS4010	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	600	800	1000	V
Maximum Average Rectified Output Current @50℃ Ambient	$I_{(AV)}$	4.0			A
Peak One Surge Current Overload Current	I_{FSM}	125			A
Rating for fusig (t<8.3ms)	I^2t	64.84			A²sec
Maximum Instantaneous Forward Voltage @3.0A (Note 1)	V_F	1.3			V
Maximum DC Reverse Current @ TA=25℃ at Rated DC Blocking Voltage (Note 2) @ TA=125℃	I_R	5 500			uA
Maximum Reverse Recovery Time (Note 3)	T_{RR}	250	500		ns
Typical junction capacitance (Note 4)	C_J	45			pF
Operating Temperature Range	T_J	150			℃
Storage Temperature Range	T_{STG}	-55 to +150			

- Note:
1. Pulse test: 300 μs pulse width, 1% duty cycle
 2. Pulse test: pulse width ≤ 40ms
 3. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
 4. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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RATING AND CHARACTERISTIC CURVES

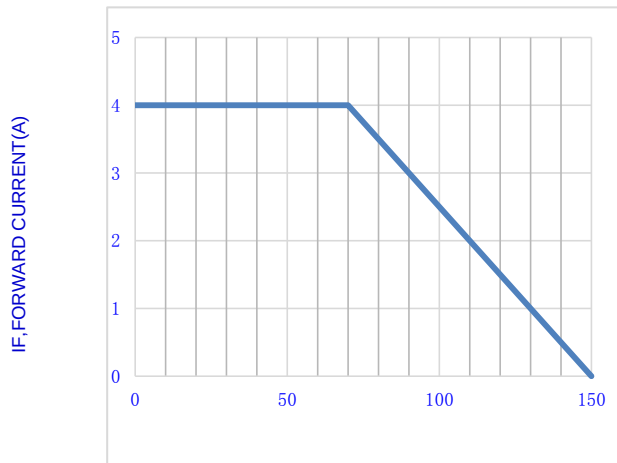


Fig.1-FORWARD CURRENT DERATING CURVE

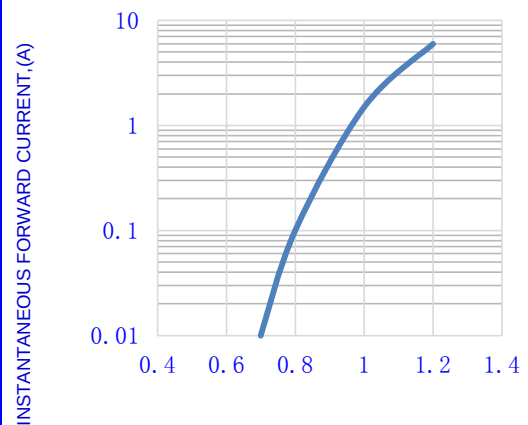


Fig.2- TYPEICAL FORWARD CHARACTERISTICS

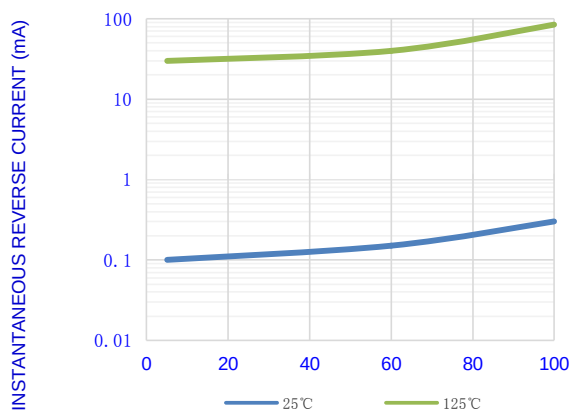


Fig.3- TYPICAL REVERSE CHARACTERISTICS

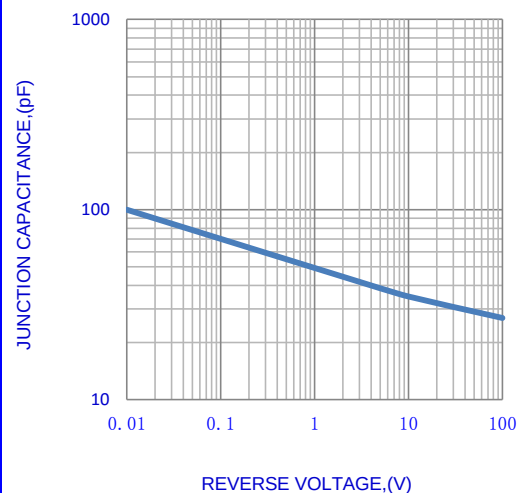


Fig.4- TYPICAL JUNCTION CAPACITANCE

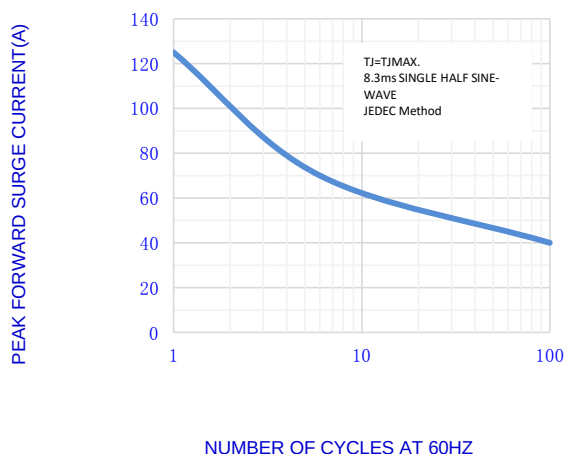


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

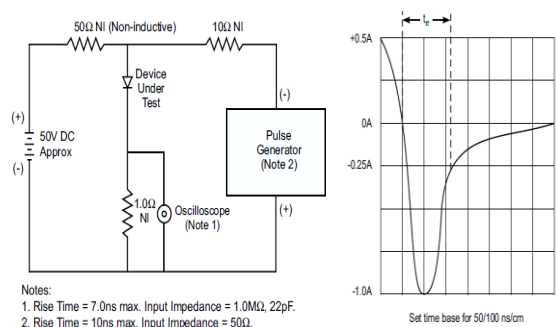


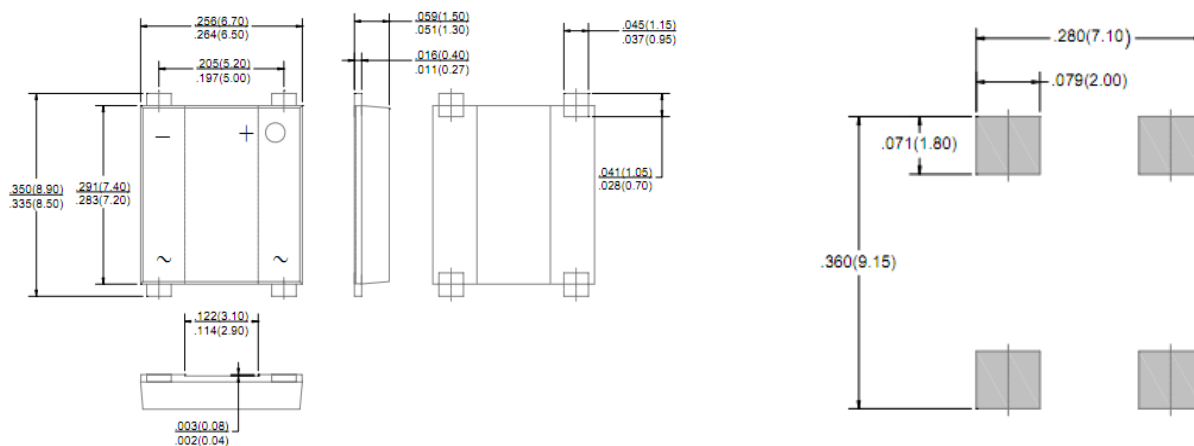
Fig.6-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT

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OUTLINE DRAWINGS



TMBF

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

Parameter	Symbl	TMBF	Unit
Typical thermal resistance (Note 5)	$R_{\theta JA}$	55	°C/W
	$R_{\theta JL}$	15	
	$R_{\theta JC}$	10	

Note: 5.PCB Mounted with The Suggested PAD Size

Packing Information

Product code	Pack	Quantity (pcs/box)	Box Size L×W×H(mm)	Carton Size L×W×H(mm)	Quantity (box/carton)
RYBS4006 THRU RYBS4010 -TMBF	T/R	3000	350×350×40	360×360×210	5

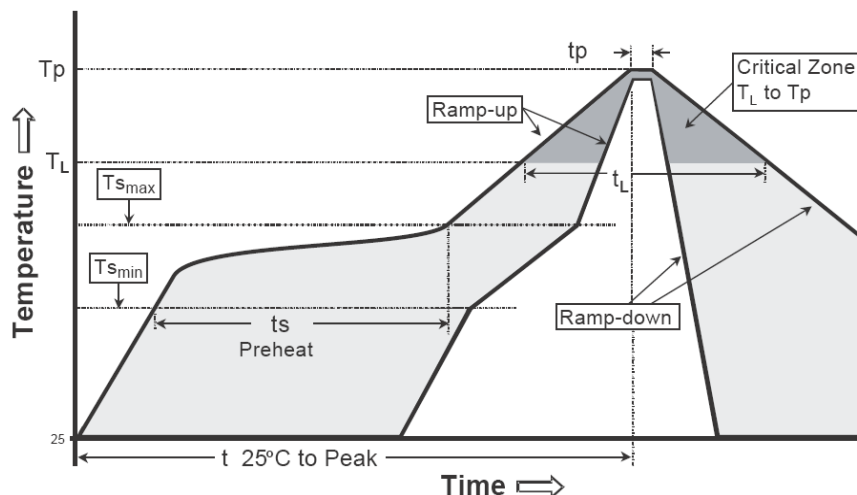
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Recommended wave soldering condition

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(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 (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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