

TMBFR310

SINGLE PHASE 3.0AMPS. GLASS PASSIVATED FAST BRIDGE RECTIFIERS

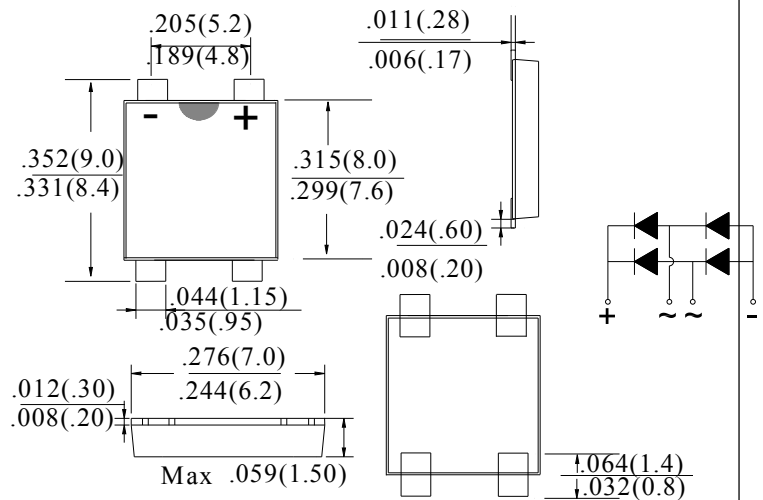
FEATURE

- . 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.

MECHANICAL DATA

- . Case Material: "Green" Molding compound, UL flammability classification rating 94V-0, "Halogen free"
- . Moisture sensitivity level: level 2a, per J-STD-020
- . Polarity: Polarity as marked on the body
- . Weight: 0.204g (approximately)

TMBF



Dimensions in inches and (millimeters)

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

MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

Parameter	Symbol	TMBFR310	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	1000	V
Maximum RMS Voltage	V_{RMS}	700	V
Maximum DC blocking Voltage	V_{DC}	1000	V
Average Forward Rectified Current at T _C ≤ 90°C	$I_{F(AV)}$	3	A
Non-repetitive forward surge current, 8.3ms half sine-wave	I_{FSM}	90	A
I ² t Rating for Fusing (t < 8.3ms)	I^2t	33.6	A ² Sec
Maximum Reverse Recovery Time (Note 1)	t_{rr}	500	nS
Typical Junction Capacitance (Note 2)	C_J	55	pF
Operation Junction Temperature and Storage Temperature	T_J, T_{STG}	-55 to + 150	°C

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Units
Instantaneous Forward voltage at 3A	V_F	@T _J =25°C	1.1	1.3	V
		@T _J =125°C	0.94	-----	
reverse current at rated DC blocking voltage	I_R	@T _J =25°C	-----	5.0	uA
		@T _J =125°C	-----	100.0	

THERMAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

Parameter	Symbol	TMBFR310	Units
Typical Thermal Resistance (Note 3)	$R_{(JA)}$	115	°C/W
	$R_{(JC)}$	28	

Note: 1. Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

2. T_J=25°C, V_R = 4V_{DC}@1Mhz

3. Measured on P.C.Board with 15.0mm*15.0mm*1.6mm Copper Pad Areas

RATING AND CHARACTERISTIC CURVES (TMBFR310)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

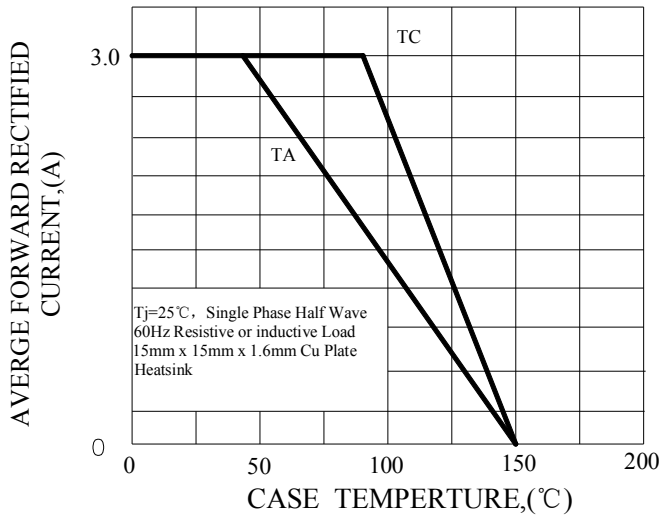


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

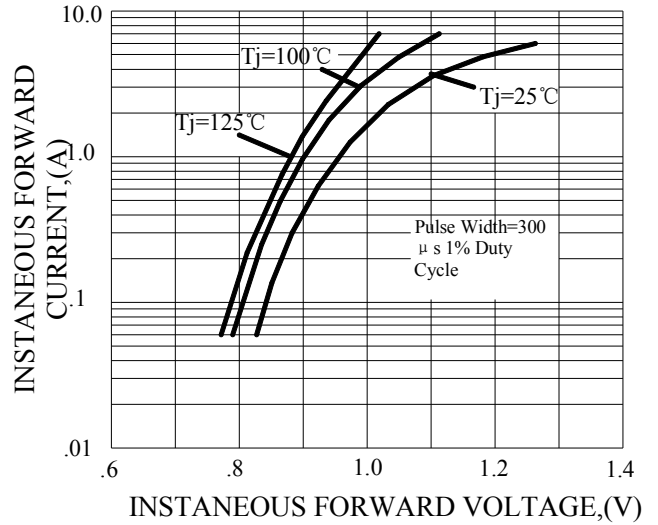


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

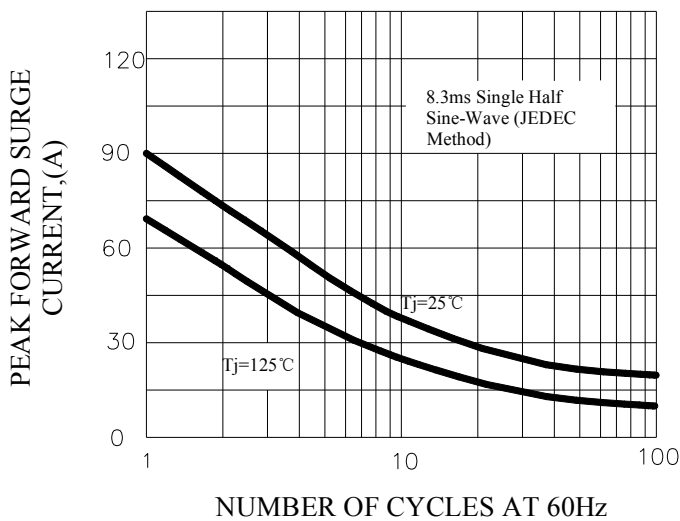


FIG.4-TYPICAL REVERSE CHARACTERISTICS

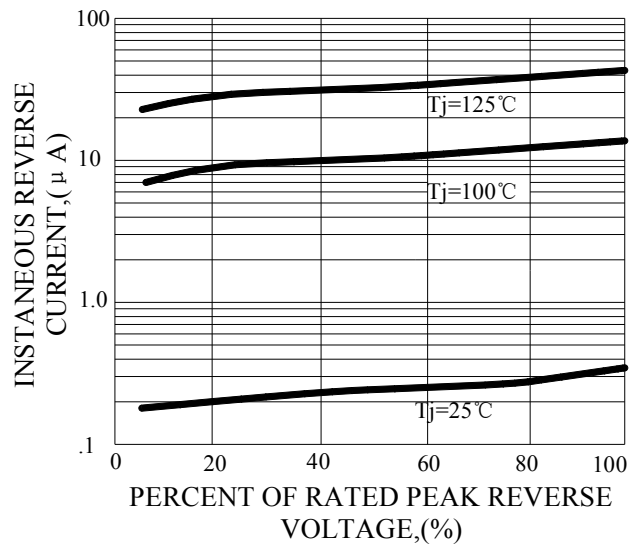
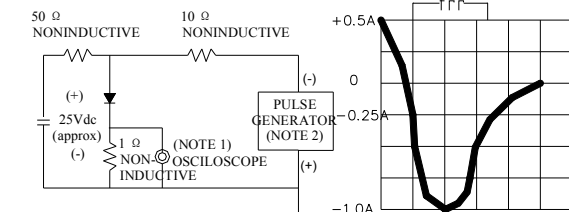
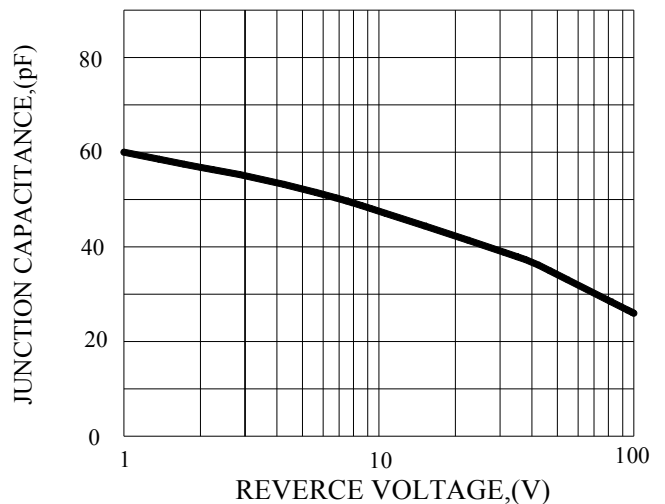


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



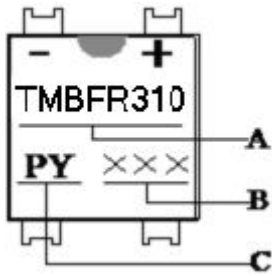
NOTES:1. Rise Time=7ns max, Input Impedance= 1 megohm,22pF.
 2. Rise Time=10ns max, Source Impedance= 50 ohms.

FIG.6-TYPICAL JUNCTION CAPACITANCE



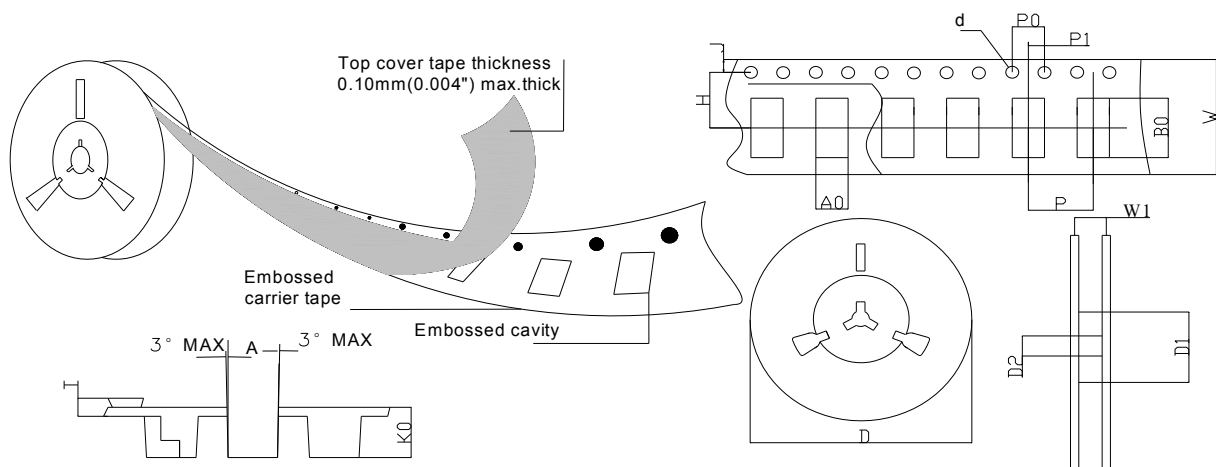
Marking and packaging illustration

1、Marking



SYMBOL	Explanation
A	Product Name
B	Date Code
C	Trademark

2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE
SYMBOL		TMBF
ITEM		
Carrier width	A0	7.0(0.276)Max
Carrier length	B0	9.1(0.358)Max
Sprocket hole	d	ø1.55(0.061)Typ
Reel outer diameter	D	330.0(13.0)Typ
Reel inner diameter	D1	50.0(1.969)Min
Feed hole diameter	D2	13.0(0.512)Typ
Sprocket hole position	J	1.75(0.069)Typ
Punch hole position	H	7.50(0.295)Typ
Carrier depth	K0	1.70(0.067)Typ
Punch hole pitch	P	12.00(0.472)Typ
Sprocket hole pitch	P0	4.00(0.157)Typ
Embossment center	P1	2.00(0.079)Typ
Overall tape thickness	T	0.33(0.013)Typ
Tape width	W	16.0(0.630)Typ
Reel width	W1	12.4(0.488)Min

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