

TMBFR310

SINGLE PHASE 3.0AMPS. GLASS PASSIVATED FAST BRIDGE RECTIFIERS

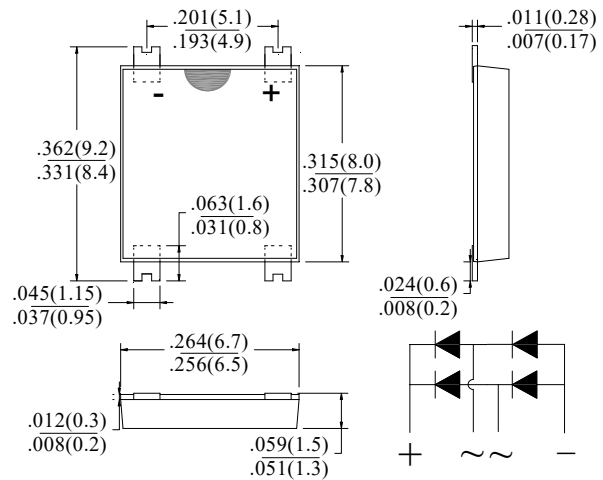
FEATURE

- 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, “Free halogen”
- Moisture sensitivity level: level 1, per J-STD-020
- Polarity: Polarity as marked on the body
- Weight: 0.204g (approximately)

TMBF



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

Type Number	SYM BOL	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
Maximum Average Forward rectified Current at $T_C=100^\circ\text{C}$	$I_{F(AV)}$	3.0	A
Peak Forward Surge Current @ $T_J=25^\circ\text{C}$ 8.3ms single half sine-wave @ $T_J=125^\circ\text{C}$	I_{FSM}	120 100	A
Peak Forward Surge Current @ $T_J=25^\circ\text{C}$ 1.0ms single half sine-wave @ $T_J=125^\circ\text{C}$	I_{FSM}	240 200	A
Maximum Forward Voltage at 3.0A DC	V_F	1.3	V
Maximum DC Reverse Current @ $T_J=25^\circ\text{C}$ at rated DC blocking voltage @ $T_J=125^\circ\text{C}$	I_R	5.0 500.0	μA
I^2t Rating for Fusing ($t < 8.3\text{ms}$)	I^2t	59.7	A^2Sec
Maximum Reverse Recovery Time (Note 1)	t_{rr}	500	nS
Typical Junction Capacitance Per Leg (Note2)	C_J	35	pF
Typical Thermal Resistance (Note3)	R_{JA}	55	$^\circ\text{C}/\text{W}$
	R_{JC}	10	
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	T_J	-55 to +150	$^\circ\text{C}$

Note:

1. Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

Rating and Characteristic Curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

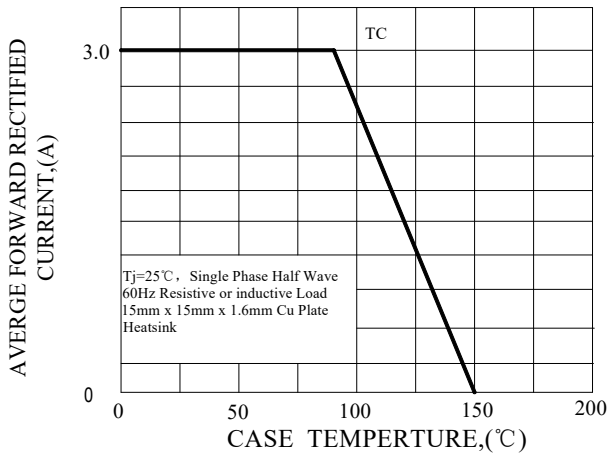


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

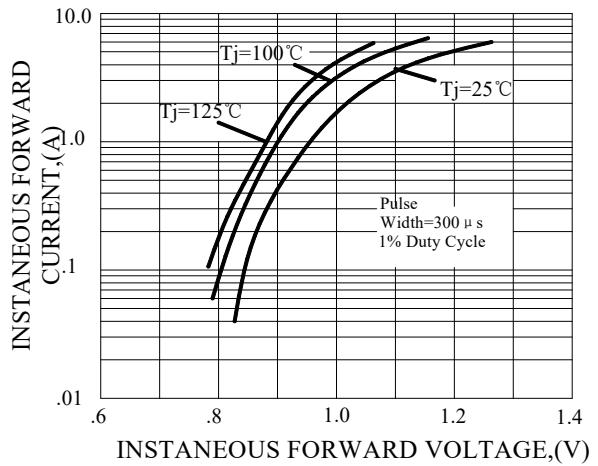


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

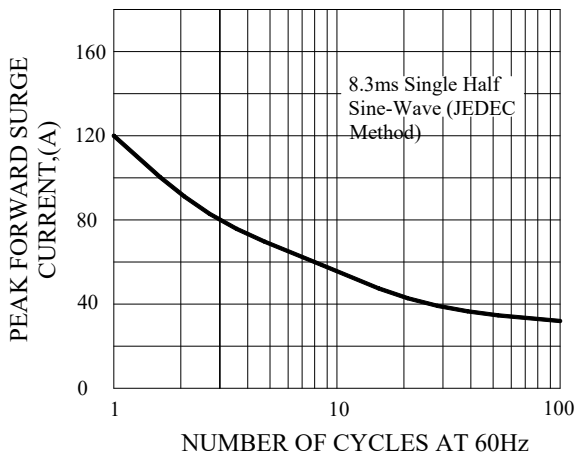


FIG.4-TYPICAL JUNCTION CAPACITANCE

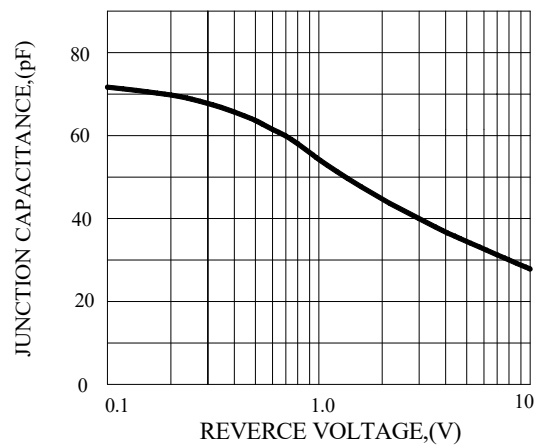


FIG.5-TYPICAL REVERSE CHARACTERISTICS

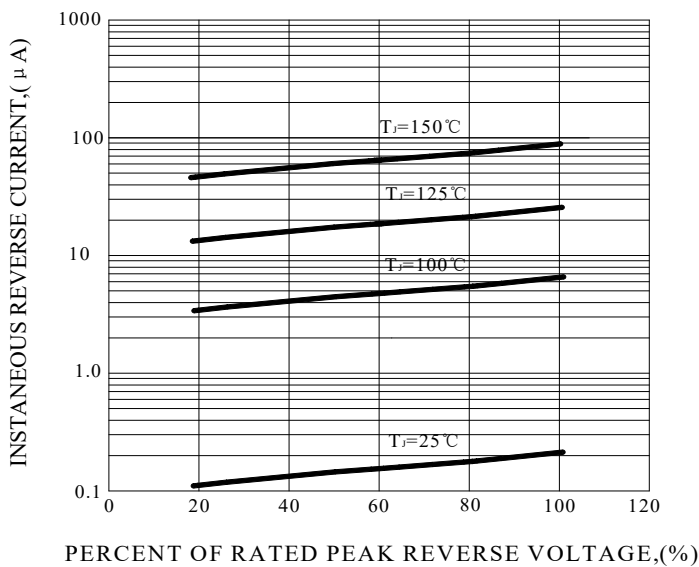
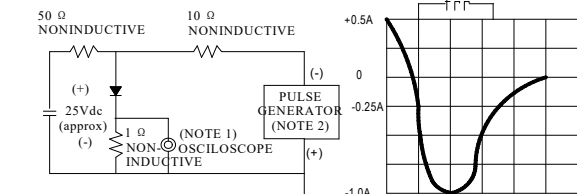


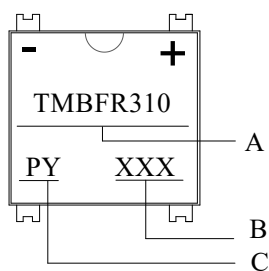
FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

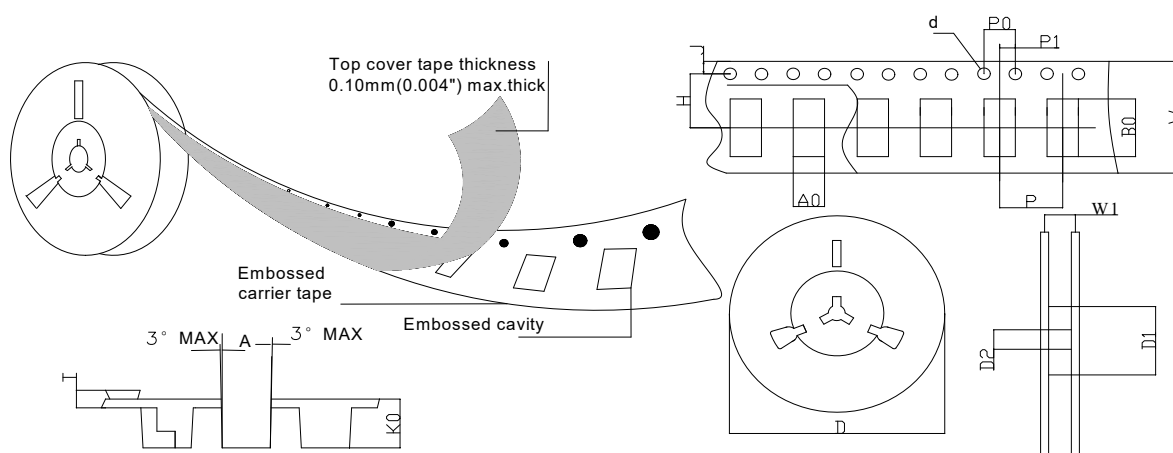
Marking and packaging illustration

1、Marking



SYMBOL	Explanation
A	Product Name
B	Date Code
C	Trademark

2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	TMBF	ITEM	SYM BOL	TMBF
Carrier width	A	7.0(0.276)Max	Carrier depth	K	1.70(0.067)Typ
Carrier length	B	9.9(0.390)Max	Punch hole pitch	P	12.00(0.472)Typ
Sprocket hole	d	ø1.55(0.061)Typ	Sprocket hole pitch	P0	4.00(0.157)Typ
Reel outer diameter	D	330.0(13.0)Typ	Embossment center	P1	2.00(0.079)Typ
Reel inner diameter	D1	50.0(1.969)Min	Overall tape thickness	T	0.33(0.013)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	16.0(0.630)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	12.4(0.488)Min
Punch hole position	H	7.50(0.295)Typ			