

TMBFR410A

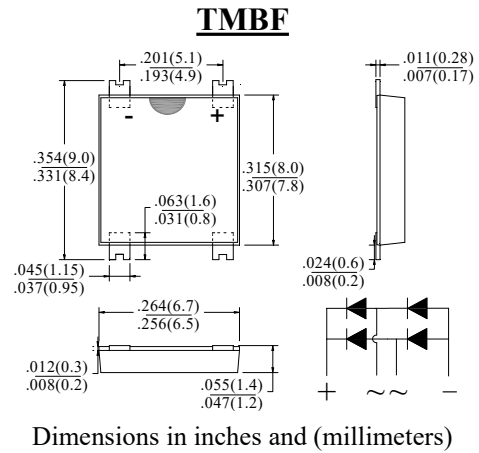
SINGLE PHASE 4.0AMPS. GLASS PASSIVATED FAST BRIDGE RECTIFIERS

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”
- . Polarity: Polarity as marked on the body



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

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	TMBFR410A	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 $T_C \leq 90^\circ\text{C}$	$I_{F(AV)}$	4	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}	90 70	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}	180 140	A
I^2t Rating for Fusing ($t < 8.3\text{ms}$)	I^2t	33.6	A^2Sec
Maximum Reverse Recovery Time (Note 1)	t_{rr}	500	nS
Typical Junction Capacitance (Note 2)	C_J	36	pF
Operation Junction Temperature and Storage Temperature	T_J, T_{STG}	-55 to + 150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Units
Instantaneous Forward voltage at 4A @ $T_J=25^\circ\text{C}$ @ $T_J=125^\circ\text{C}$	V_F	----- -----	1.1 0.94	1.3 -----	V
reverse current at rated DC blocking voltage @ $T_J=25^\circ\text{C}$ @ $T_J=125^\circ\text{C}$	I_R	----- -----	----- -----	5.0 200.0	μA

THERMAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	TMBFR410A	Units
Typical Thermal Resistance (Note 3)	$R_{(JA)}$ $R_{(JC)}$	90 22	$^\circ\text{C}/\text{W}$

Note:

1. Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $IRR=0.25\text{A}$
2. $T_J=25^\circ\text{C}$, $V_R = 4\text{VDC}@1\text{Mhz}$
3. Measured on P.C.Board with 50mm*50mm Copper Pad per pin.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

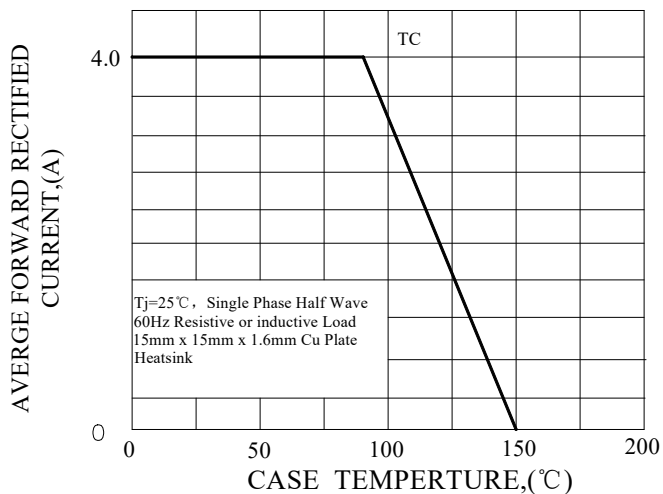


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

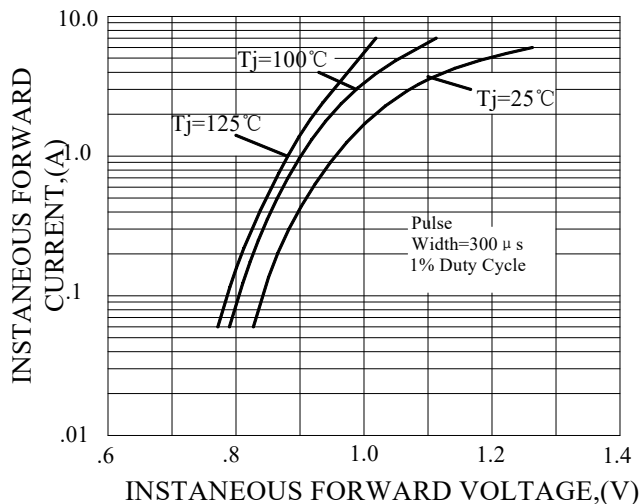


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

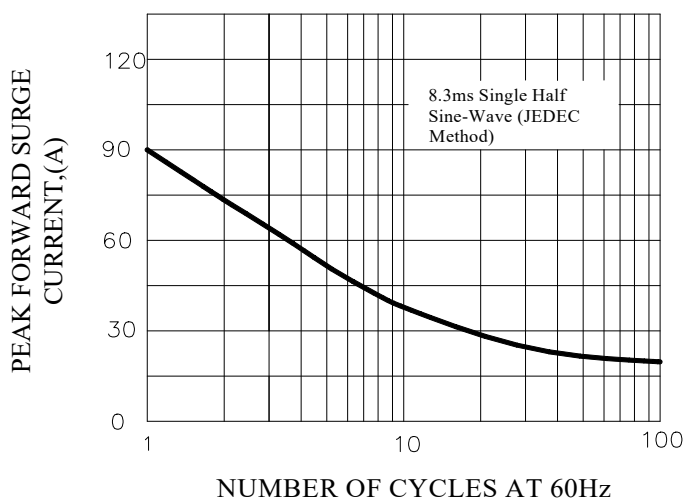


FIG.4-TYPICAL REVERSE CHARACTERISTICS

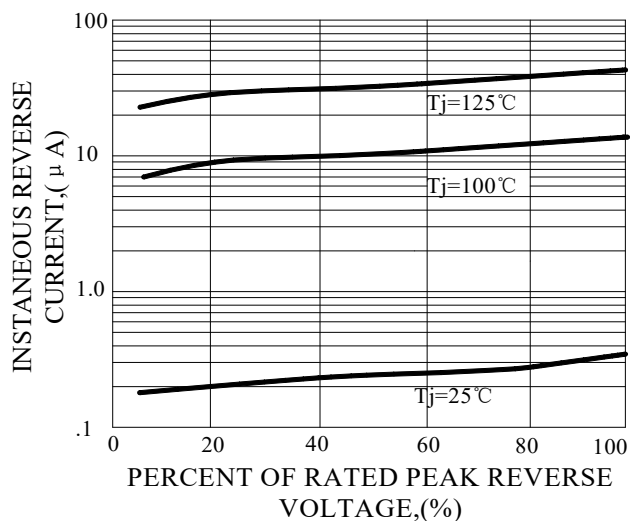
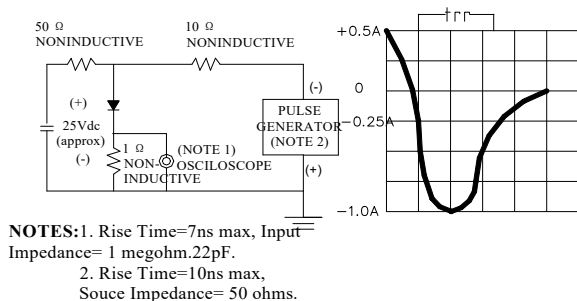
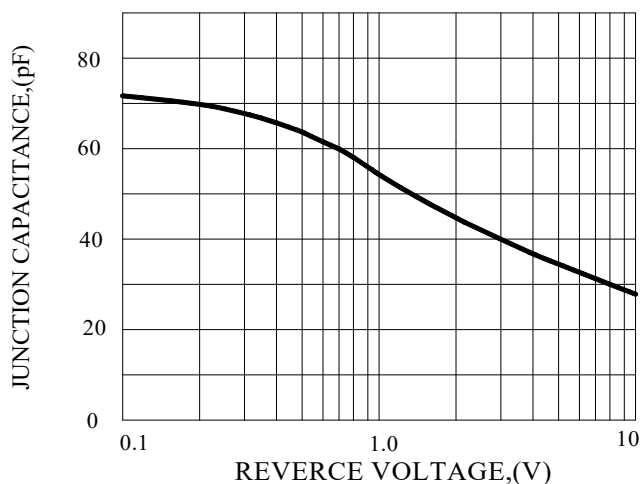


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

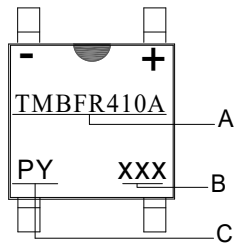


TMBFR310-TYPICAL JUNCTION CAPACITANCE



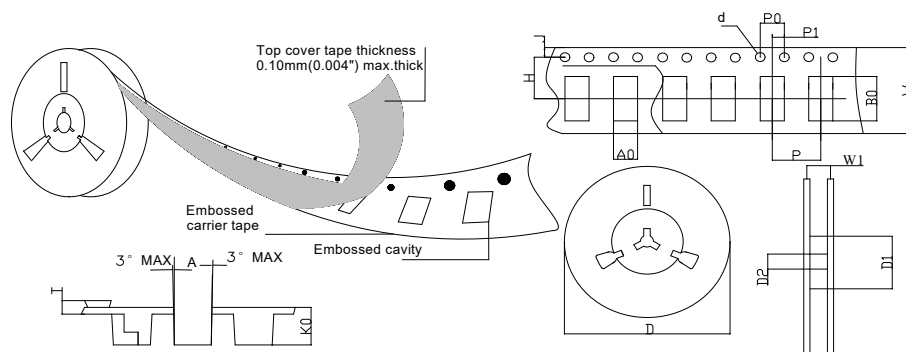
Marking and packaging illustration

1、Marking



SYMBOL	Explanation
A	Product Name
B	Date Code
C	Trademark

2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	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			