

**TBMR410**

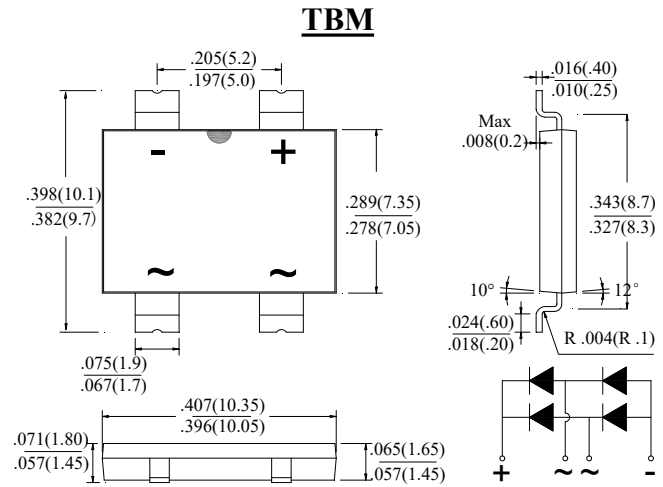
**SINGLE PHASE 4.0AMPS. GLASS PASSIVATED FAST BRIDGE RECTIFIERS**

**FEATURE**

- . Fast switching
- . Surface mount bridge, small package;
- . 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



Dimensions in inches and (millimeters)

**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	TBMR410	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	$I_{F(AV)}$	4.0	A	
Peak Forward Surge Current @ $T_J=25^\circ C$ 8.3ms single half sine-wave @ $T_J=125^\circ C$	$I_{FSM}$	120	A	
Peak Forward Surge Current @ $T_J=25^\circ C$ 1.0ms single half sine-wave @ $T_J=125^\circ C$		240		
Maximum Instantaneous Forward Voltage at 4.0A DC	$V_F$	1.3	V	
Maximum DC Reverse Current @ $T_J=25^\circ C$ at rated DC blocking voltage @ $T_J=125^\circ C$	$I_R$	5.0 500.0	$\mu A$	
$I^2t$ Rating for Fusing ( $t < 8.3ms$ )	$I^2t$	59.7	A <sup>2</sup> Sec	
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	500	nS	
Typical Junction Capacitance (Note2)	$C_J$	35	pF	
Typical Thermal Resistance (without Heatsink)	$R_J$	$R_{JA}$	$^\circ C / W$	
		60		10
Typical Thermal Resistance (Note3)		15	6	3
Storage Temperature	$T_{STG}$	-55 to +150	$^\circ C$	
Operating Junction Temperature	$T_J$	-55 to +150	$^\circ C$	

**Note:**

1. Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal resistance junction to case, lead and ambient in accordance with JESD-51.  
Unit mounted on 15mm x 12mm x 1.6mm AL Pad attached on 40mm x 30mm x 24mm Fin heatsink.

## Ratings and Characteristics Curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

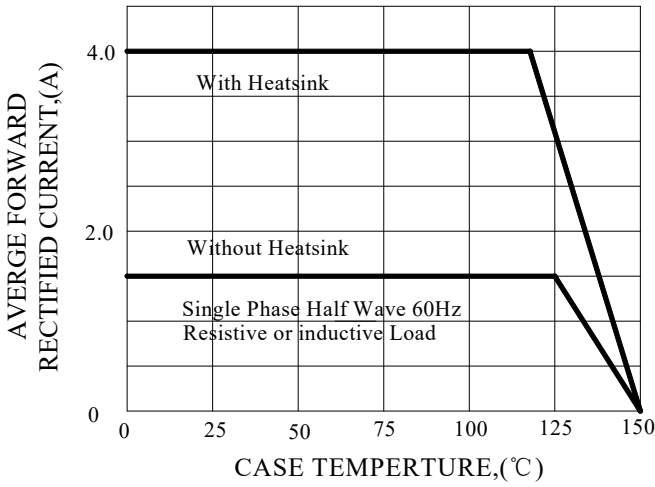


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

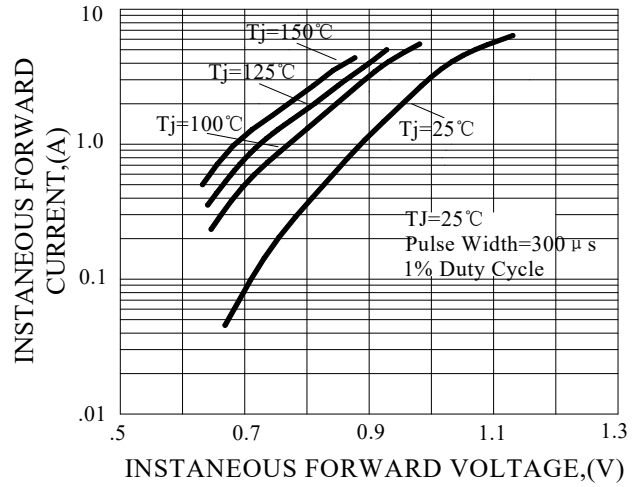


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

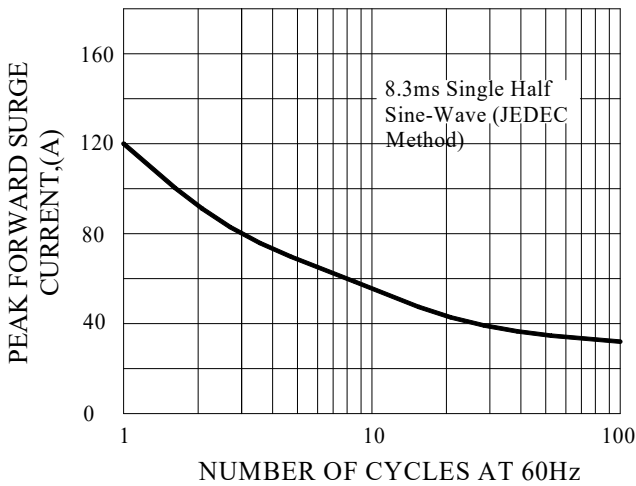


FIG.4-TYPICAL JUNCTION CAPACITANCE

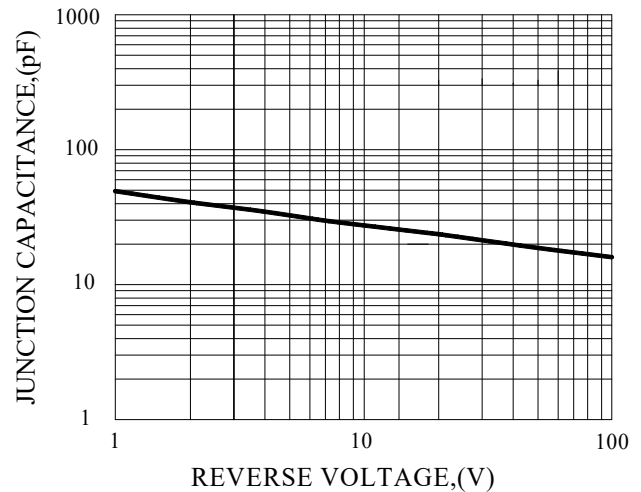


FIG.5-TYPICAL REVERSE CHARACTERISTICS

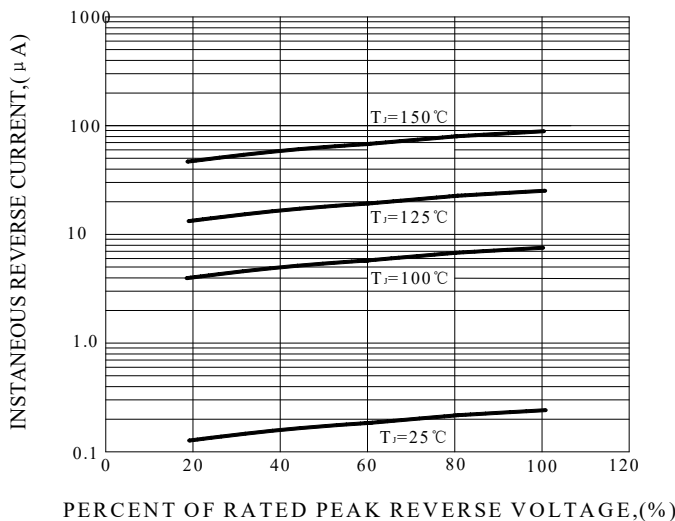
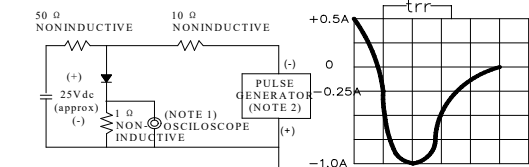


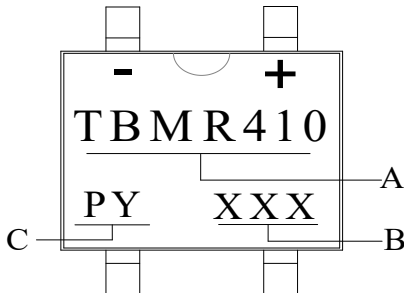
FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

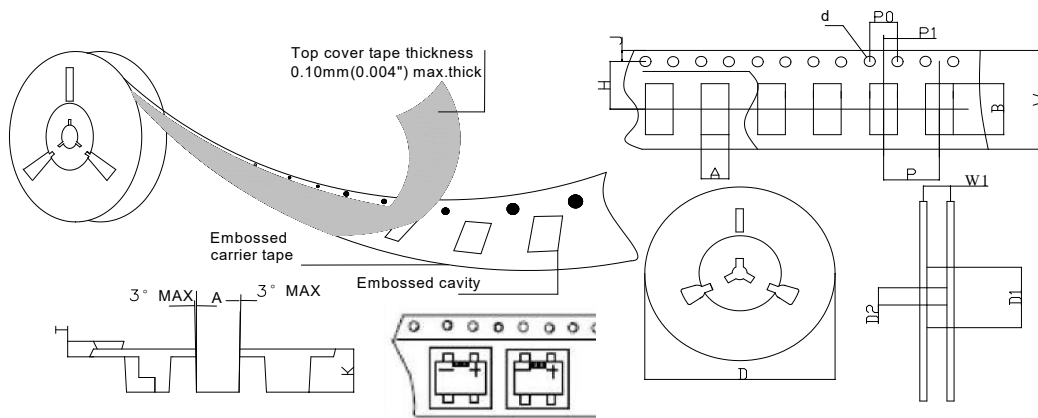
## Marking and packaging illustration

### 1、Marking



SYMBOL	Explanation
<b>A</b>	<b>Product Name</b>
<b>B</b>	<b>Date Code</b>
<b>C</b>	<b>Trademark</b>

### 2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	TBM	ITEM	SYM BOL	TBM
Carrier width	A	10.5(0.413)Max	Carrier depth	K	2.25(0.088)Typ
Carrier length	B	11.0(0.433)Max	Punch hole pitch	P	16.00(0.630)Typ
Sprocket hole	d	ø1.6(0.063)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	75.0(2.953)Min	Overall tape thickness	T	0.30(0.012)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	24.0(0.945)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	25.5(1.004)Min
Punch hole position	H	11.50(0.452)Typ			