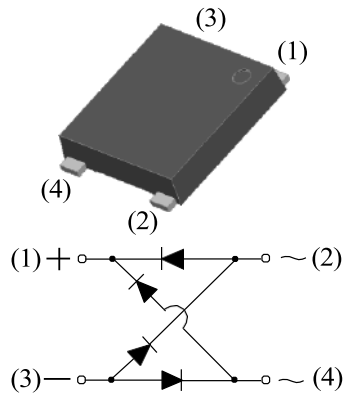
TMBF Plastic-Encapsulate Bridge Rectifier

FAST RECOVERY SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- High Current Capability
- High Surge Current Capability
- Designed for Surface Mount Application
- Plastic Material – UL Flammability 94V-O

TMBF



Applications

- General purpose 1 phase Bridge rectifier applications

Marking

- RTMBF310

Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions		RTMBF310
Repetitive Peak Reverse Voltage	V_{RRM}	V			1000
Maximum RMS Voltage	V_{RMS}	V			700
Maximum DC Blocking Voltage	V_{DC}	V			1000
Average Rectified Output Current	I_O	A	60Hz sine wave, R-load,Ta=110℃	On alumina substrate	3.0
Surge(Non-repetitive)Forward Current	I_{FSM}	A	8.3ms sine wave, 1 cycle, T_j=25℃		110
Current Squared Time	I^2t	A^2S	1ms≤t<8.3ms Tj=25℃， Rating of per diode		51
Operation Junction and Storage Temperature Range	T_J, T_{stg}	℃			-55 ~+150

Electrical Characteristics (T=25℃ Unless otherwise specified）

Item	Symbol	Unit	Test Condition		Max
Maximum Peak Forward Voltage	V_{FM}	V	I_{FM}=3.0A, Pulse measurement, Rating of per diode		1.25
Maximum Reverse Recovery Time	T_{RR}	ns	Measured with IF=0.5A,IR=1A,IRR=0.25A		500
Maximum Peak Reverse Current	I_{RRM1}	μA	V_{RM}=V_{RRM} , Pulse measurement, Rating of per diode	T_A=25℃	5.0
	I_{RRM2}	μA		T_A=125℃	500
Thermal Resistance	$R_{\theta J-A}$	℃/W	Between junction and ambient, On alumina substrate		55
	$R_{\theta J-L}$		Between junction and lead		15
	$R_{\theta J-C}$		Between junction and case		10

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

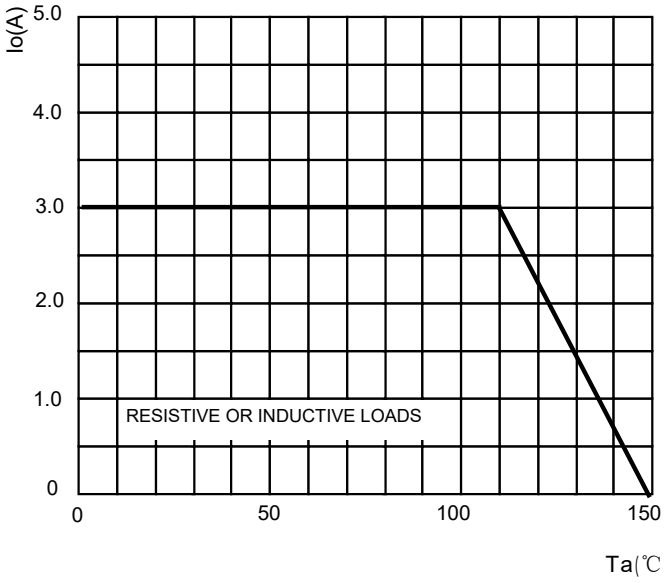


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

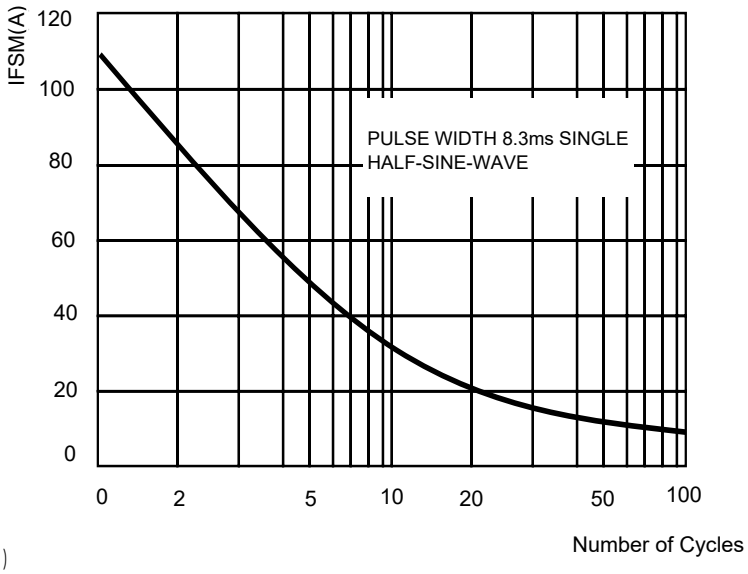


FIG.3: TYPICAL FORWARD CHARACTERISTICS

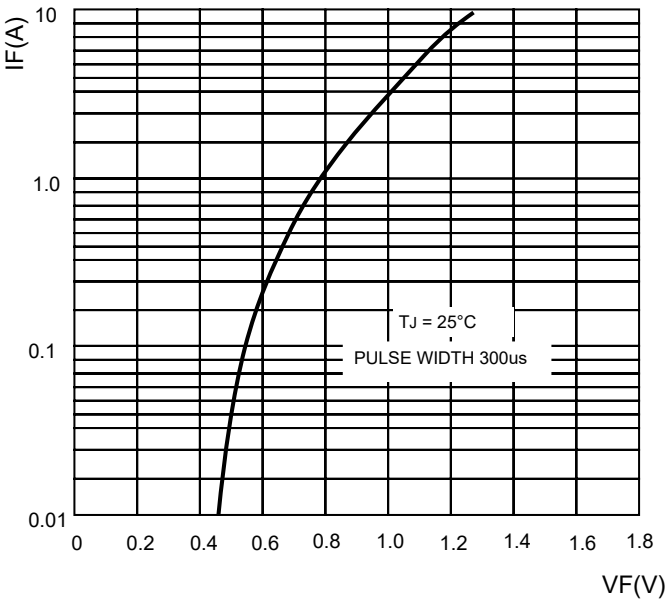


FIG.4:TYPICAL REVERSE CHARACTERISTICS

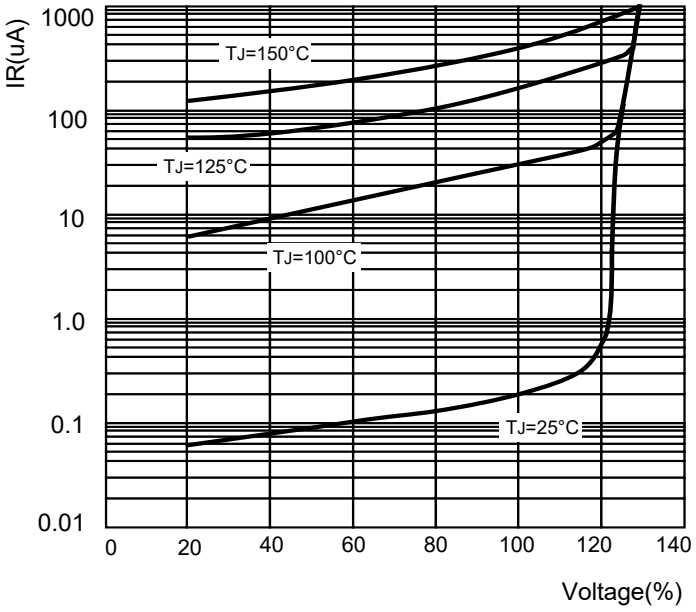
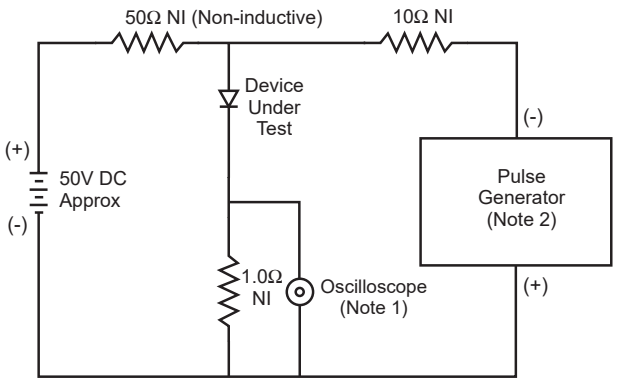
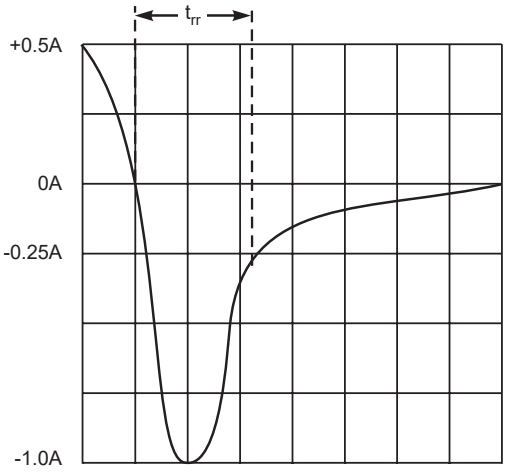


FIG5 Reverse Recovery Time Characteristic and Test Circuit

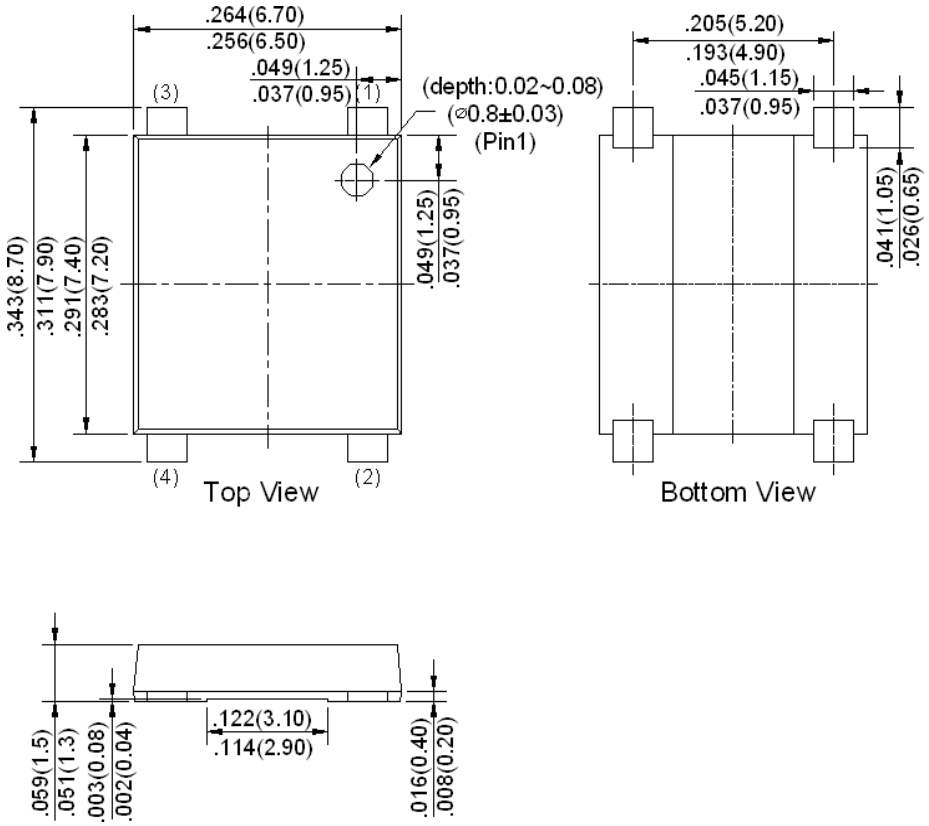




Set time base for 5/10ns/cm

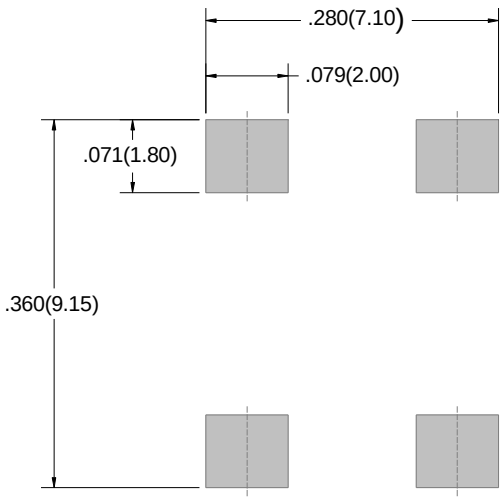
Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

TMBF Package Outline Dimensions



Dimensions in inches and (millimeters)

TMBF Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.