

# TMBF4005~TMBF410

Rev.A Jan.-2024

## 描述 / Descriptions

4.0A 单相玻璃钝化桥式整流器，薄型 UMSB 封装。  
 4.0A Single-Phase Glass Passivated Bridge Rectifiers, UMSB thin package.

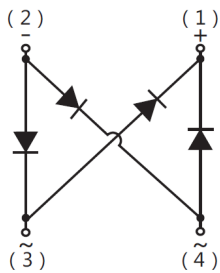
## 特征 / Features

反向电压：50V~1000V，正向电流：4.0A，适用表面贴装，无卤产品。  
 Reverse Voltage :50 to 1000V, Forward Current: 4.0A, Designed for Surface Mount Application, HF product.

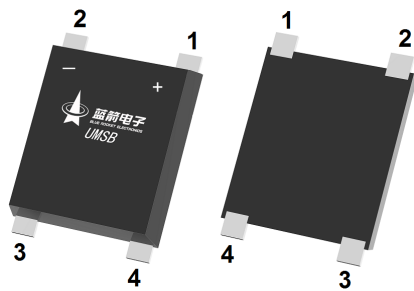
## 用途 / Applications

一般用途。  
 General purpose.

## 内部等效电路 / Equivalent Circuit

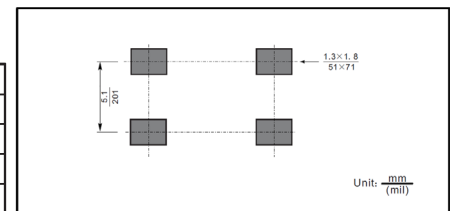


## 引脚排列 / Pinning



PINNING	
PIN	DESCRIPTION
1	Output Anode ( + )
2	Output Cathode ( - )
3	Input Pin ( ~ )
4	Input Pin ( ~ )

The recommended mounting pad size



## 印章代码 / Marking

见印章说明。  
 See Marking Instructions.

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating							单位 Unit
		TMBF 4005	TMBF 401	TMBF 402	TMBF 404	TMBF 406	TMBF 408	TMBF 410	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified output current at $T_A=40\text{ C}$	$I_{F(AV)}$	4.0							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	110							A
Rating for fusing ( $t<8.3\text{ms}$ )	$I^2t$	50.2							$A^2s$
Typical Thermal Resistance <sup>(Note1)</sup>	$R_{\theta JA}$	55							$^{\circ}C/W$
Typical Junction Capacitance <sup>(Note2)</sup>	$C_i$	35							pF
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55~+150							$^{\circ}C$

Note:

1. Thermal resistance from Junction to Ambient on P.C.board mounting.
2. Measured at 2.0MHz and applied reverse voltage of 4.0 volts.

**电性能参数 / Electrical Characteristics(Ta=25°C)**

参数 Parameter	符号 Symbol	测试条件 Test Conditions	数值 Rating	单位 Unit
Maximum Forward Voltage	$V_F$	$I_F=2.0A$	1.05	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_a=25^{\circ}C$	5	$\mu A$
		$T_a=125^{\circ}C$	500	

电参数曲线图 / Electrical Characteristic Curve

Fig. 1 Derating Curve for Output Rectified Current

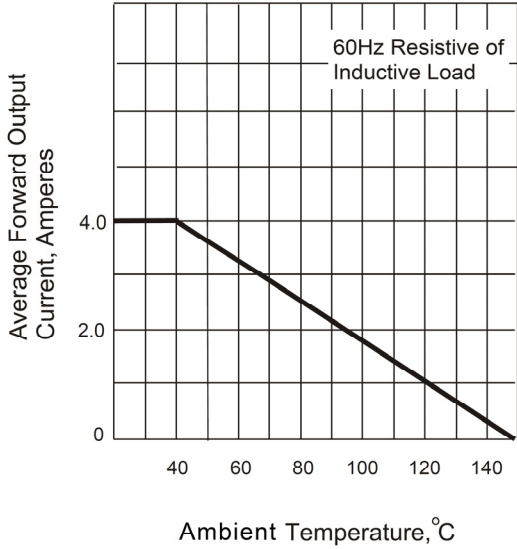


Fig. 2 Maximum Non-repetitive Peak Forward Surge Current

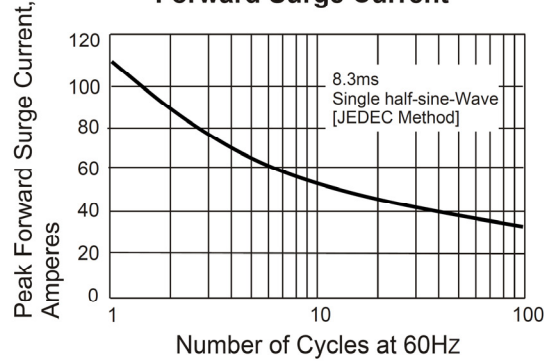


Fig. 3 Typical Instantaneous Forward Characteristics

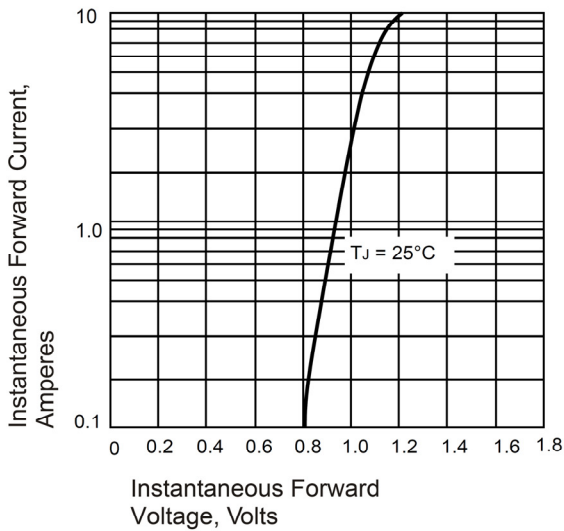


Fig. 4 Typical Revers Characteristics

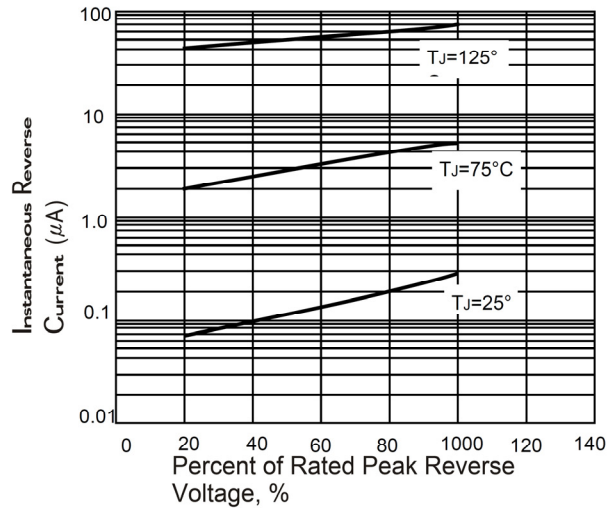
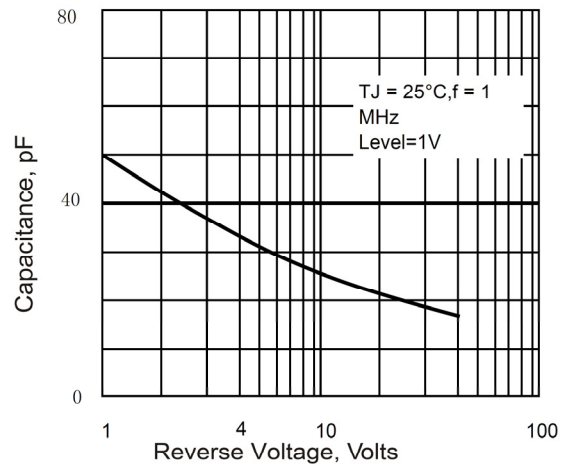


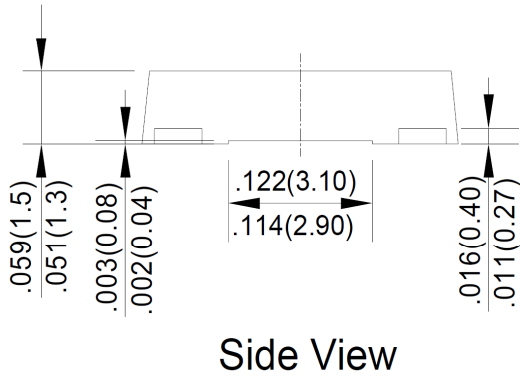
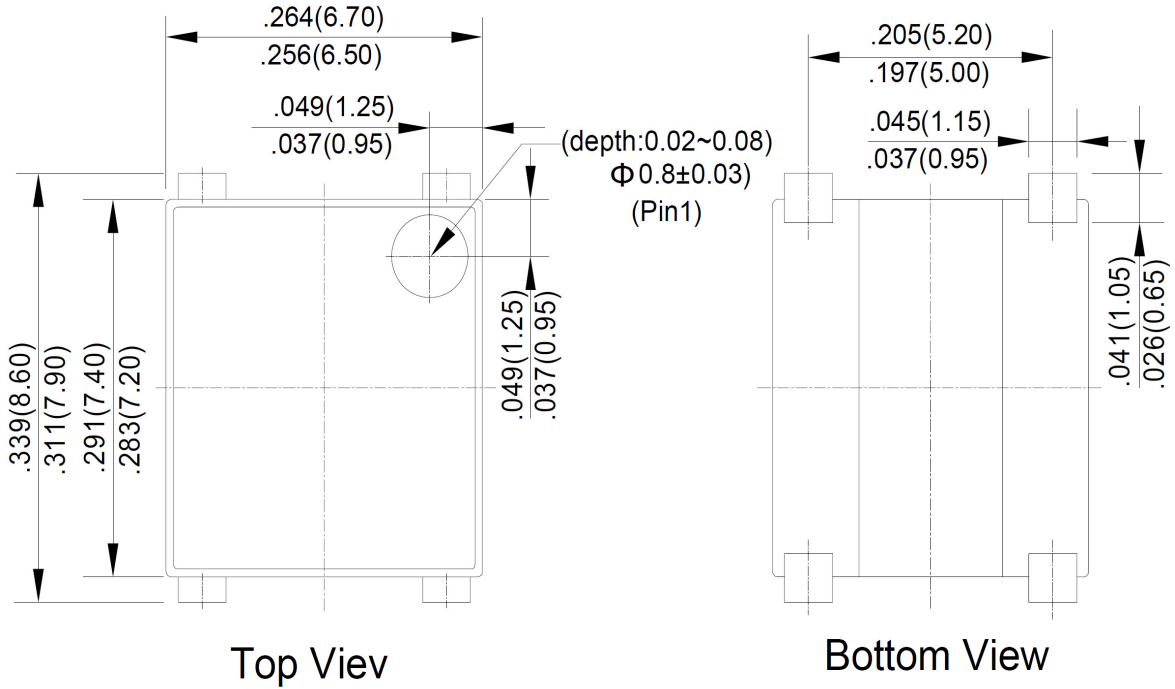
Fig. 5 Typical Junction Capacitance



# TMBF4005~TMBF410

Rev.A Jan.-2024

## 外形尺寸图 / Package Dimensions



Dimensions in millimeters ( 1mm =0.0394" )

## 印章说明 / Marking Instructions



### 说明

TMBF4005 : 为型号代码

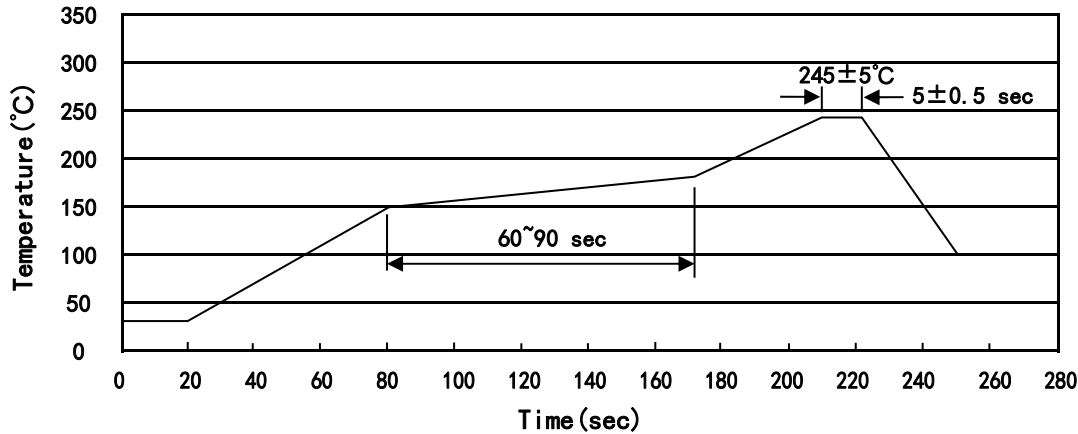
\*\*\*\* : 为生产批号代码，随生产批号变化

### Note:

TMBF4005 : Product Type Code

\*\*\*\* : Lot No. Code, code change with Lot No

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150~180°C，时间 60~90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
UMSB	3,000	2	6,000	6	36,000	13"×16	337×337×49	380×335×366

使用说明 / Notices