# TMBF301 THRU TMBF310

## SURFACE MOUNT BRIDGE RECTIFIERS

### FEATURES:

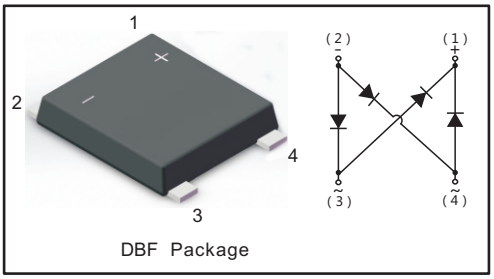
- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 3.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

### MECHANICAL DATA

- Case:DBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.234g / 0.00825oz

### PINNING

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




DBF Package

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

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

| Parameter | Symbols | TMBF301 | TMBF302 | TMBF304 | TMBF306 | TMBF308 | TMBF310 | Units |
|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | $V_{RMS}$ | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Average Rectified Output Current | $I_O$ | 3.0 | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$ | 120 | | | | | | A |
| Maximum Forward Voltage at 3.0 A | $V_F$ | 1.1 | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @$T_A$=25 °C<br>@$T_A$=125 °C | $I_R$ | 5<br>100 | | | | | | μA |
| Typical Junction Capacitance ( Note1 ) | $C_j$ | 40 | | | | | | pF |
| Typical Thermal Resistance ( Note2 ) | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 60<br>10<br>25 | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_j$, $T_{stg}$ | -55 ~ +150 | | | | | | °C |

Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.

2. Mounted on glass epoxy PC board with 4×1.5"×1.5" ( 3.81×3.81 cm ) copper pad.


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## Characteristic Curves ($T_A$=25 ℃ unless otherwise noted)

Fig.1 Average Rectified Output Current Derating Curve

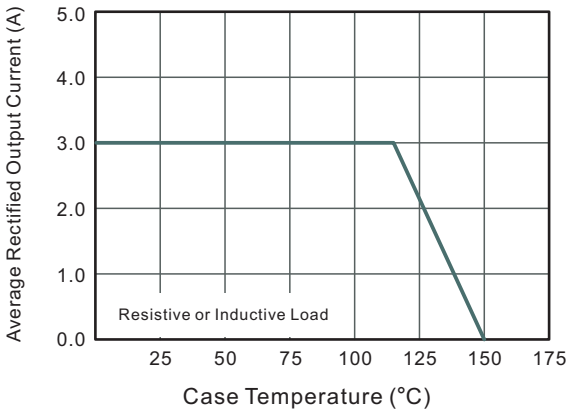



Fig.2 Typical Reverse Characteristics

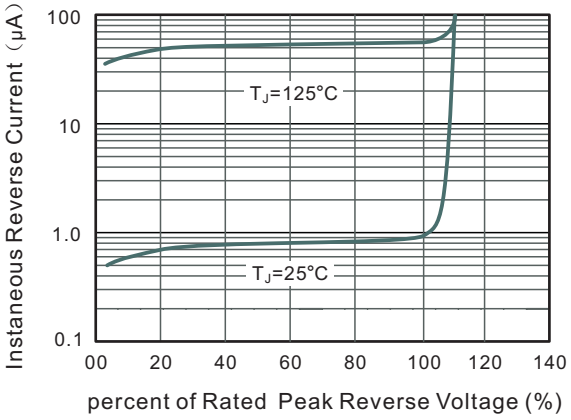



Fig.3 Typical Instaneous Forward Characteristics

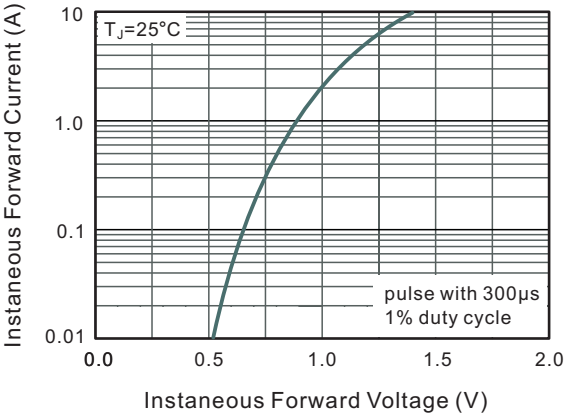



Fig.4 Typical Junction Capacitance

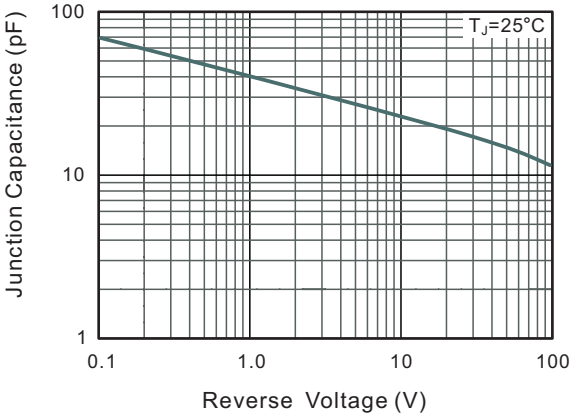



Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

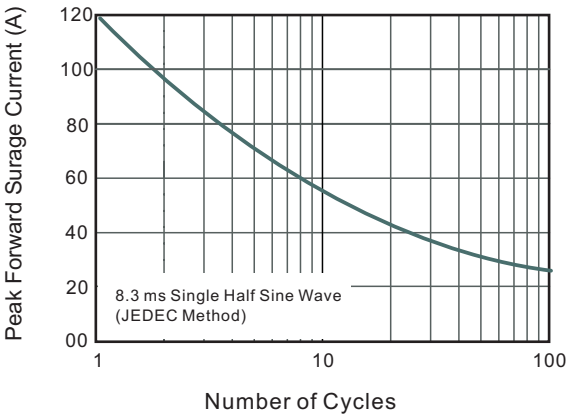
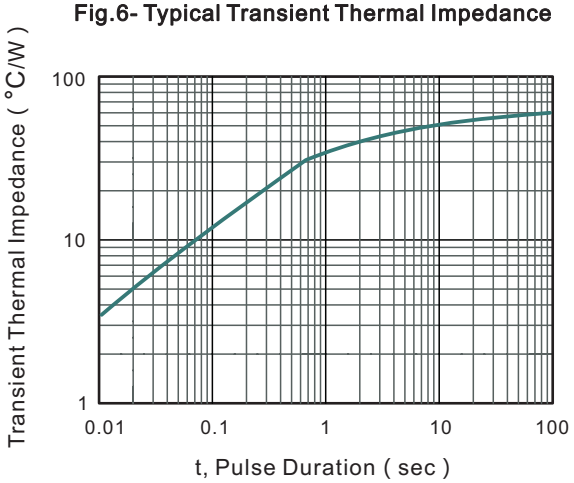



Fig.6- Typical Transient Thermal Impedance



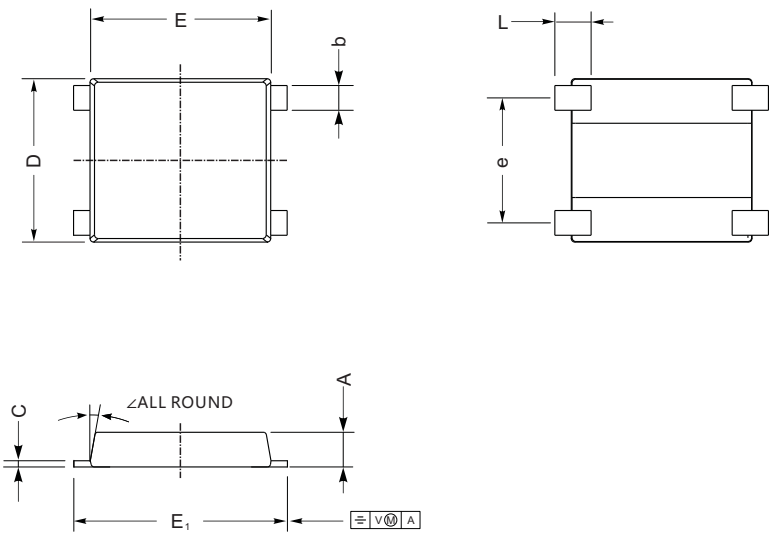


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## PACKAGE OUTLINE

**Plastic surface mounted package; 4 leads**

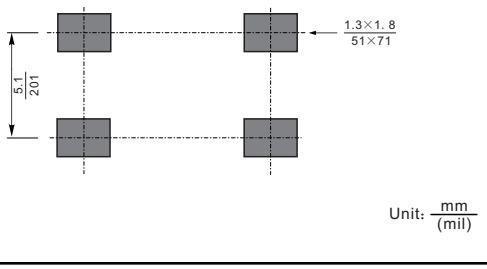
DBF




DBF mechanical data

| UNIT | | A | C | D | E | $E_1$ | L | e | b | ∠ |
|---|---|---|---|---|---|---|---|---|---|---|
| mm | max | 1.5 | 0.29 | 7.0 | 7.6 | 8.9 | 1.6 | 5.3 | 1.15 | 10° |
| | min | 1.3 | 0.17 | 6.2 | 7.1 | 8.4 | 1.0 | 4.9 | 0.95 | |
| mil | max | 59 | 12 | 276 | 299 | 350 | 55 | 209 | 45 | |
| | min | 51 | 7 | 244 | 280 | 331 | 31.5 | 193 | 37 | |

### The recommended mounting pad size




### Marking

| Type number | Marking code |
|---|---|
| TMBF301 | TMBF301 |
| TMBF302 | TMBF302 |
| TMBF304 | TMBF304 |
| TMBF306 | TMBF306 |
| TMBF308 | TMBF308 |
| TMBF310 | TMBF310 |


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