

TDF1510M-HAF

Surface Mount Fast Recovery Bridge Rectifier
Reverse Voltage - 1000 V
Forward Current - 1.5 A

Features

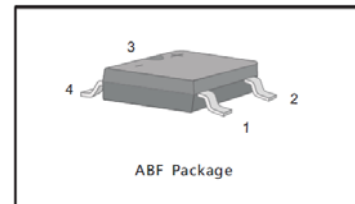
- Glass Passivated Chip Junction
- High Surge Current Capability
- Halogen and Antimony Free(HAF), RoHS compliant

Mechanical Data

- Package: ABF
- Terminals: Solderable per MIL-STD-750, Method 2026

PINNING

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



Maximum Ratings and Electrical characteristics

Single-phase, half-wave, 60 Hz, resistive or inductive load rating at 25°C, unless otherwise specified, for capacitive load, derate current by 20 %.

| Parameter | Symbols | Value | Units |
|---|-----------------|---------------|--------------------|
| | Marking | .TDF1510M | - |
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 1000 | V |
| Average Forward Current $T_a = 50^\circ\text{C}$ | $I_{F(AV)}$ | 1.5 | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load(JEDEC Method) | I_{FSM} | 50 | A |
| Peak Forward Surge Current 1 ms Single Half-square-wave Superimposed on Rated Load | I_{FSM} | 90 | A |
| Maximum Instantaneous Forward Voltage at 1.5 A | V_F | 1.3 | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$ | I_R | 0.5 100 | μA |
| Typical Junction Capacitance ¹⁾ | C_j | 25 | pF |
| Typical Thermal Resistance ²⁾ | $R_{\theta JA}$ | 70 | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time ³⁾ | t_{rr} | 160 | ns |
| Operating and Storage Temperature Range | T_j, T_{stg} | - 55 to + 150 | $^\circ\text{C}$ |

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

²⁾ Mounted on glass epoxy PC board with 4 X (5 X 5 mm²) copper pad.

³⁾ Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

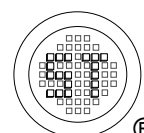


Fig.1 Average Rectified Output Current Derating Curve

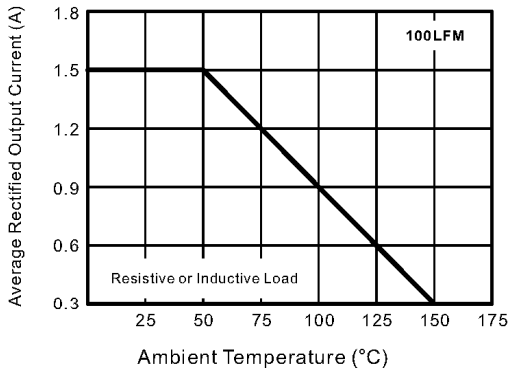


Fig.2 Typical Reverse Characteristics

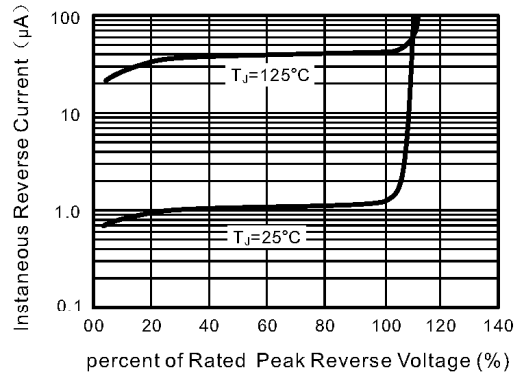


Fig.3 Typical Instantaneous Forward Characteristics

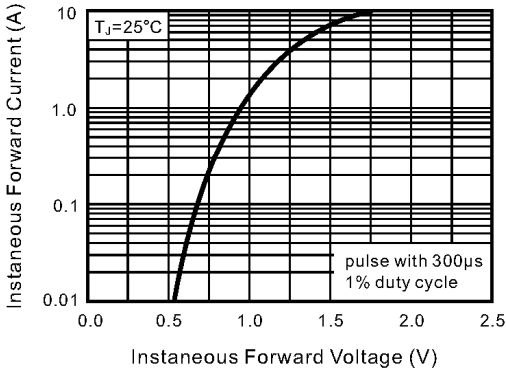


Fig.4 Typical Junction Capacitance

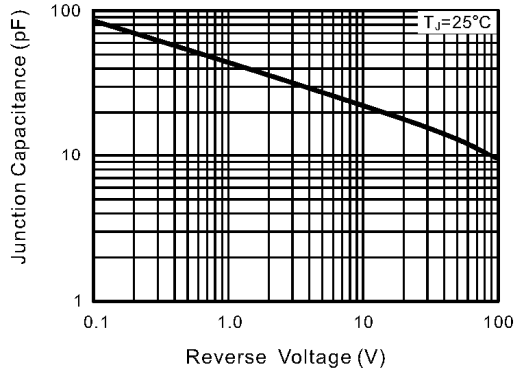
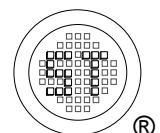
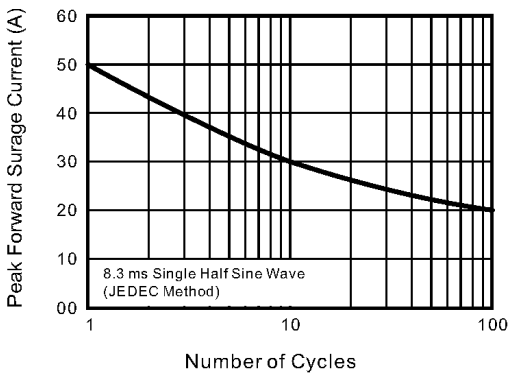


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

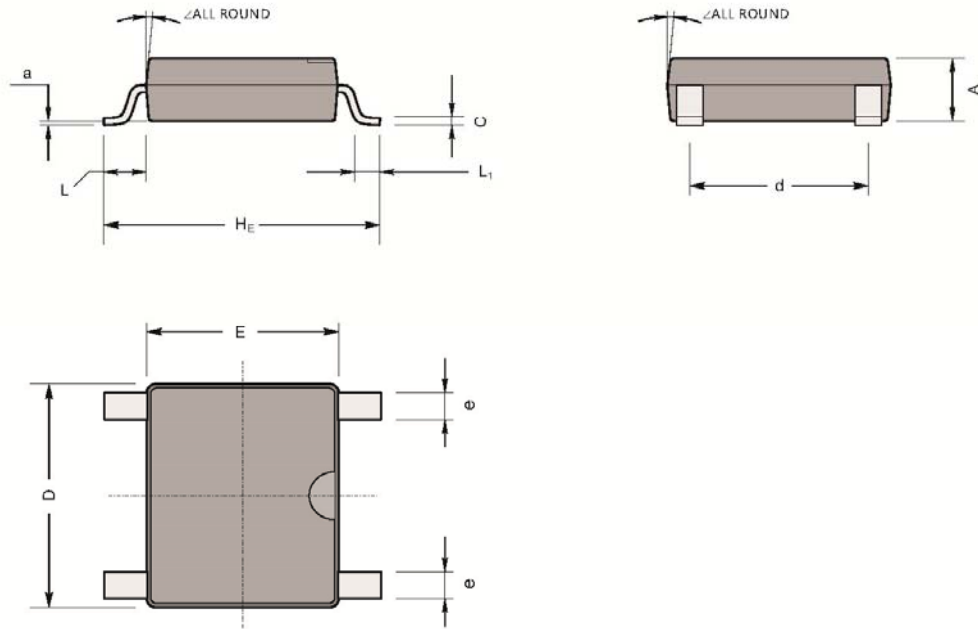


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PACKAGE OUTLINE

ABF

Plastic surface mounted package; 4 leads



| UNIT | A | C | D | E | H_E | d | e | L | L1 | a | \angle |
|------|-----|------|-----|-----|-------|-----|-----|------|-----|-----|----------|
| mm | 1.2 | 0.22 | 5.2 | 4.5 | 6.4 | 4.2 | 0.7 | 0.95 | 0.6 | 0.1 | 7° |
| | 1 | 0.15 | 4.9 | 4.2 | 6 | 3.6 | 0.5 | | | | |

Recommended Soldering Footprint

