



ER3AF THRU ER3JF

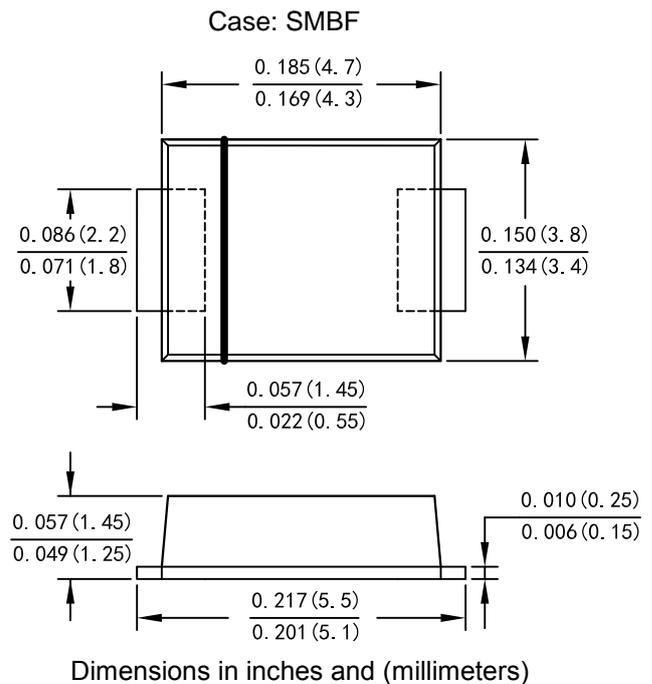
3.0AMP Surface Mount Superfast Rectifiers

Features

- Glass passivated junction chip
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Guard Ring Die Construction
- Plastic Case Material has UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: Molded plastic SMBF
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Marking: Type Number



Maximum Ratings and Electrical Characteristics

Rating 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 | SYMBOL | ER3AF | ER3BF | ER3CF | ER3DF | ER3EF | ER3GF | ER3JF | Unit |
|--|-----------------|-------------|-------|-------|-------|-------|-------|-------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Average Rectified Output Current @ $T_L = 100^\circ\text{C}$ | $I_{F(AV)}$ | 3.0 | | | | | | | A |
| Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 110 | | | | | | | A |
| I^2t Rating for Fusing ($t < 8.3\text{ms}$) | I^2t | 26.56 | | | | | | | A^2s |
| Forward Voltage @ $I_F=3.0\text{A}$ | V_{FM} | 0.95 | | | 1.3 | | 1.7 | | V |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ | I_R | 5.0 | | | | | | | uA |
| At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$ | | 100 | | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 35 | | | | | | | ns |
| Typical Junction Capacitance (Note 2) | C_J | 53 | | | | 35 | | 25 | pF |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 65 | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range | T_J | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

Note:

1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C.



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Fig. 1 Forward Current Derating Curve

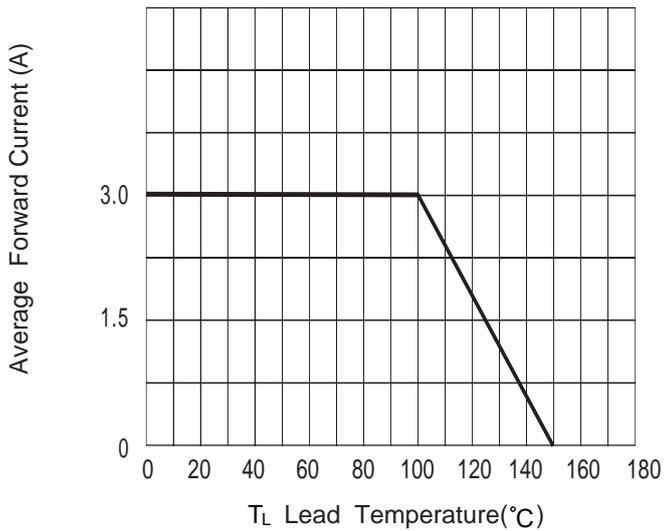


Fig. 2 Typ. Forward Characteristics

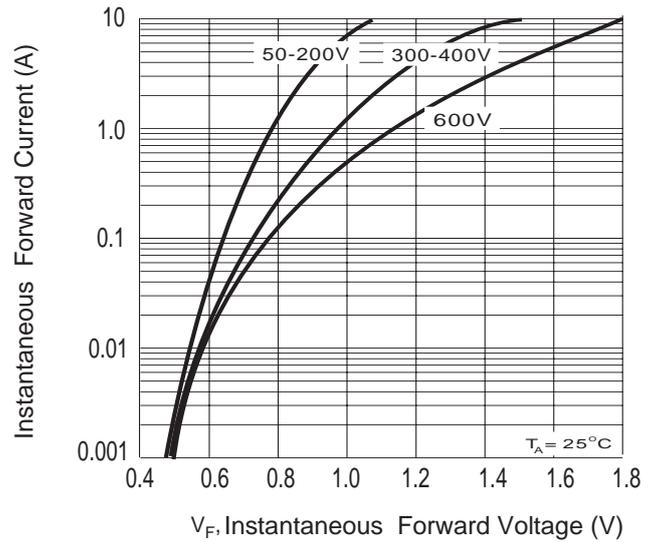


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

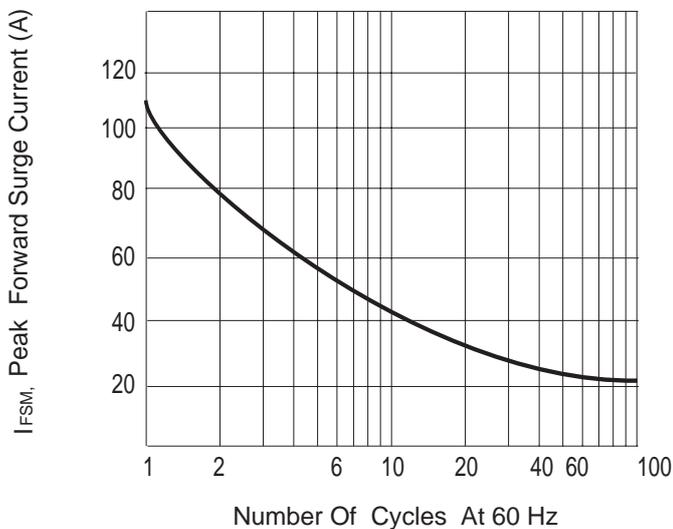


Fig.4 Typical Junction Capacitance

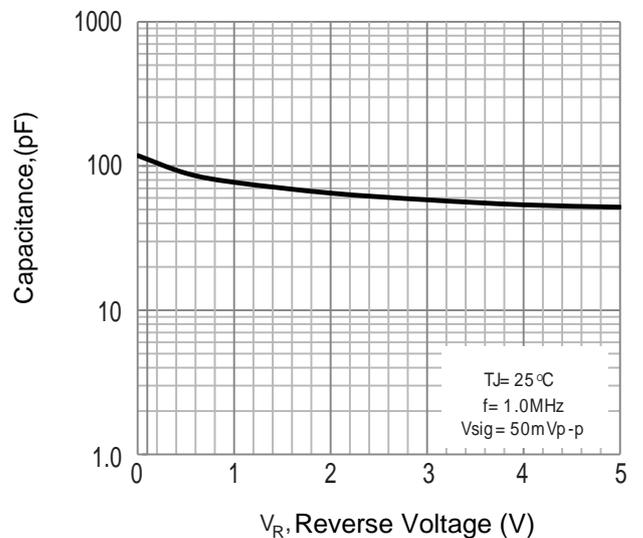


Fig.5 Typical Reverse Characteristics

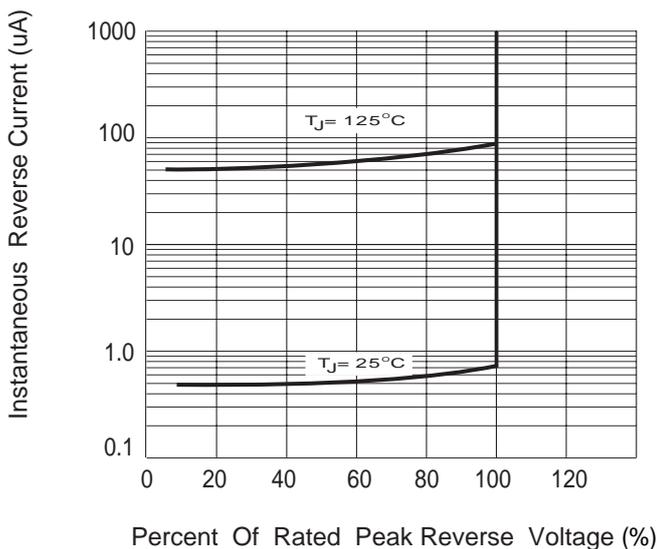
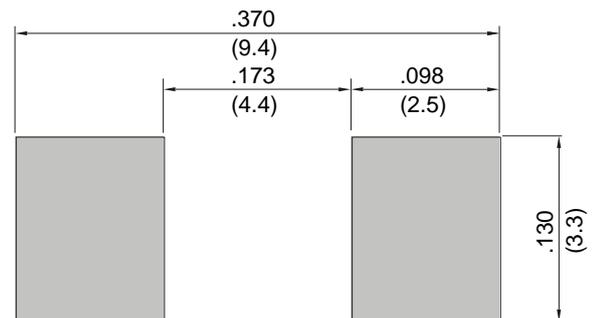


Fig.6 Mounting PAD Layout





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