



# ER2AF SERIES

## SURFACE MOUNT SUPERFAST RECTIFIER

**VOLTAGE** 50~600 Volt **CURRENT** 2 Ampere

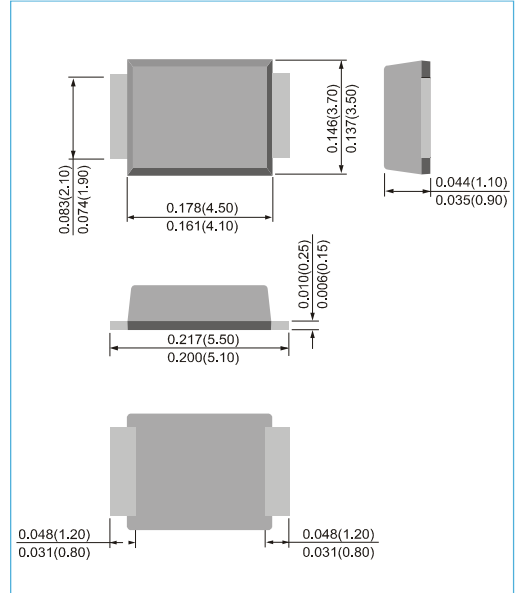
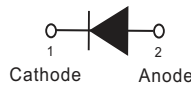
**SMBF** Unit : inch(mm)

### FEATURES

- For surface mounted applications in order to optimize board space
- High temperature metallurgically bonded-no compression
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: SMBF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0018 ounces, 0.05 grams
- Polarity: Color band denotes cathode end



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise noted)

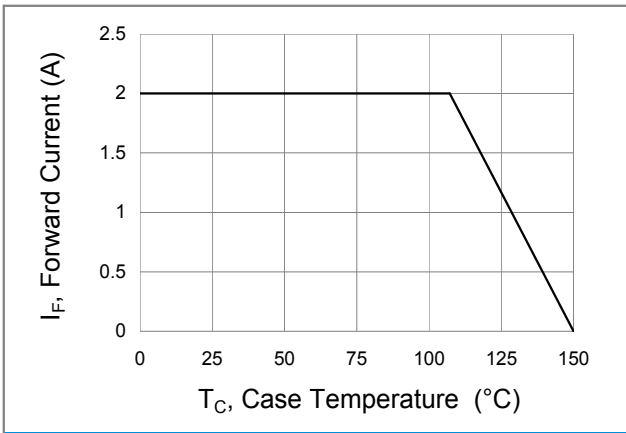
| PARAMETER   | SYMBOL                             | ER2AF       | ER2BF | ER2CF | ER2DF | ER2EF | ER2GF | ER2JF | UNITS            |                             |
|---|------------------------------------|-------------|-------|-------|-------|-------|-------|-------|------------------|-----------------------------|
| Recurrent Peak Reverse Voltage  | $V_{RRM}$                          | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V                |                             |
| RMS Voltage   | $V_{RMS}$                          | 35          | 70    | 105   | 140   | 210   | 280   | 420   | V                |                             |
| DC Blocking Voltage   | $V_R$                              | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V                |                             |
| Average Forward Current   | $I_{F(AV)}$                        | 2           |       |       |       |       |       |       | A                |                             |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load   | $I_{FSM}$                          | 50          |       |       |       |       |       |       | A                |                             |
| Forward Voltage at 2A   | $V_F$                              | 0.95        |       |       | 1.25  |       | 1.7   |       | V                |                             |
| DC Reverse Current at Rated DC Blocking Voltage $T_j=25^\circ\text{C}$                | $I_R$                              | 1           |       |       |       |       |       |       | $\mu\text{A}$    |                             |
| Typical Junction capacitance $V_R=4\text{V}, f=1\text{MHz}$                           | $C_j$                              | 30          |       |       | 20    |       |       | pF    |                  |                             |
| Typical Thermal Resistance ,Junction to Lead (Note 1)<br>Junction to Ambient (Note 2) | $R_{\theta JL}$<br>$R_{\theta JA}$ | 18          |       |       |       | 135   |       |       |                  | $^\circ\text{C} / \text{W}$ |
| Reverse Recovery Time ( $I_F=0.5\text{A}, I_R=1\text{A}, I_{tr}=0.25\text{A}$ )       | $T_{rr}$                           | 35          |       |       |       |       |       |       | ns               |                             |
| Operating Junction Temperature and Storage Temperature Range                          | $T_j, T_{STG}$                     | -55 to +150 |       |       |       |       |       |       | $^\circ\text{C}$ |                             |

NOTES : 1. Mounted on a FR4 PCB, single-sided copper, with 48cm<sup>2</sup> copper pad area  
2. Mounted on a FR4 PCB, single-sided copper, mini pad.

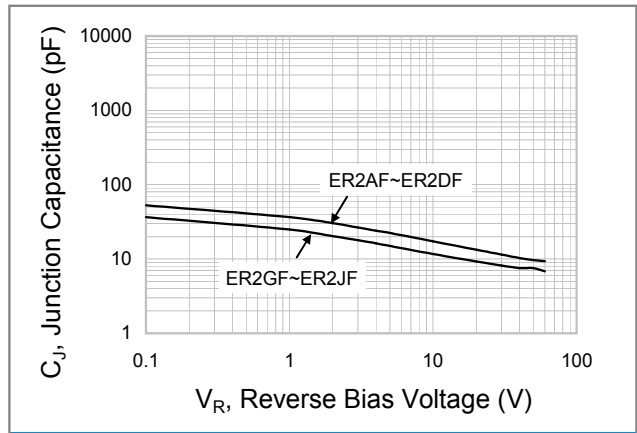


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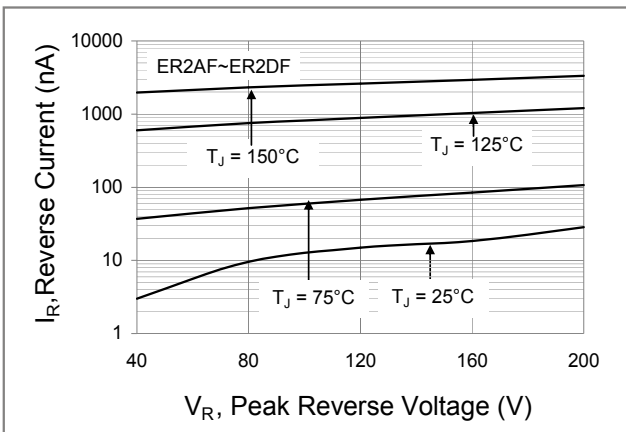
## RATING AND CHARACTERISTIC CURVES



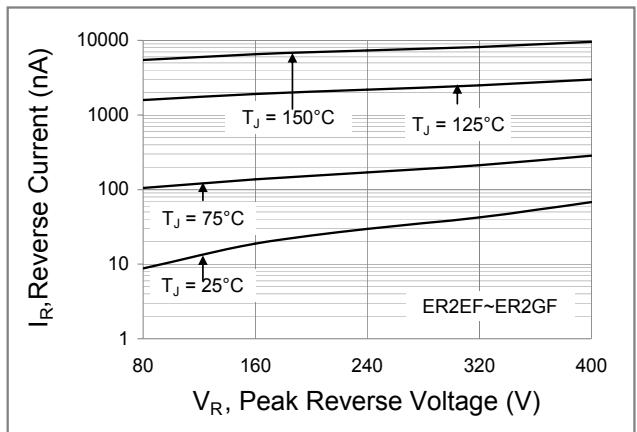
**Fig.1 Forward Current Derating Curve**



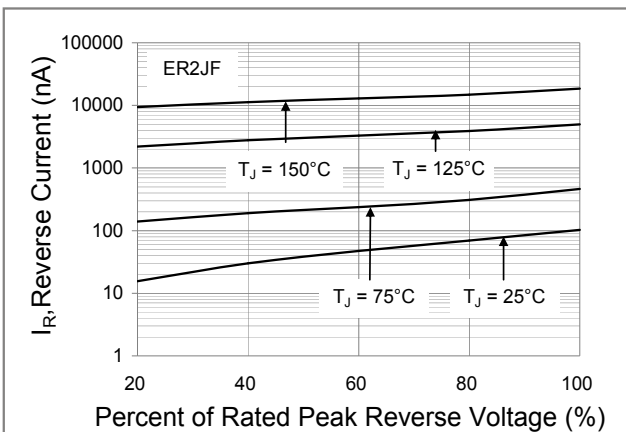
**Fig.2 Typical Junction Capacitance**



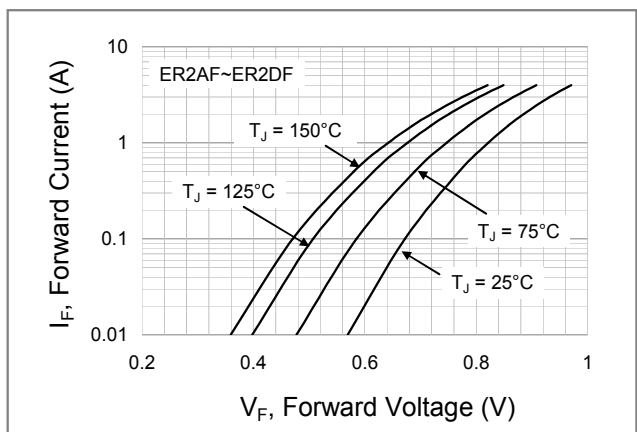
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Reverse Characteristics**

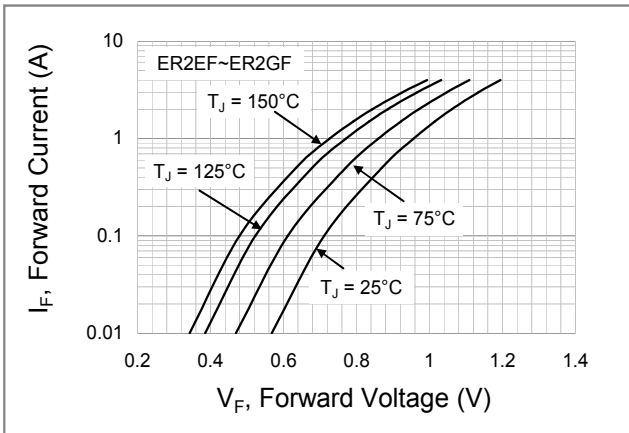


**Fig.6 Typical Forward Characteristics**

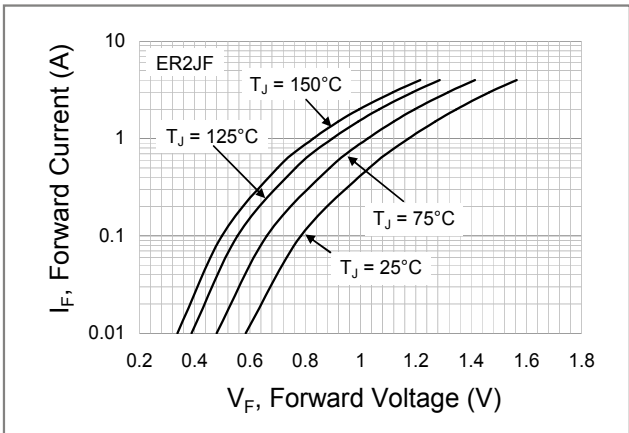


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## RATING AND CHARACTERISTIC CURVES



**Fig.7 Typical Forward Characteristics**

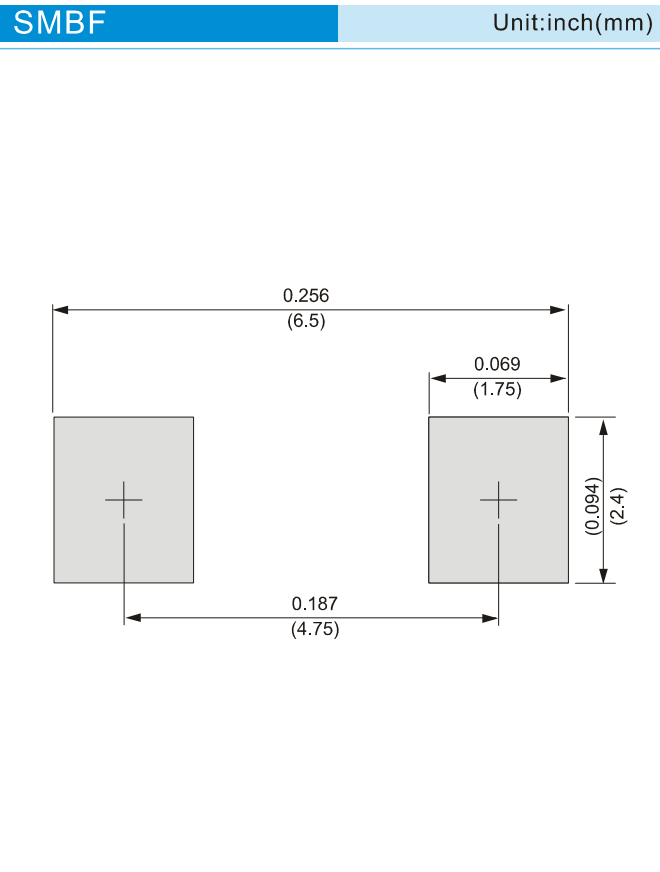


**Fig.8 Typical Forward Characteristics**



# ER2AF SERIES

## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R - 5K per 13" plastic Reel



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Part No\_packing code\_Version

ER2AF\_R2\_00001

For example :

**RB500V-40** **R2** **00001**



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | <b>A</b>             | N/A                              | <b>0</b>             | HF                        | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>             | 7"                               | <b>1</b>             | RoHS                      | <b>1</b>             | serial number                         |
| Bulk Packing (B/P)                   | <b>B</b>             | 13"                              | <b>2</b>             |                           |                      |                                       |
| Tube Packing (T/P)                   | <b>T</b>             | 26mm                             | <b>X</b>             |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | <b>S</b>             | 52mm                             | <b>Y</b>             |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | <b>L</b>             | PANASERT T/B CATHODE UP (PBCU)   | <b>U</b>             |                           |                      |                                       |
| FORMING                              | <b>F</b>             | PANASERT T/B CATHODE DOWN (PBCD) | <b>D</b>             |                           |                      |                                       |



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