

## Surface Mount Superfast Recovery Rectifier

Reverse Voltage – 50 to 600 V Forward Current – 3 A

### FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- Case: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg / 0.002oz

### Absolute Maximum Ratings and Characteristics

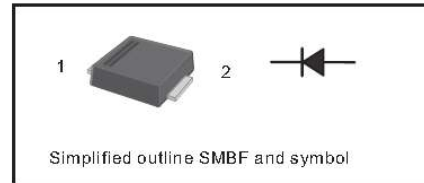
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter  | Symbols         | ES3ABF     | ES3BF | ES3CBF | ES3DBF | ES3EBF             | ES3GBF | ES3JBF | Units            |
|--|-----------------|------------|-------|--------|--------|--------------------|--------|--------|------------------|
| Maximum Repetitive 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                |
| Maximum Average Forward Rectified Current at $T_L = 100^\circ\text{C}$   | $I_{F(AV)}$     | 3          |       |        |        |                    |        |        | A                |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)                | $I_{FSM}$       | 100        |       |        |        |                    |        |        | A                |
| Maximum Forward Voltage at 3A  | $V_F$           | 1          |       |        |        | 1.25               |        | 1.68   | V                |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>$T_a = 25^\circ\text{C}$<br>$T_a = 125^\circ\text{C}$ | $I_R$           | 5          |       |        |        | 100                |        |        | $\mu\text{A}$    |
| Typical Junction Capacitance   | $C_j$           | 45         |       |        |        | pF                 |        |        |                  |
| Maximum Reverse Recovery Time at $I_F = 0.5\text{A}$ , $I_R = 1\text{A}$ , $I_{rr} = 0.25\text{A}$               | $t_{rr}$        | 35         |       |        |        | ns                 |        |        |                  |
| Typical Thermal Resistance <sup>2)</sup>   | $R_{\theta JA}$ | 55         |       |        |        | $^\circ\text{C/W}$ |        |        |                  |
| Operating and Storage Temperature Range  | $T_j, T_{stg}$  | -55 ~ +150 |       |        |        |                    |        |        | $^\circ\text{C}$ |

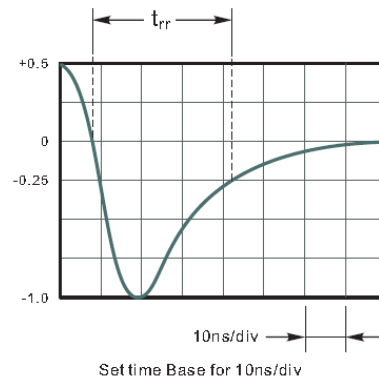
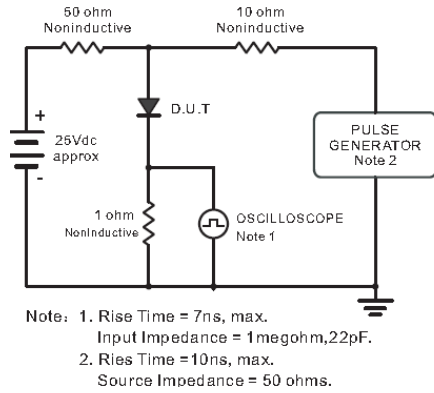
1) Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$     2) P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm) copper pad areas.

### PINNING

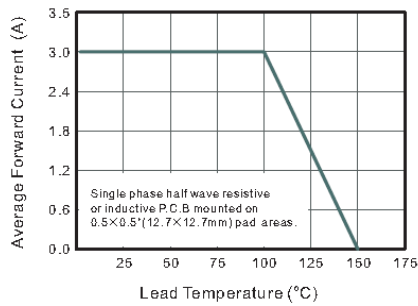
| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



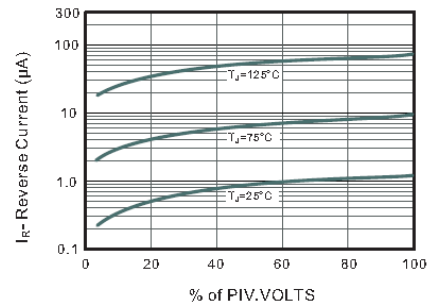
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



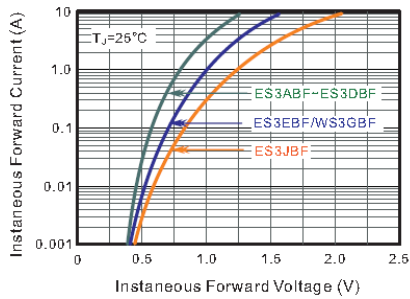
**Fig.2 Maximum Average Forward Current Rating**



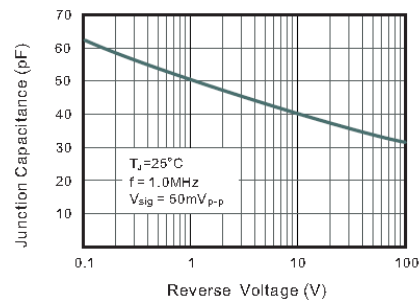
**Fig.3 Typical Reverse Characteristics**



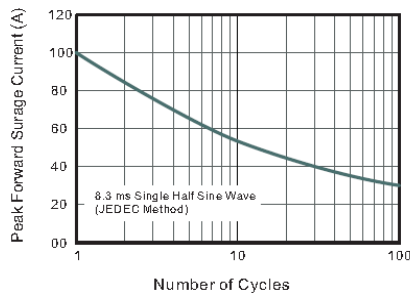
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**



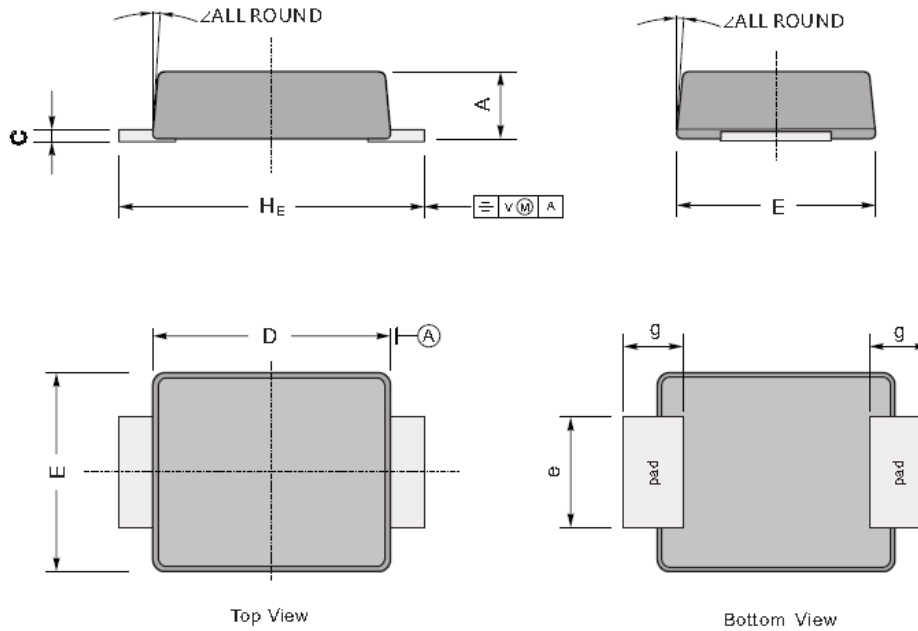
**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**



## PACKAGE OUTLINE

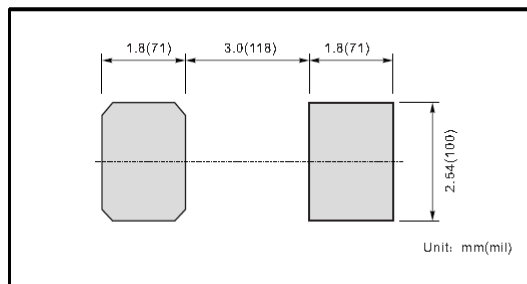
Plastic surface mounted package; 2 leads

SMBF



| UNIT |     | A   | C    | D   | E   | H <sub>E</sub> | e   | g   | ∠  |
|------|-----|-----|------|-----|-----|----------------|-----|-----|----|
| mm   | max | 1.3 | 0.26 | 4.4 | 3.7 | 5.5            | 2.2 | 1.0 | 9° |
|      | min | 1.1 | 0.18 | 4.2 | 3.5 | 5.1            | 1.9 |     |    |
| mil  | max | 51  | 10   | 173 | 146 | 216            | 86  | 40  |    |
|      | min | 43  | 7    | 165 | 138 | 200            | 75  |     |    |

### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| ES3ABF      | E3AB         |
| ES3BBF      | E3BB         |
| ES3CBF      | E3CB         |
| ES3DBF      | E3DB         |
| ES3EBF      | E3EB         |
| ES3GBF      | E3GB         |
| ES3JBF      | E3JB         |

单击下面可查看定价，库存，交付和生命周期等信息

[>>SHIKUES\(时科\)](#)