

Reverse Voltage – 50 to 600 V

Forward Current –2 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

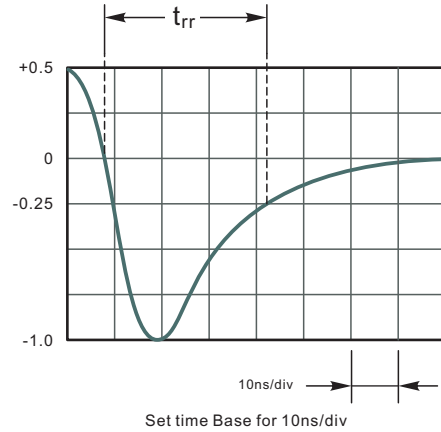
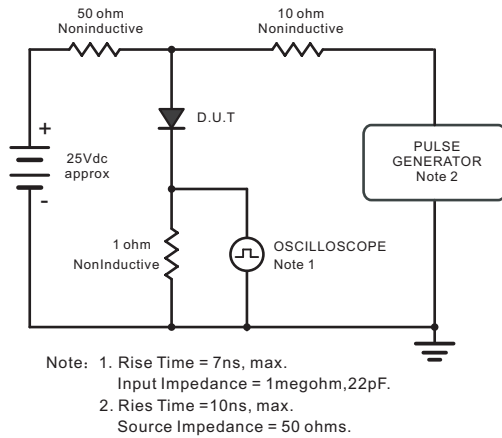
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter                                                                                                                               | Symbols                            | ES2ABF     | ES2BBF | ES2CBF | ES2DBF | ES2EBF | ES2GBF | ES2JBF | 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                                                                                               | $I_{F(AV)}$                        | 2          |        |        |        |        |        |        | A                    |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                                                      | $I_{FSM}$                          | 60         |        |        |        |        |        |        | A                    |
| Maximum Forward Voltage at 2 A                                                                                                          | $V_F$                              | 1          |        |        |        | 1.25   | 1.68   |        | V                    |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage<br>$T_a = 25\text{ }^{\circ}\text{C}$<br>$T_a = 125\text{ }^{\circ}\text{C}$ | $I_R$                              | 5<br>100   |        |        |        |        |        |        | $\mu\text{A}$        |
| Typical Junction Capacitance<br>at $V_R=4\text{V}$ , $f=1\text{MHz}$                                                                    | $C_j$                              | 28         |        |        |        |        |        |        | pF                   |
| Maximum Reverse Recovery Time <sup>(1)</sup>                                                                                            | $t_{rr}$                           | 35         |        |        |        |        |        |        | ns                   |
| Typical Thermal Resistance <sup>(2)</sup>                                                                                               | $R_{\theta JA}$<br>$R_{\theta JC}$ | 60<br>18   |        |        |        |        |        |        | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range                                                                                                 | $T_j, T_{stg}$                     | -55 ~ +150 |        |        |        |        |        |        | $^{\circ}\text{C}$   |

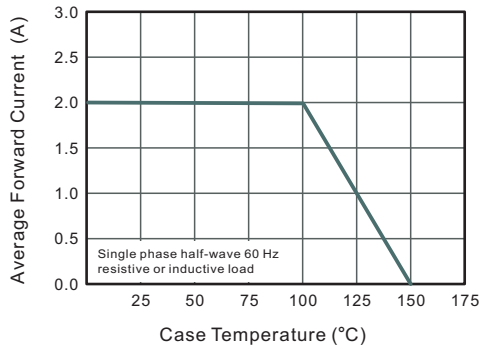
( 1 ) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

( 2 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

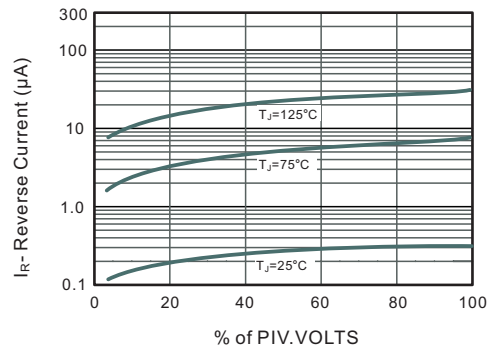
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



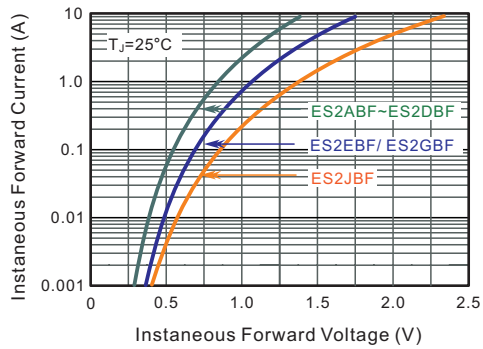
**Fig.2 Maximum Average Forward Current Rating**



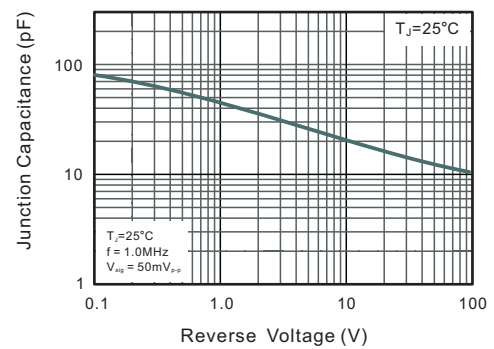
**Fig.3 Typical Reverse Characteristics**



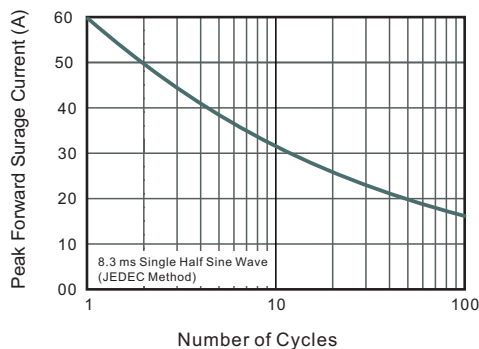
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**

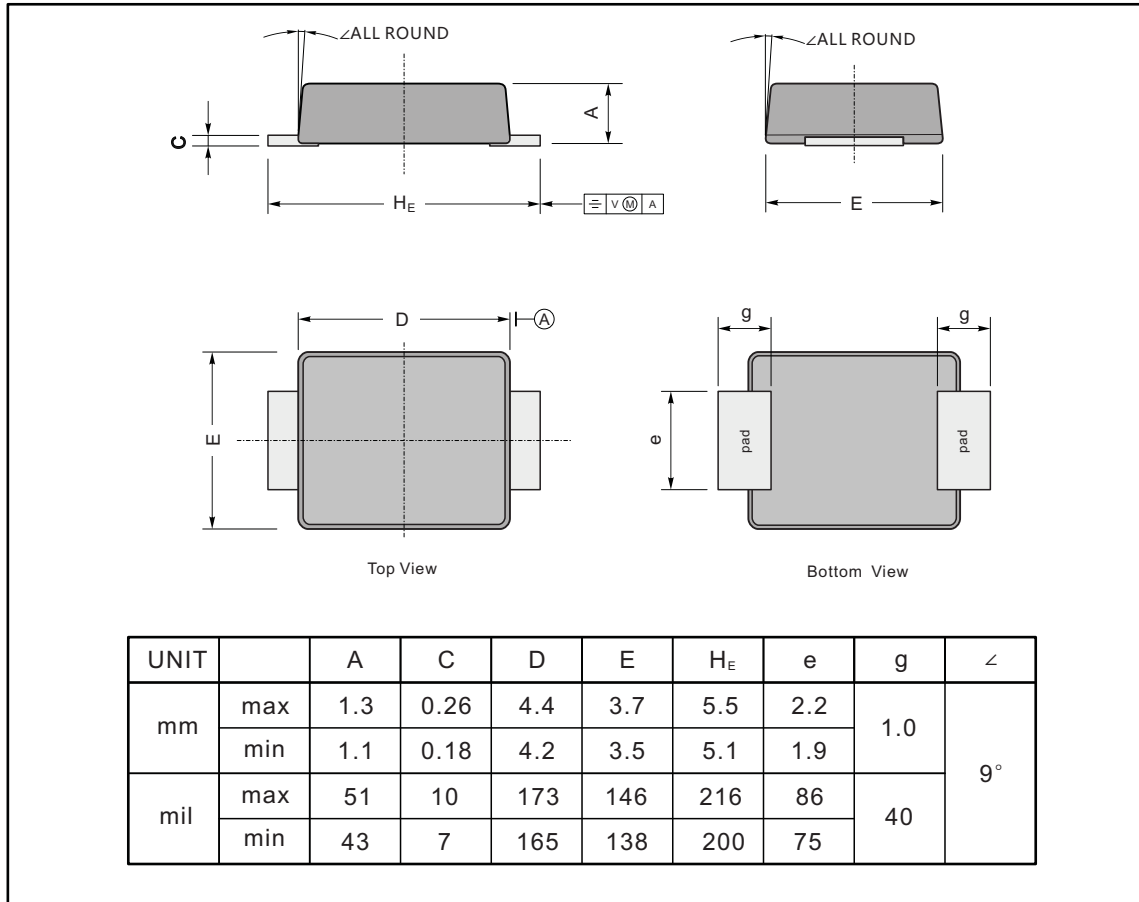


**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**

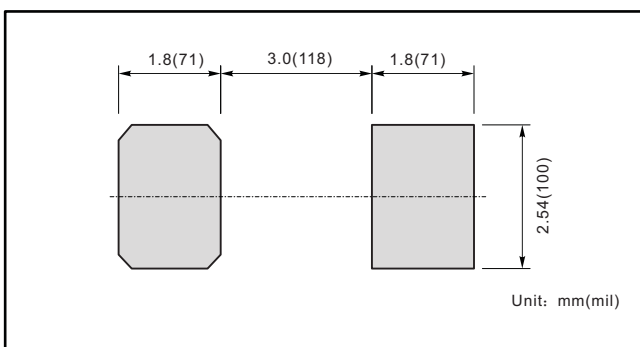


## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads



### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| ES2ABF      | ES2A         |
| ES2BBF      | ES2B         |
| ES2CBF      | ES2C         |
| ES2DBF      | ES2D         |
| ES2EBF      | ES2E         |
| ES2GBF      | ES2G         |
| ES2JBF      | ES2J         |