

ES5ABF~ES5JBF

Surface Mount Superfast Recovery Rectifier

ROHS

Features

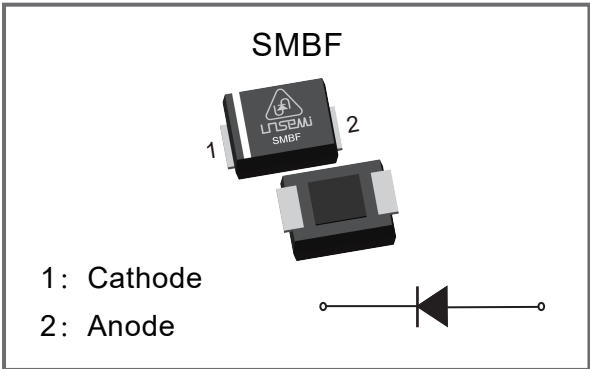
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass passivated chip junction
- ◆ Superfast reverse recovery time
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- ◆ Case: SMBF
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Approx. Weight : 57mg/0.002oz
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026



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Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| Parameter | | Symbol | ES5ABF | ES5BBF | ES5CBF | ES5DBF | ES5EBF | ES5GBF | ES5JBF | Units |
|---|---------|---------|------------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Repetitive Peak Reverse Voltage | | VRRM | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS voltage | | VRMS | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC Blocking Voltage | | VDC | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum Average Forward Rectified Current at Tc =115℃ | | IF(AV) | 5.0 | | | | | | | A |
| Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load | | IFSM | 150 | | | | | | | A |
| Maximum Forward Voltage at at 5A | | VF | 1.0 | | | | 1.25 | | 1.70 | V |
| Maximum DC Reverse Current at Rated DC Reverse Voltage | Ta=25℃ | IR | 10 | | | | | | | μA |
| | Ta=125℃ | IR | 100 | | | | | | | |
| Typical Junction Capacitance at VR=4V, f=1MHz | | Cj | 50 | | | | | | | pF |
| Maximum Reverse Recovery Time ⁽¹⁾ | | trr | 35 | | | | | | | nS |
| Typical Thermal Resistance ⁽²⁾ | | RθJA | 40 | | | | | | | ℃/W |
| | | RθJC | 12 | | | | | | | |
| Operating and Storage Temperature Range | | TJ,Tstg | -55 ~ +150 | | | | | | | ℃ |

Note: (1) Measured with IF=0.5A, IR=1A, Irr=0.25A.

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

Electrical Characteristics Curves

Fig.1 Forward Current Derating Curve

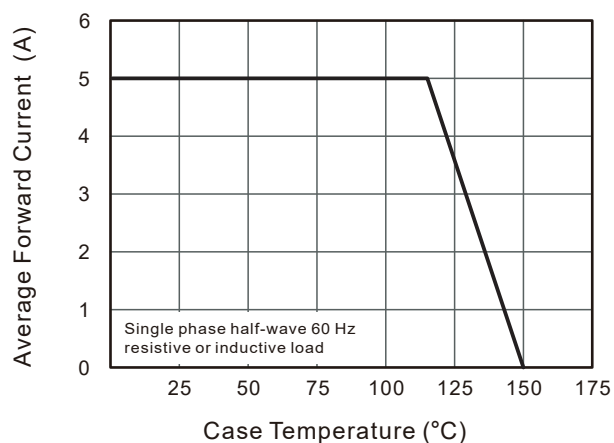


Fig. 2 Typical Reverse Characteristics

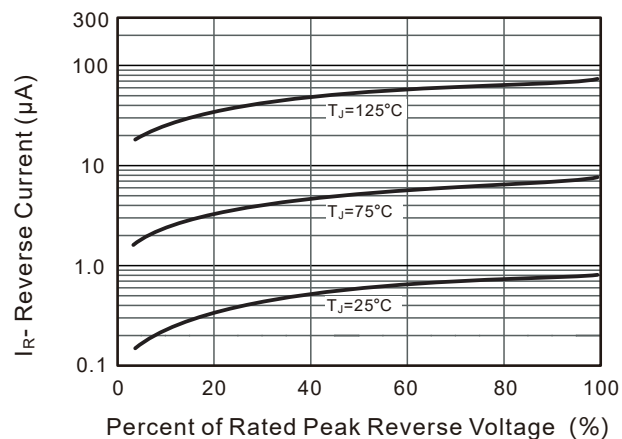


Fig.3 Typical Forward Characteristic

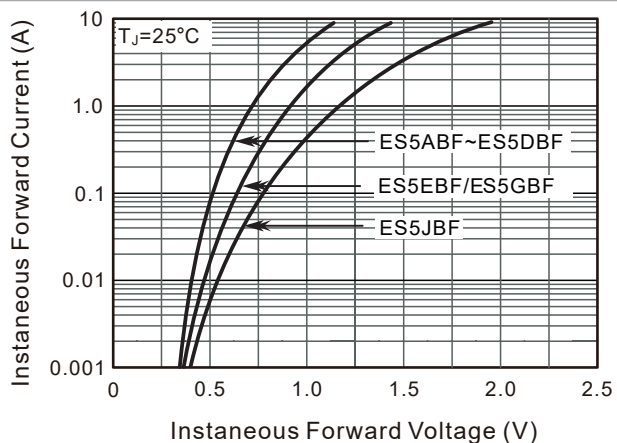


Fig. 4 Typical Junction Capacitance

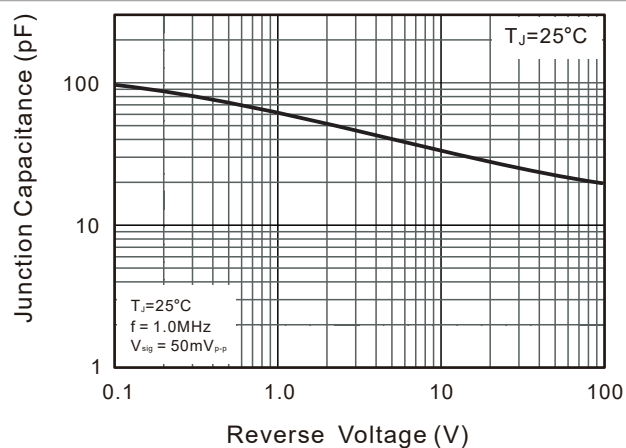
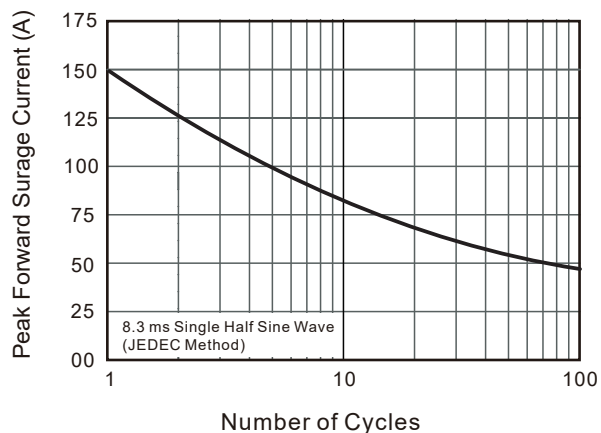
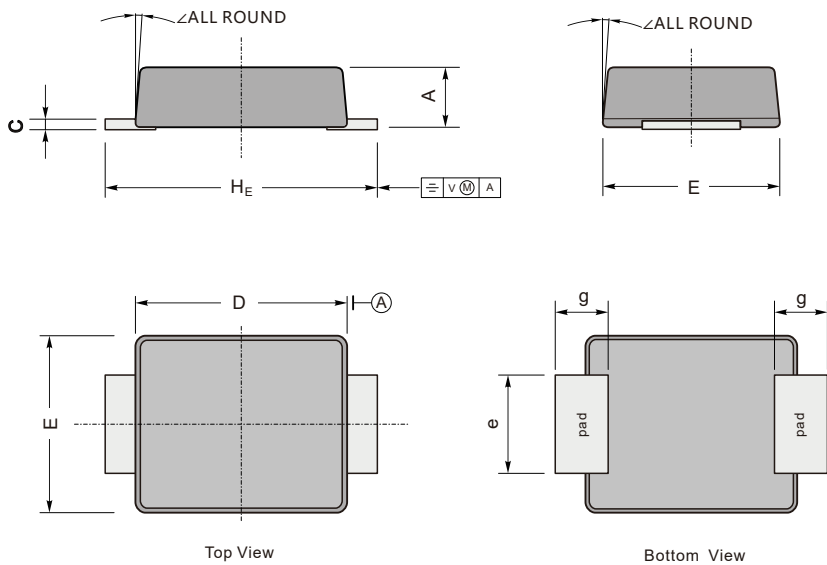


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline & Dimensions



| UNIT | | A | C | D | E | H _E | 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 | | |

Marking

| Type Number | ES5ABF | ES5BBF | ES5CBF | ES5DBF | ES5EBF | ES5GBF | ES5JBF |
|-------------|--------|--------|--------|--------|--------|--------|--------|
| Making | E5AB | E5BB | E5CB | E5DB | E5EB | E5GB | E5JB |

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