

## ES3A~ES3J

### 3.0Amp Super Fast Recovery Surface Mounted Rectifiers

#### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Idea for printed circuit board
- ◆ Glass passivated junction chip
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed  
260°C/10 seconds at terminals

#### Mechanical Data

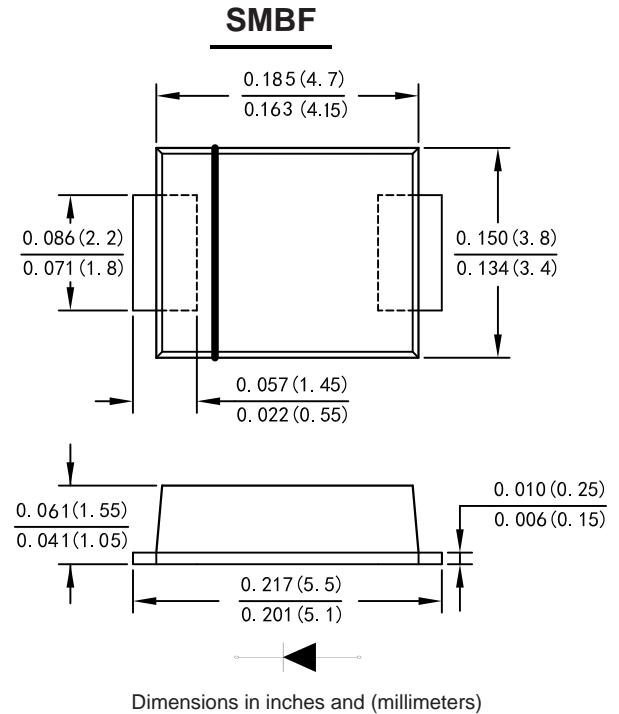
**Case :** Molded plastic body

**Terminals :** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity :** Polarity symbol marking on body

**Mounting Position :** Any

**Weight :** 0.002 ounce, 0.056 grams



#### 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   | SYMBOLS        | ES3A        | ES3B | ES3C | ES3D | ES3F | ES3G | ES3J | 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 $T_L=100^\circ\text{C}$                                      | $I_{(AV)}$     | 3.0         |      |      |      |      |      |      | A                |                    |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                        | $I_{FSM}$      | 100.0       |      |      |      |      |      |      | A                |                    |
| Maximum instantaneous forward voltage at 3.0A   | $V_F$          | 1.0         |      |      | 1.3  |      | 1.7  |      | V                |                    |
| Maximum DC reverse current $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage $T_A=125^\circ\text{C}$ | $I_R$          | 5.0         |      |      |      | 200  |      |      |                  | $\mu\text{A}$      |
| Maximum reverse recovery time(Note 1)   | $T_{rr}$       | 35          |      |      |      |      |      |      |                  | ns                 |
| Typical junction capacitance (Note2)  | $C_J$          | 65.0        |      |      |      |      |      |      |                  | pF                 |
| Typical thermal resistance  | $R_{qJA}$      | 78.0        |      |      |      |      |      |      |                  | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range  | $T_J, T_{STG}$ | -55 to +150 |      |      |      |      |      |      | $^\circ\text{C}$ |                    |

**Note:** 1.Reverse recovery time test condition:  $I_F=0.5\text{A}$   $I_R=1.0\text{A}$   $I_{rr}=0.25\text{A}$   
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

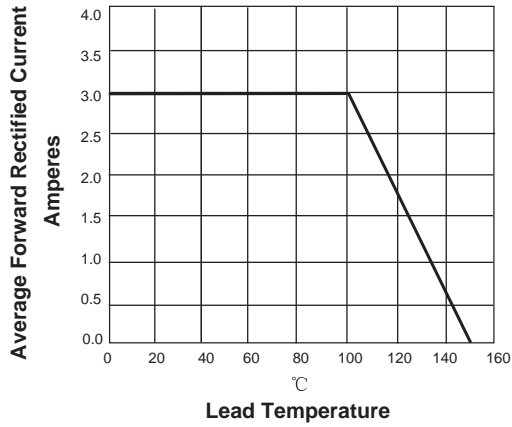


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

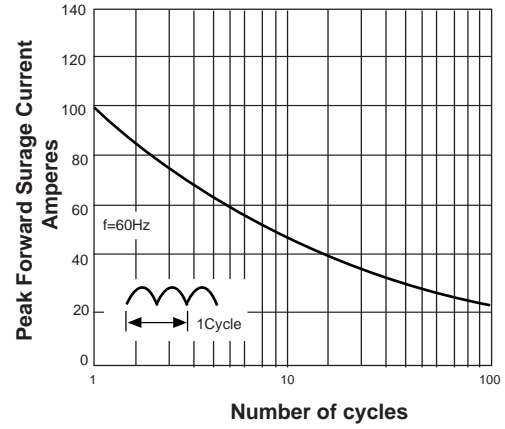


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

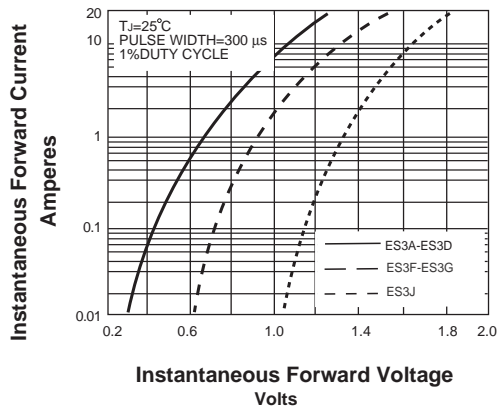


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

