

**FEATURES**

- Glass Passivated Die Construction
- Super-Fast Recovery Time For High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Ideally Suited for Automated Assembly
- Plastic Material: UL Flammability Classification Rating 94V-0



SMAF

**MECHANICAL DATA**

- Case: SMAF Molded plastic
- Terminals: Pure tin plated, lead free
- Polarity: Indicated by cathode band
- Weight: 27mg (approx.)



Cathode

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

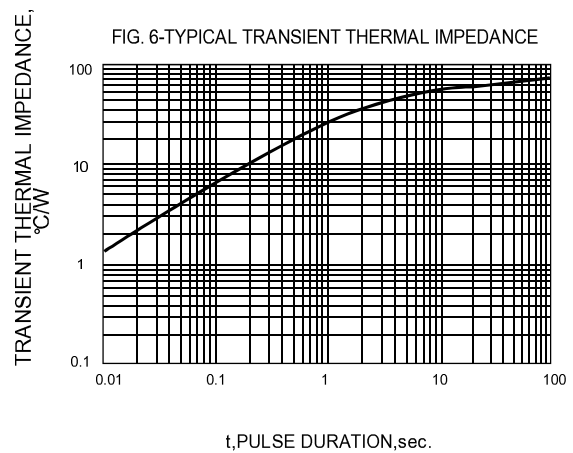
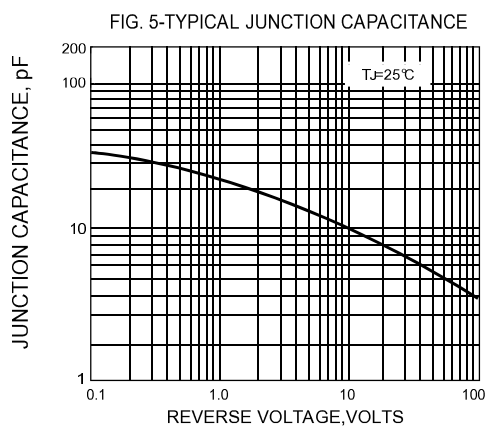
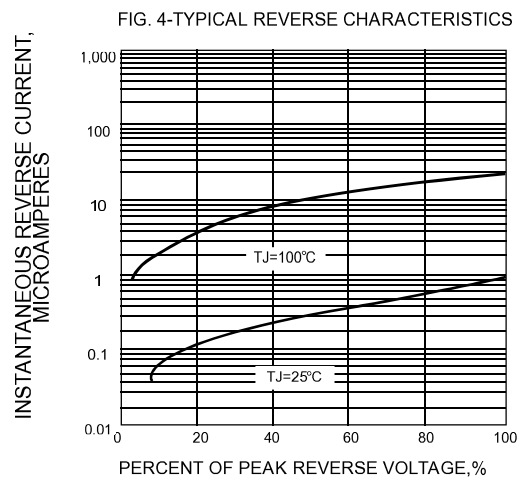
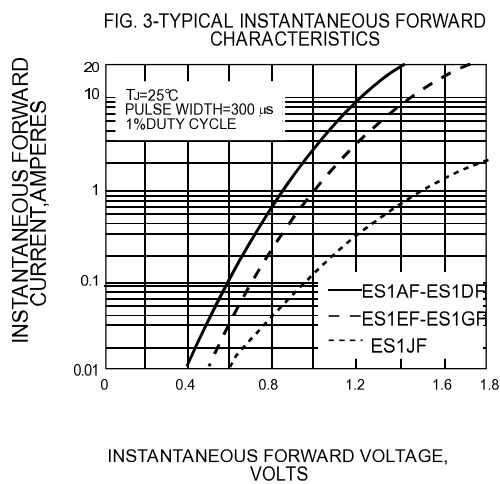
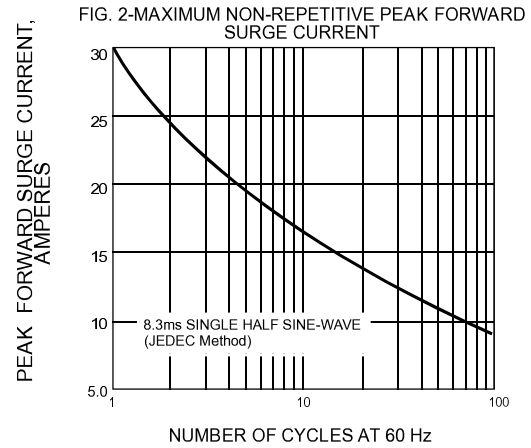
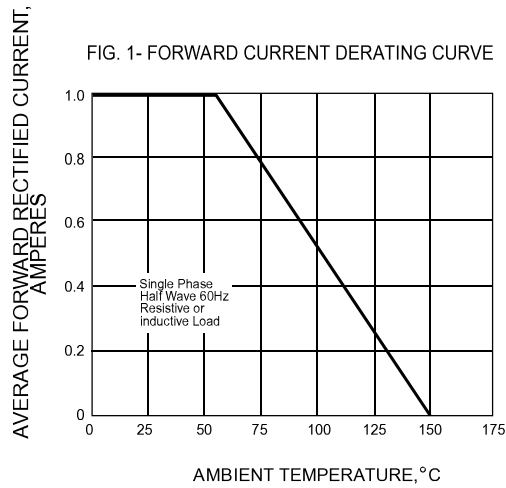
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter                                                                                 | Symbol          | ES1AF         | ES1BF | ES1CF | ES1DF | ES1EF | ES1GF | ES1JF | Unit               |
|-------------------------------------------------------------------------------------------|-----------------|---------------|-------|-------|-------|-------|-------|-------|--------------------|
| 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 $T_A = 75^\circ\text{C}$                     | $I_{F(AV)}$     | 1.0           |       |       |       |       |       |       | A                  |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC) | $I_{FSM}$       | 30.0          |       |       |       |       |       |       | A                  |
| Maximum Instantaneous Forward Voltage at 1 A                                              | $V_F$           | 0.95          |       |       |       | 1.25  | 1.7   |       | V                  |
| Maximum DC Reverse Current at<br>Rated DC Blocking Voltage                                | $I_R$           | 5.0<br>100.0  |       |       |       |       |       |       | $\mu\text{A}$      |
| Maximum reverse recovery time (NOTE1)                                                     | $t_{rr}$        | 35            |       |       |       |       |       |       | nS                 |
| Typical Junction Capacitance (NOTE2)                                                      | $C_J$           | 15.0          |       |       |       |       |       |       | pF                 |
| Maximum Thermal Resistance (NOTE3)                                                        | $R_{\theta JL}$ | 60.0          |       |       |       |       |       |       | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                   | $T_{J, TS}$     | - 50 to + 150 |       |       |       |       |       |       | $^\circ\text{C}$   |

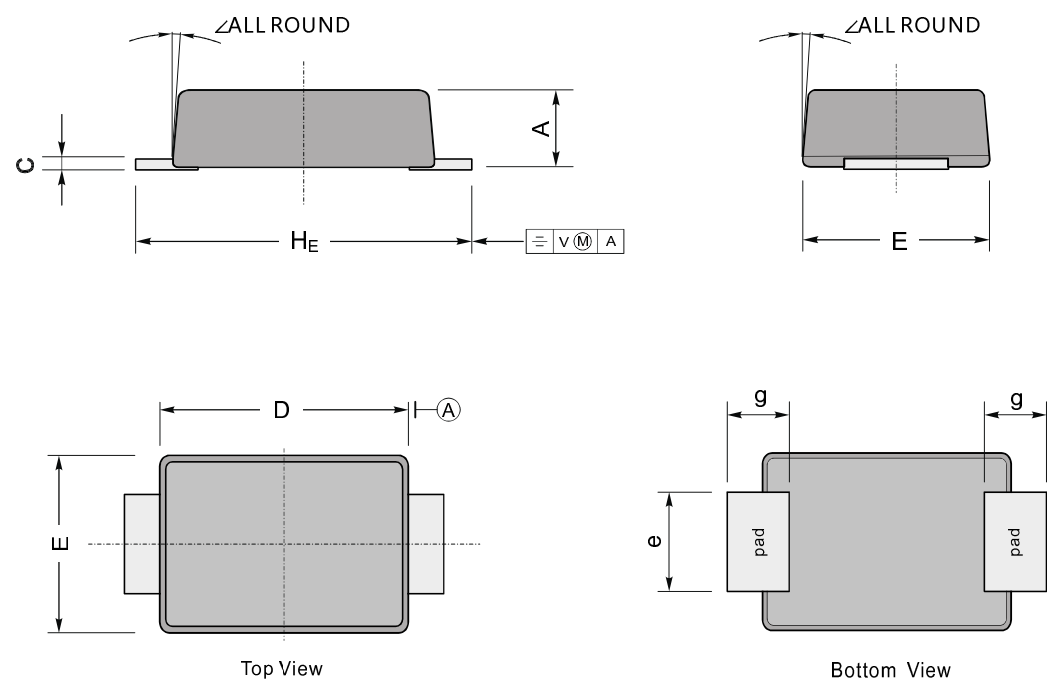
Note: 1.Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

**Typical Characteristics**

**SMAF Package Outline Dimensions**



| UNIT |     | A   | C    | D   | E   | e   | g   | H <sub>E</sub> | $\angle$ |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----------|
| mm   | max | 1.1 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9            | 7°       |
|      | min | 0.9 | 0.12 | 3.3 | 2.4 | 1.3 | 0.8 | 4.4            |          |
| mil  | max | 43  | 7.9  | 146 | 106 | 63  | 47  | 193            |          |
|      | min | 35  | 4.7  | 130 | 94  | 51  | 31  | 173            |          |