

Major Ratings and Characteristics

| | |
|--------------------|----------------------|
| $I_{F(AV)}$ | 1.0 A |
| V_{RRM} | 50 V to 600 V |
| I_{FSM} | 30 A |
| t_{rr} | 35 nS |
| V_F | 0.95 V, 1.3 V, 1.7 V |
| $T_j \text{ max.}$ | 150 °C |

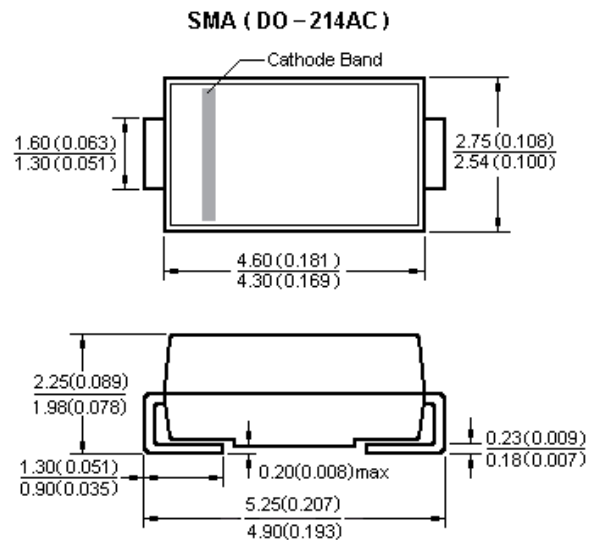


Features

- Glass passivated chip junction
- Ideal for automated placement
- Ultrafast reverse recovery time for high efficiency
- Low profile package
- High forward surge capability
- High temperature soldering:
260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/1 and WEEE 2002/96/EC

Mechanical Date

- Case: JEDEC DO-214AC molded plastic body over passivated chip
- Terminals: Solder plated, solderable per J-STD-002B and JESD22-B102D
- Polarity: Laser band denotes cathode end



Dimensions in millimeters and (inches)

Maximum Ratings & Thermal Characteristics & Electrical Characteristics

(TA = 25 °C unless otherwise noted)

| | Symbol | (ES1A) | (ES1A) | (ES1D) | (ES1G) | (ES1J) | UNIT |
|---|-----------------|-------------|--------|--------|--------|--------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 1 | | | | | A |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30 | | | | | A |
| Maximum instantaneous forward voltage at 1.0A | V_F | 0.95 | | 1.30 | 1.70 | | V |
| Maximum DC reverse current TA = 25 °C at Rated DC blocking voltage TA = 100°C | I_R | 5.0 | | | | | μA |
| | | 100 | | | | | μA |
| Maximum reverse recovery time at $I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $t_{rr} = 0.25 \text{ A}$ | t_{rr} | 35 | | | | | nS |
| Typical junction capacitance at 4.0 V, 1MHz | C_J | 15 | | | | | pF |
| Typical thermal resistance | $R_{\theta JA}$ | 75 | | | | | °C/W |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | | °C |

(ES1A~ES1J)SMA

Super Fast recovery rectifiers

Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

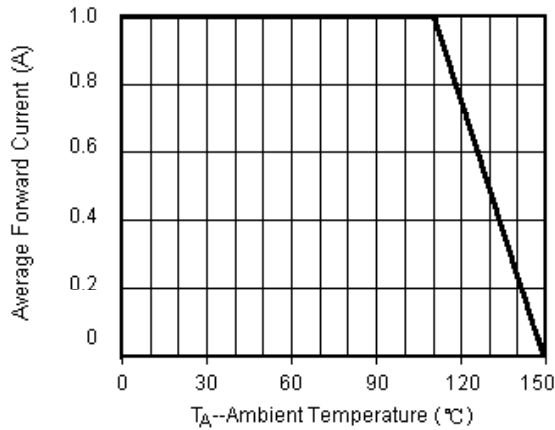


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

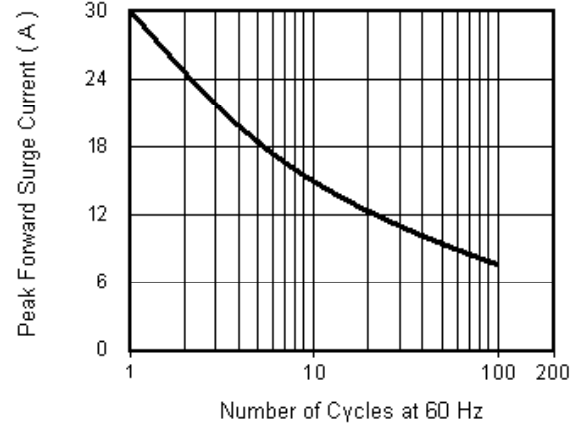


Fig.3 Typical Instantaneous Forward Characteristics

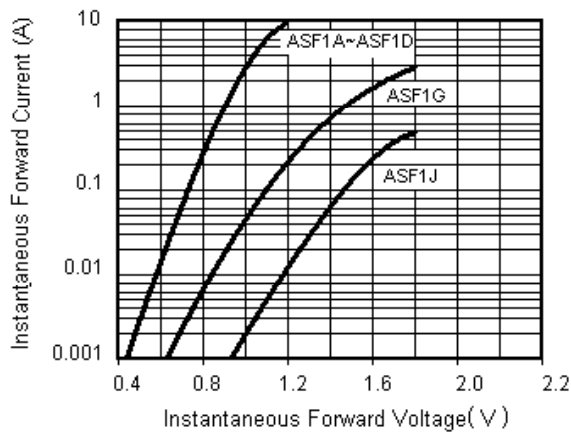


Fig.4 Typical Reverse Leakage Characteristics

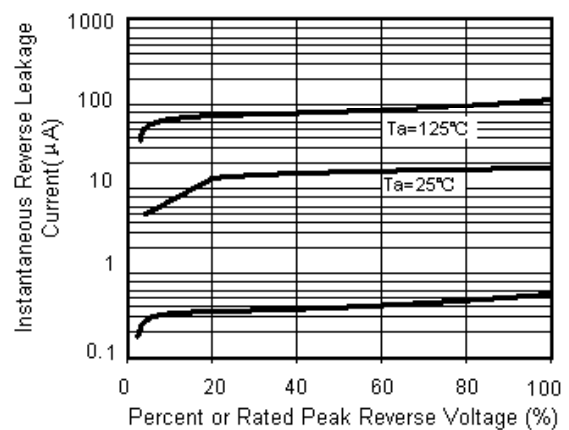


Fig.5 Typical Junction Capacitance

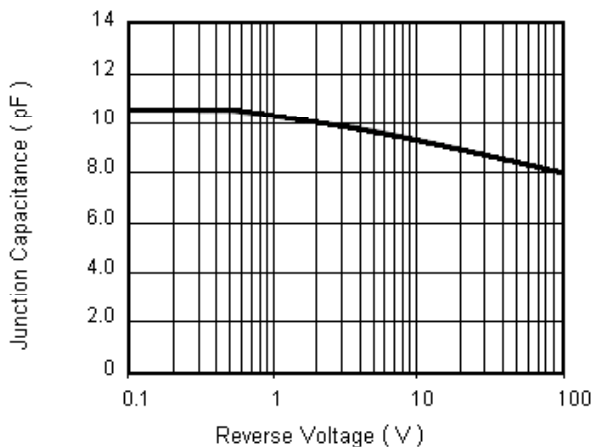


Fig.6 Transient Thermal Impedance

