

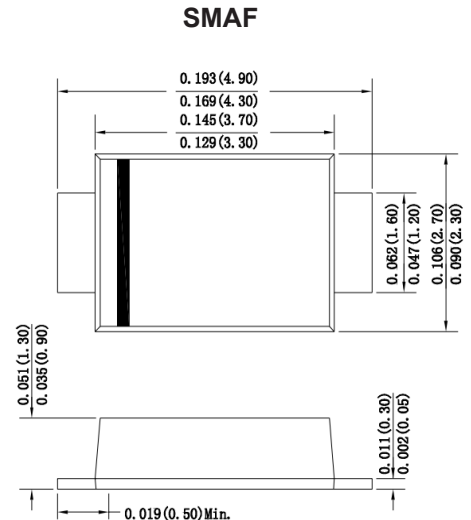
## Surface Mount Rectifier Diode

### 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



Dimensions in inches and (millimeters)

### 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         | S3AAF       | S3BAF | S3DAF | S3GAF | S3JAF | S3KAF | S3MAF | Unit          |
|-------------------------------------------------------------------------------------------------|----------------|-------------|-------|-------|-------|-------|-------|-------|---------------|
| Maximum repetitive peak reverse voltage                                                         | $V_{RRM}$      | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V             |
| Maximum RMS voltage                                                                             | $V_{RMS}$      | 35          | 70    | 140   | 280   | 420   | 560   | 700   | V             |
| Maximum DC blocking voltage                                                                     | $V_{DC}$       | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V             |
| Maximum average forward rectified current at $T_L=100^{\circ}C$                                 | $I_{(AV)}$     | 3.0         |       |       |       |       |       |       | A             |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load              | $I_{FSM}$      | 80          |       |       |       |       |       |       | A             |
| Maximum instantaneous forward voltage at 3.0A                                                   | $V_F$          | 1.1         |       |       |       |       |       |       | V             |
| Maximum DC reverse current $T_A=25^{\circ}C$<br>at rated DC blocking voltage $T_A=125^{\circ}C$ | $I_R$          | 5<br>500    |       |       |       |       |       |       | $\mu A$       |
| Typical junction capacitance (Note1)                                                            | $C_J$          | 38          |       |       |       |       |       |       | pF            |
| Typical thermal resistance                                                                      | $R_{QA}$       | 70          |       |       |       |       |       |       | $^{\circ}C/W$ |
| Operating junction and storage temperature range                                                | $T_J, T_{STG}$ | -55 to +150 |       |       |       |       |       |       | $^{\circ}C$   |



## Ratings and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

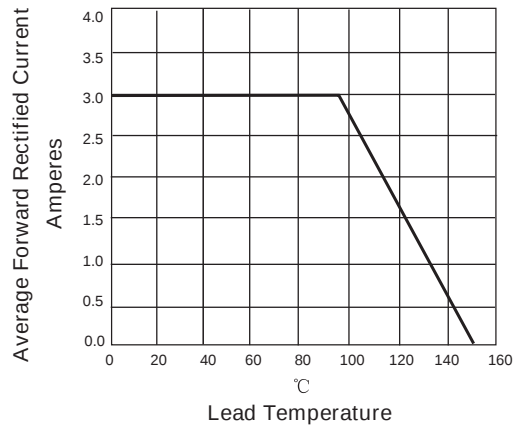


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

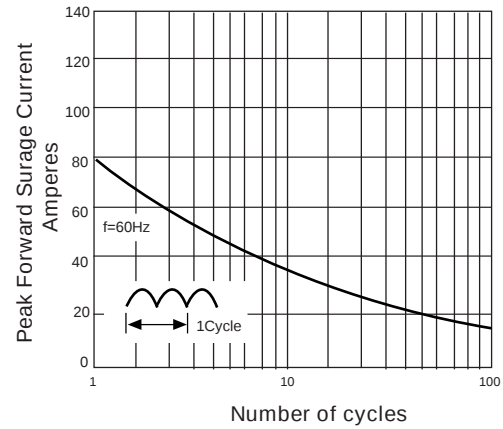


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

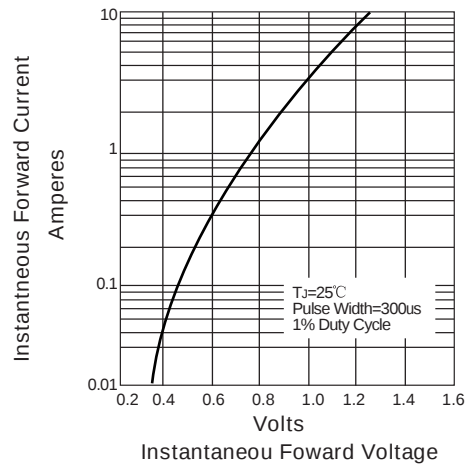
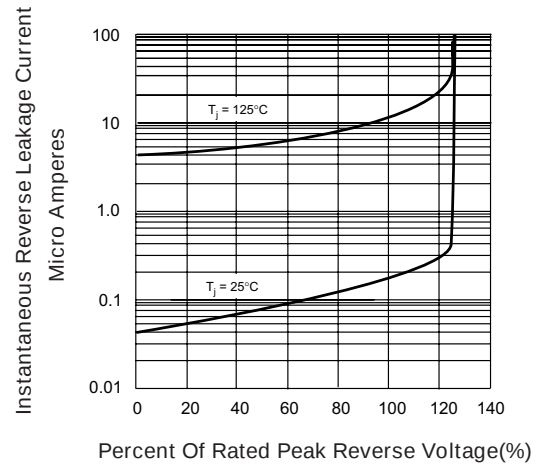
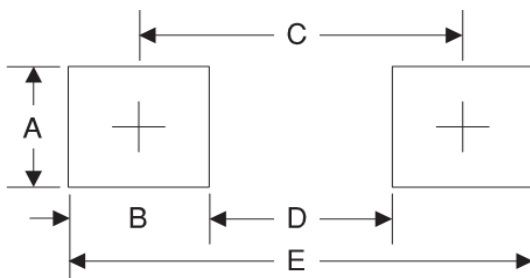


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



## Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.68      | 0.066       |
| B      | 1.52      | 0.060       |
| C      | 3.90      | 0.154       |
| D      | 2.00      | 0.078       |
| E      | 5.10      | 0.200       |