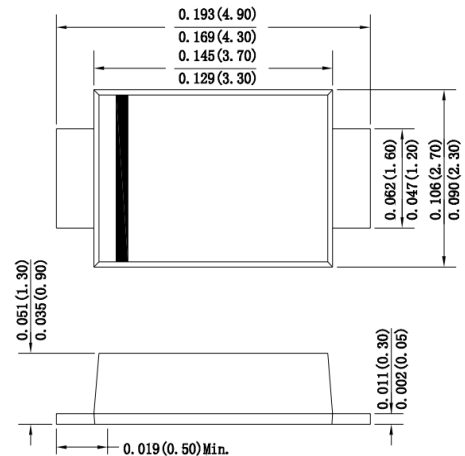


Features

- ◆ 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
250°C/10 seconds at terminals

SMAF



Dimensions in inches and (millimeters)

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 : 0.0014 ounce, 0.038 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 | U2AF | U2BF | U2DF | U2GF | U2JF | U2KF | U2MF | UNITS |
|---|----------------|-------------|------|------|------|------|------|------|---------------------------|
| 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 $T_L=100^\circ\text{C}$ | $I_{(AV)}$ | 2.0 | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 50.0 | | | | | | | A |
| Maximum instantaneous forward voltage at 2.0A | V_F | 1.0 | | 1.4 | | 1.7 | | V | |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$ | I_R | 5.0 500 | | | | | | | μA |
| Maximum reverse recovery time (Note 1) | T_{rr} | 50 | | | | 75 | | | ns |
| Typical junction capacitance (Note2) | C_J | 50.0 | | | | | | | pF |
| Typical thermal resistance | R_{qJA} | 70.0 | | | | | | | $^\circ\text{C}/\text{W}$ |
| 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

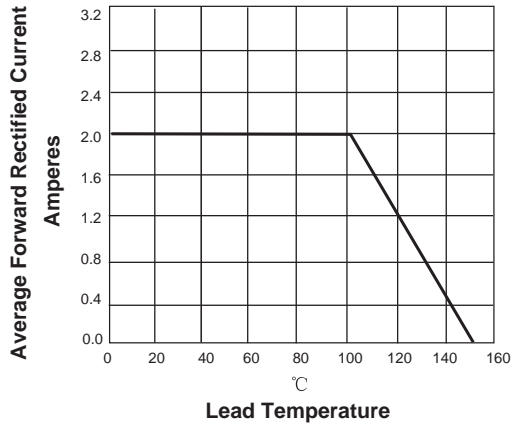


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

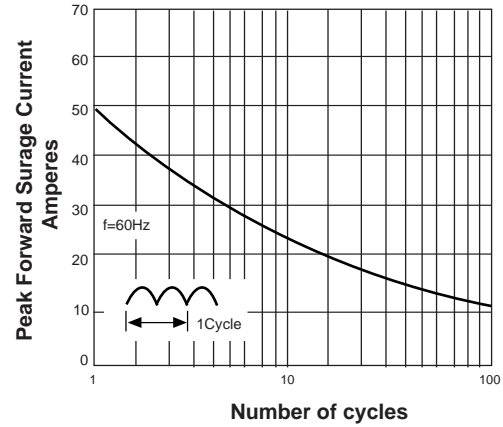


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

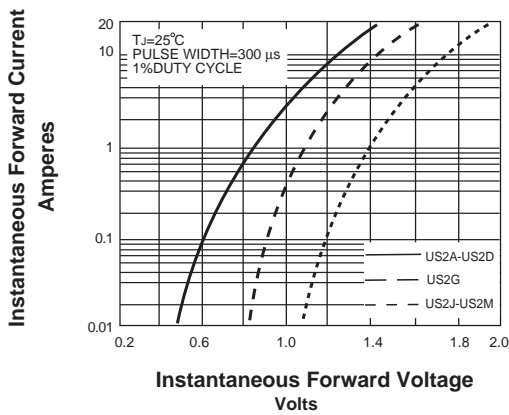
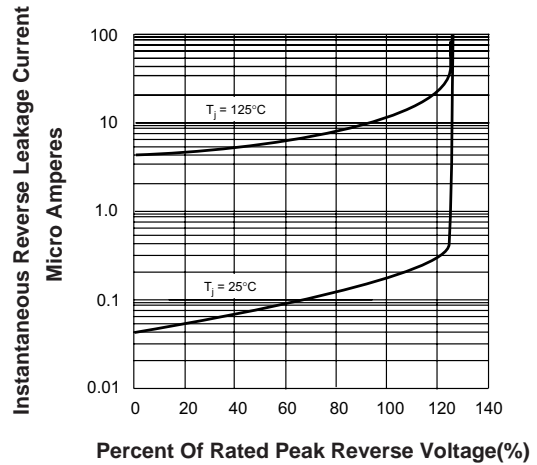
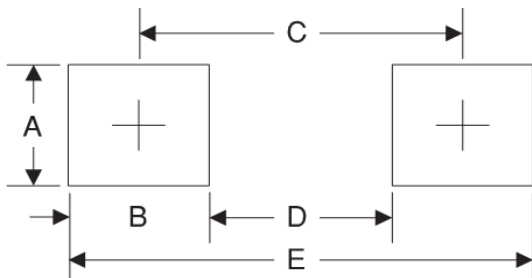


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

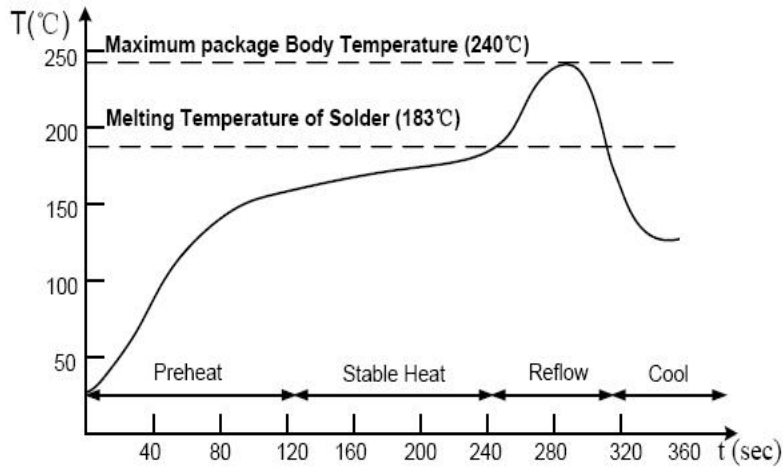


Suggested Pad Layout



| 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 |

Suggested Soldering Temperature Profile

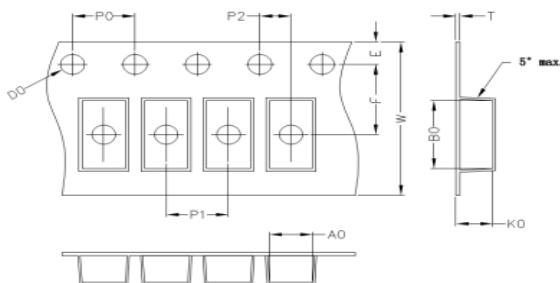


Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Carrier Dimension(mm)



| A0 | B0 | K0 | D0 | E | F |
|------|------|------|------|------|-----------|
| 2.83 | 4.75 | 1.42 | 1.55 | 1.75 | 5.50 |
| P0 | P1 | P2 | T | W | Tolerance |
| 4.0 | 4.0 | 2.0 | 0.25 | 12 | 0.1 |

Package Specifications

| Package | Reel Size | Reel DIA. (mm) | Q'TY/Reel (Kpcs) | Box Size (mm) | QTY/Box (Kpcs) | Carton Size (mm) | Q'TY/Carton (Kpcs) |
|---------|-----------|----------------|------------------|---------------|----------------|------------------|--------------------|
| SMAF | 7' | 178 | 3 | 180 | 12 | 380*200*200 | 120 |
| | 11' | 278 | 7.5 | 285 | 15 | 355*310*310 | 120 |