

**Features**

- The plastic package carries UL Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 260°C/10 seconds at terminals


**Mechanical Characteristics**

- Case: SMAF package molded plastic body over passivated chip
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0012 ounce, 0.034 grams

**Absolute Maximum Ratings and Electrical Parameters (TA=25°C unless otherwise specified)**

| PARAMETER   | SYMBOL                          | G2AF       | G2BF | G2DF | G2GF | G2JF | G2KF | G2MF | 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                         | $I_{AV}$                        | 2          |      |      |      |      |      |      | A                  |               |
| Peak forward surge current <sup>(NOTE1)</sup>                     | $I_{FSM}$                       | 50         |      |      |      |      |      |      | A                  |               |
| Maximum instantaneous forward voltage at 2A                       | $V_F$                           | 1.1        |      |      |      |      |      |      | V                  |               |
| Maximum DC reverse current at rated DC blocking voltage           | $T_A=25\text{ }^\circ\text{C}$  | $I_R$      | 5    |      |      |      |      |      |                    | $\mu\text{A}$ |
|   | $T_A=100\text{ }^\circ\text{C}$ | $I_{RT}$   | 50   |      |      |      |      |      |                    | $\mu\text{A}$ |
| Typical junction capacitance <sup>(NOTE 2)</sup>                  | $C_J$                           | 30         |      |      |      |      |      |      | pF                 |               |
| Typical Thermal Resistance Junction to Ambient <sup>(NOTE3)</sup> | $R_{\theta JA}$                 | 75         |      |      |      |      |      |      | $^\circ\text{C/W}$ |               |
| Typical Thermal Resistance Junction to Lead <sup>(NOTE3)</sup>    | $R_{\theta JL}$                 | 22         |      |      |      |      |      |      | $^\circ\text{C/W}$ |               |
| Operating Temperature Range                                       | $T_J$                           | -55 to 150 |      |      |      |      |      |      | $^\circ\text{C}$   |               |
| Storage Temperature Range   | $T_{STG}$                       | -55 to 150 |      |      |      |      |      |      | $^\circ\text{C}$   |               |

Note1: 8.3ms single half sine-wave superimposed on rated load

Note2: Measured at 1MHz and applied reverse voltage of 4.0V DC.

Note3: PCB. mounted with 5×5mm copper pad areas

**Summary of Packing Options**

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SMAF    | Tape/Reel, 11" reel | 5000             | EIA-481-1         |
|         | Tape/Reel, 7" reel  | 3000             | EIA-481-1         |

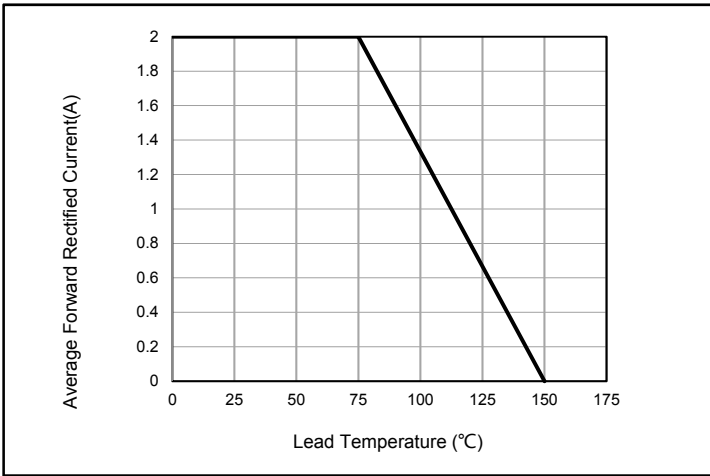


Fig. 1 - Forward Current Derating Curve

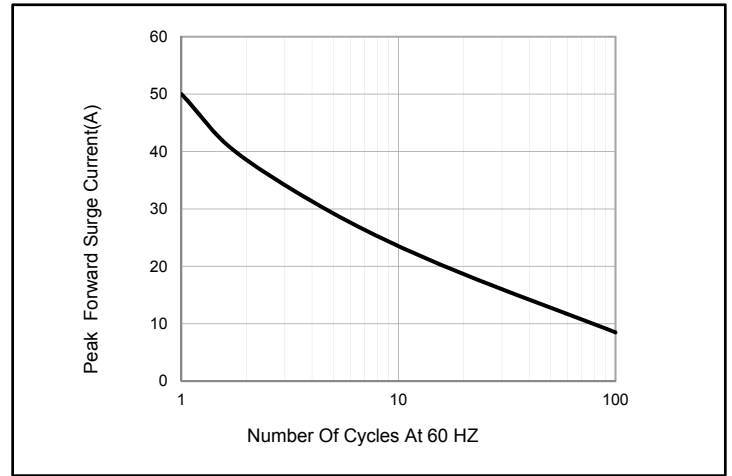


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

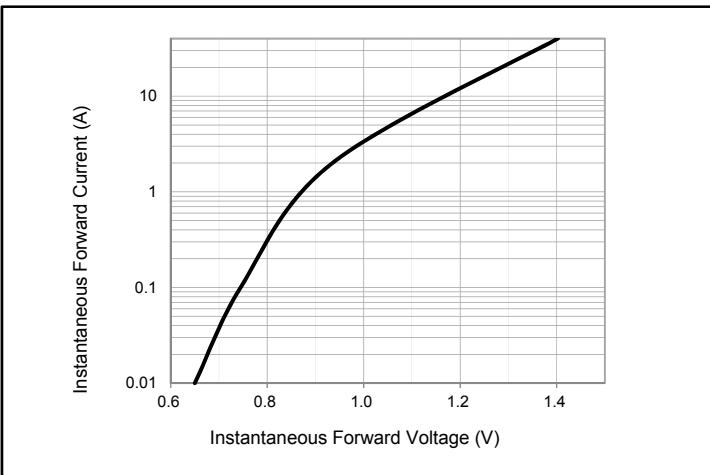


Fig. 3 - Typical Instantaneous Forward Characteristics

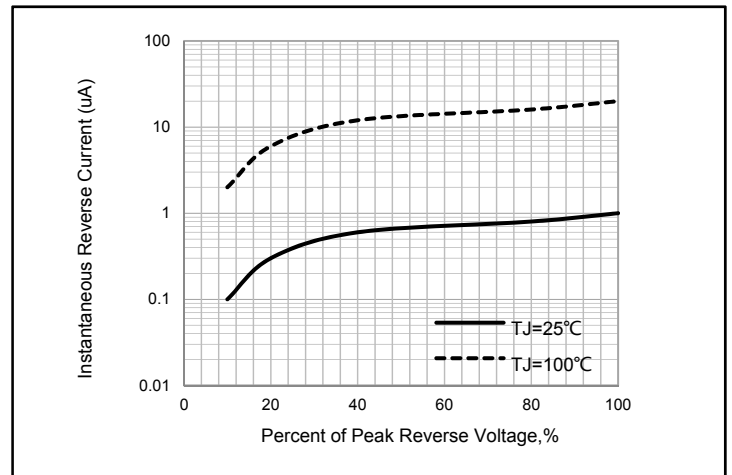


Fig. 4 - Typical Reverse Characteristics

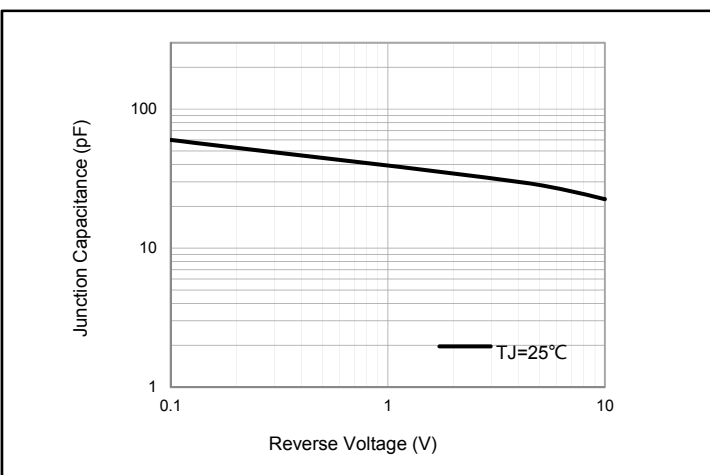


Fig. 5 - Typical Junction Capacitance

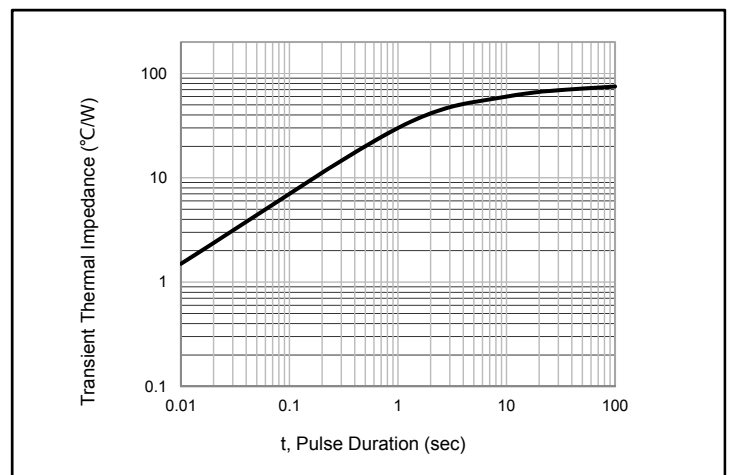
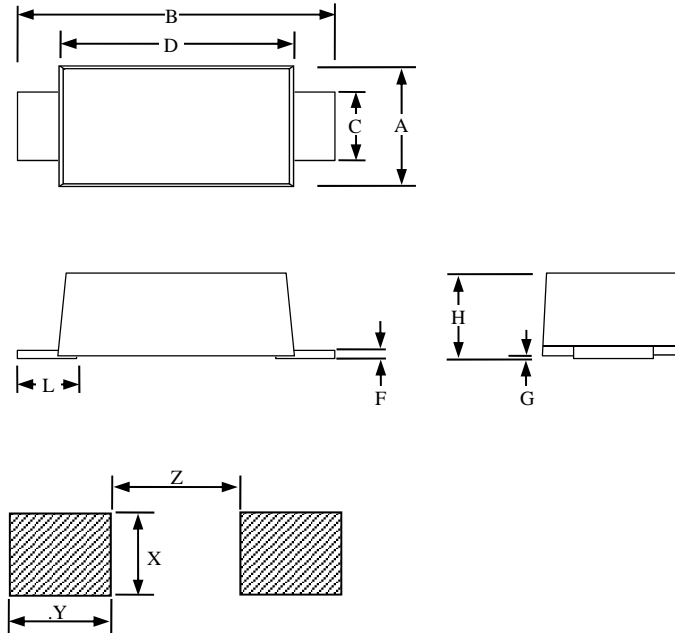


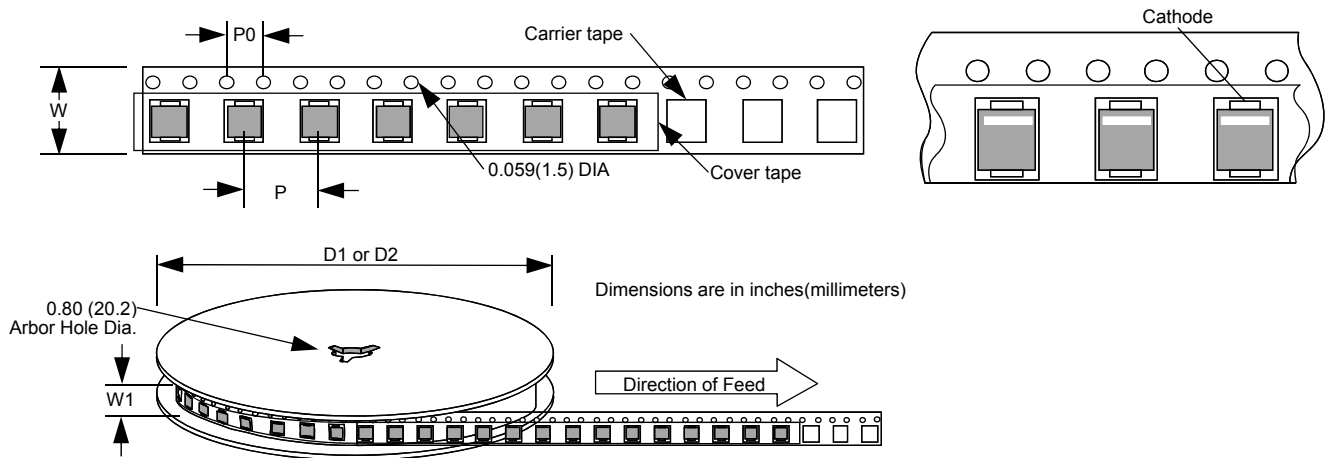
Fig. 6 - Typical Transient Thermal Impedance



| SMAF      |        |       |       |             |     |      |
|-----------|--------|-------|-------|-------------|-----|------|
| Dimension | Inches |       |       | Millimeters |     |      |
|           | MIN    | NOM   | MAX   | MIN         | NOM | MAX  |
| A         | 0.094  |       | 0.11  | 2.4         |     | 2.8  |
| B         | 0.173  |       | 0.189 | 4.4         |     | 4.8  |
| C         | 0.051  |       | 0.059 | 1.3         |     | 1.5  |
| D         | 0.128  |       | 0.144 | 3.25        |     | 3.65 |
| L         | 0.028  |       | 0.047 | 0.7         |     | 1.2  |
| F         | 0.006  |       | 0.012 | 0.15        |     | 0.3  |
| G         | -      |       | 0.004 | -           |     | 0.1  |
| H         | 0.043  |       | 0.055 | 1.1         |     | 1.4  |
| X         |        | 0.067 |       |             | 1.7 |      |
| Y         |        | 0.098 |       |             | 2.5 |      |
| Z         |        | 0.059 |       |             | 1.5 |      |



| Reflow Condition                                       |                                    | Lead-free assembly      |
|--|------------------------------------|-------------------------|
| Pre Heat   | - Temperature Min ( $T_{s(min)}$ ) | 150°C                   |
|  | - Temperature Max ( $T_{s(max)}$ ) | 200°C                   |
|  | - Time (min to max) ( $t_s$ )      | 60 – 180 secs           |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak) |                                    | 3°C/second max          |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                   |                                    | 3°C/second max          |
| Reflow   | - Temperature ( $T_L$ ) (Liquidus) | 217°C                   |
|  | - Time ( $t_L$ )                   | 60 – 150 secs           |
| Peak Temperature ( $T_P$ )                             |                                    | 260 <sup>+0/-5</sup> °C |
| Time within 5°C of actual peak Temperature ( $t_p$ )   |                                    | 20 – 40 secs            |
| Ramp-down Rate   |                                    | 6°C/second max          |
| Time 25°C to peak Temperature (t)                      |                                    | 8 minutes Max.          |
| Do not exceed  |                                    | 260°C                   |



| Dimension | Inches |       |     | Millimeters |       |     |
|-----------|--------|-------|-----|-------------|-------|-----|
|           | MIN    | NOM   | MAX | MIN         | NOM   | MAX |
| P         |        | 0.157 |     |             | 4     |     |
| P0        |        | 0.157 |     |             | 4     |     |
| W         |        | 0.472 |     |             | 12    |     |
| W1        |        | 0.492 |     |             | 12.5  |     |
| D1        |        | 7     |     |             | 177.8 |     |
| D2        |        | 11    |     |             | 279.4 |     |

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