

### Features

- The plastic package carries UL Flammability Classification 94V-0
- For surface mounted applications
- Low power loss, high efficiency
- 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: SMA(DO-214AC) package molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0021 ounce, 0.059 grams

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

| PARAMETER   | SYMBOL                          | SS22       | SS23 | SS24 | SS25 | SS26 | SS28       | SS210 | SS215 | SS220 | UNIT |    |
|---|---------------------------------|------------|------|------|------|------|------------|-------|-------|-------|------|----|
| Maximum repetitive peak reverse voltage                           | $V_{RRM}$                       | 20         | 30   | 40   | 50   | 60   | 80         | 100   | 150   | 200   | V    |    |
| Maximum RMS voltage   | $V_{RMS}$                       | 14         | 21   | 28   | 35   | 42   | 56         | 70    | 105   | 140   | V    |    |
| Maximum DC blocking voltage                                       | $V_{DC}$                        | 20         | 30   | 40   | 50   | 60   | 80         | 100   | 150   | 200   | 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                       | $V_F$                           | 0.55       |      |      | 0.7  |      | 0.85       |       | 0.9   |       | V    |    |
| Maximum DC reverse current at rated DC blocking voltage           | $T_A=25\text{ }^\circ\text{C}$  | $I_R$      |      |      |      |      | 50         |       | 20    |       | uA   |    |
|   | $T_A=100\text{ }^\circ\text{C}$ | $I_{RT}$   |      |      |      |      | 5000       |       | 2000  |       | uA   |    |
| Typical junction capacitance <sup>(NOTE 2)</sup>                  | $C_J$                           | 220        |      |      | 180  |      |            |       |       |       | pF   |    |
| Typical Thermal Resistance Junction to Ambient <sup>(NOTE3)</sup> | $R_{\theta JA}$                 | 85         |      |      |      |      |            |       |       |       | °C/W |    |
| Typical Thermal Resistance Junction to Lead <sup>(NOTE3)</sup>    | $R_{\theta JL}$                 | 28         |      |      |      |      |            |       |       |       | °C/W |    |
| Operating Temperature Range                                       | $T_J$                           | -55 to 125 |      |      |      |      | -55 to 150 |       |       |       |      | °C |
| Storage Temperature Range   | $T_{STG}$                       | -55 to 150 |      |      |      |      |            |       |       |       | °C   |    |

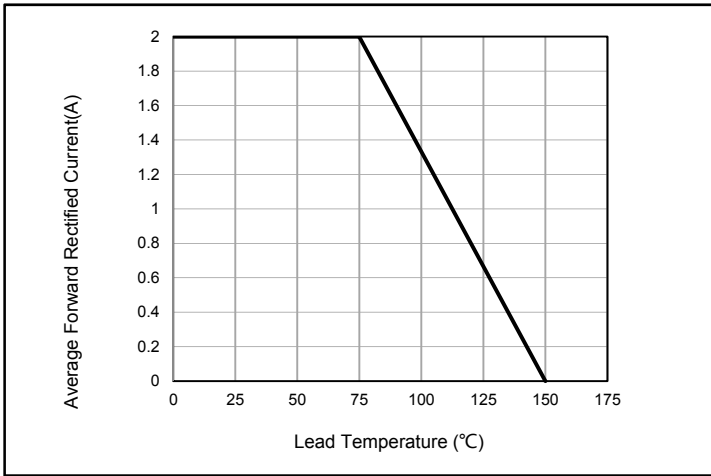
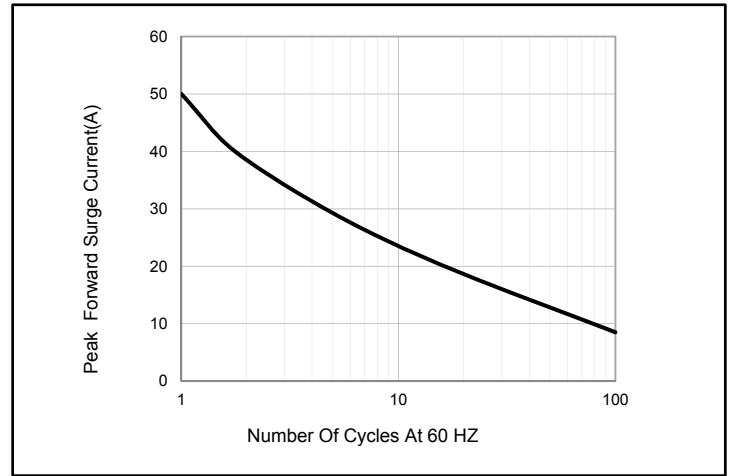
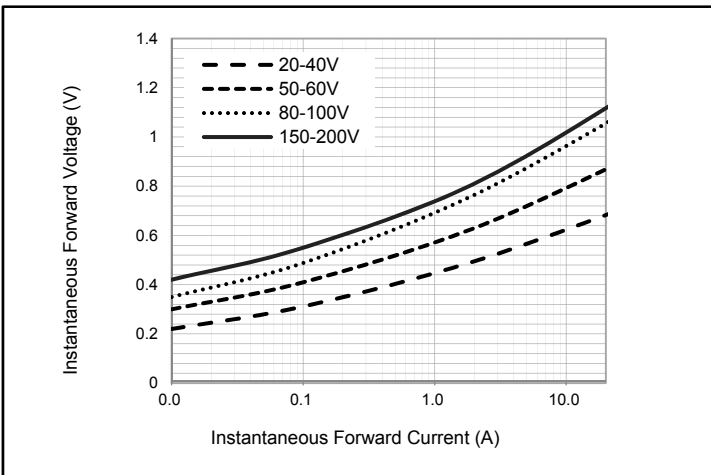
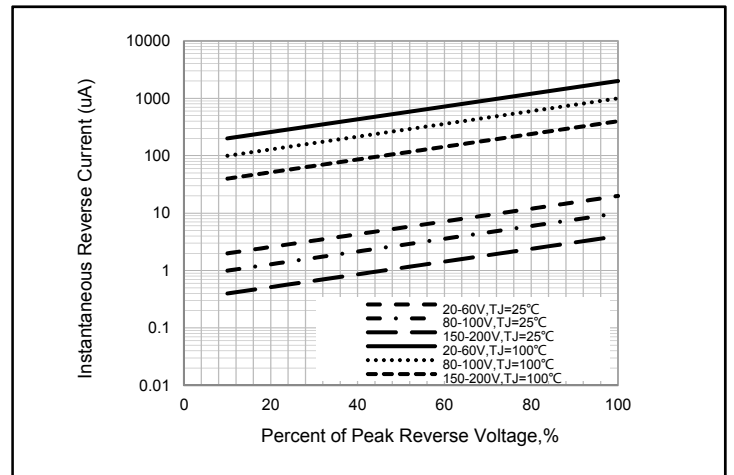
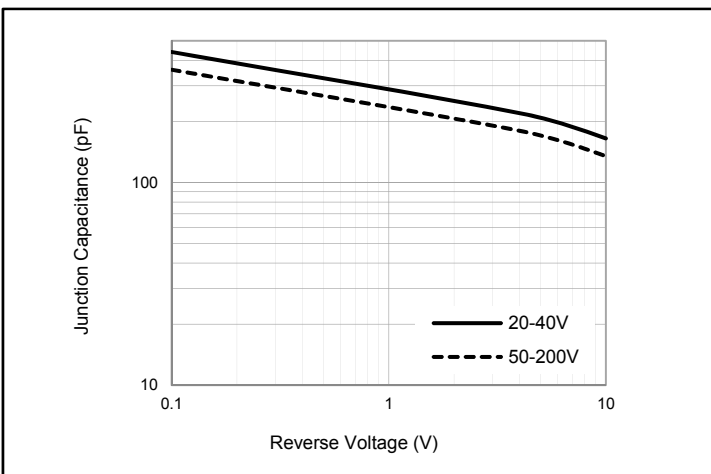
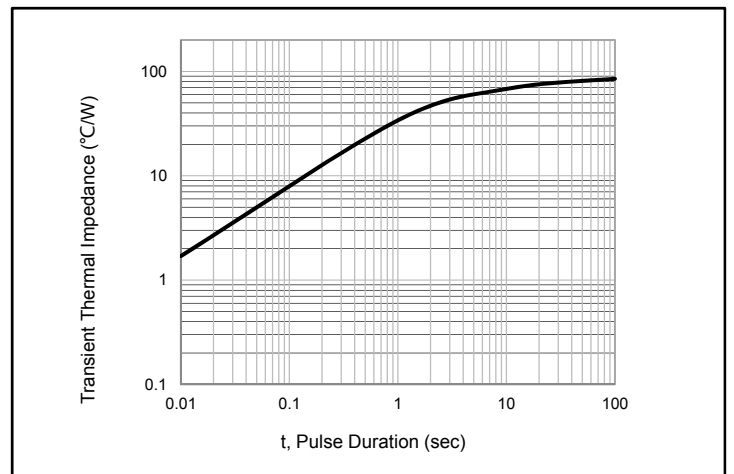
Note1: 8.3ms single half sine-wave superimposed on rated load

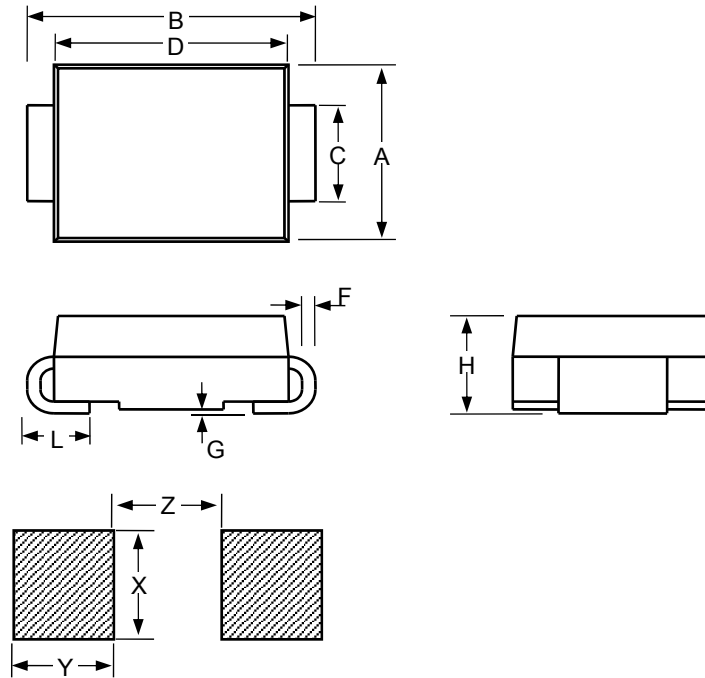
Note2: Measured at 1MHz and applied reverse voltage of 4.0V DC.

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

### Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SMA     | Tape/Reel, 11" reel | 5000             | EIA-481-1         |
|         | Tape/Reel, 7" reel  | 2000             | EIA-481-1         |

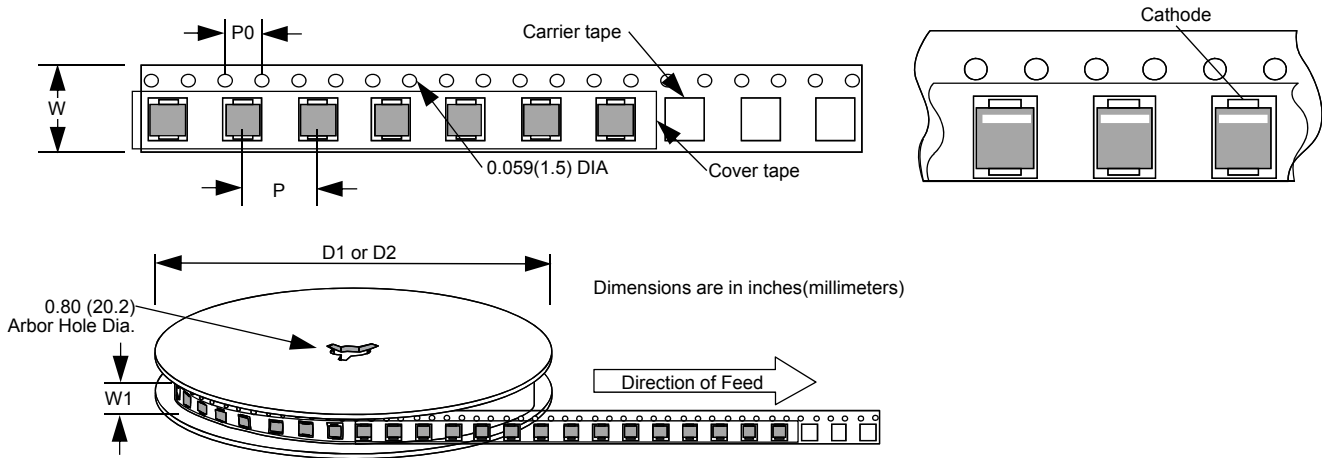

**Fig. 1 - Forward Current Derating Curve**

**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**



| SMA       |        |       |       |             |      |       |
|-----------|--------|-------|-------|-------------|------|-------|
| Dimension | Inches |       |       | Millimeters |      |       |
|           | MIN    | NOM   | MAX   | MIN         | NOM  | MAX   |
| A         | 0.1    |       | 0.11  | 2.54        |      | 2.8   |
| B         | 0.194  |       | 0.223 | 4.93        |      | 5.66  |
| C         | 0.051  |       | 0.067 | 1.3         |      | 1.7   |
| D         | 0.157  |       | 0.177 | 3.99        |      | 4.5   |
| L         | 0.03   |       | 0.06  | 0.76        |      | 1.52  |
| F         | 0.006  |       | 0.012 | 0.152       |      | 0.305 |
| G         | -      |       | 0.008 | -           |      | 0.203 |
| H         | 0.078  |       | 0.095 | 1.98        |      | 2.42  |
| X         |        | 0.085 |       |             | 2.16 |       |
| Y         |        | 0.07  |       |             | 1.78 |       |
| Z         |        | 0.079 |       |             | 2    |       |



| 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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