

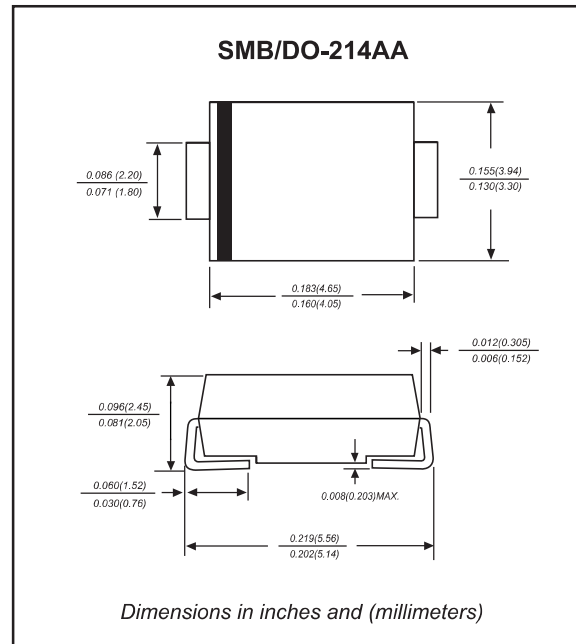
Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ 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
- ◆ Compliant to RoHS 2.0

Mechanical data

- ◆ **Case:** JEDEC DO-214AA molded plastic body
- ◆ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity:** Color band denotes cathode end
- ◆ **Mounting Position:** Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| Rating | Symbol | Value | Unit |
|---|---------------------------------|-------------|------------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 60 | V |
| Average Rectified Forward Current (At Rated V_R , $T_L = 95^\circ\text{C}$) | I_O | 2.0 | A |
| Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz) | I_{FSM} | 60 | A |
| Storage Temperature Range | T_{stg} | -55 to +150 | $^\circ\text{C}$ |
| Operating Junction Temperature | T_J | -55 to +150 | $^\circ\text{C}$ |
| Voltage Rate of Change (Rated V_R , $T_J = 25^\circ\text{C}$) | dv/dt | 10,000 | $\text{V}/\mu\text{s}$ |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Value | Unit |
|--|-----------------|-------|---------------------------|
| Thermal Resistance, Junction-to-Lead (Note 1) | $R_{\theta JL}$ | 24 | $^\circ\text{C}/\text{W}$ |
| Thermal Resistance, Junction-to-Ambient (Note 2) | $R_{\theta JA}$ | 80 | $^\circ\text{C}/\text{W}$ |

1. Mounted with minimum recommended pad size, PC Board FR4.
2. 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board.

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Value | | Unit |
|--|--------|--------------------------|---------------------------|------|
| Maximum Instantaneous Forward Voltage (Note 3) ($i_F = 1.0 \text{ A}$) ($i_F = 2.0 \text{ A}$) | V_F | $T_J = 25^\circ\text{C}$ | $T_J = 125^\circ\text{C}$ | V |
| | | 0.51 0.63 | 0.475 0.55 | |
| Maximum Instantaneous Reverse Current (Note 3) ($V_R = 60 \text{ V}$) | I_R | $T_J = 25^\circ\text{C}$ | $T_J = 125^\circ\text{C}$ | mA |
| | | 0.2 | 20 | |

3. Pulse Test: Pulse Width $\leq 250 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.

Rating and characteristic curves

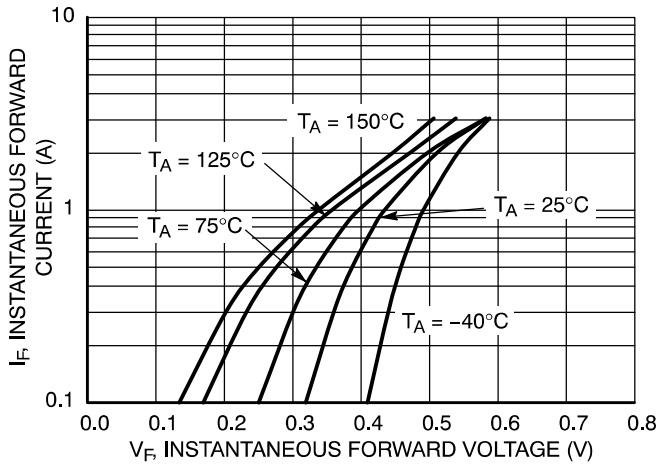


Figure 1. Typical Forward Voltage

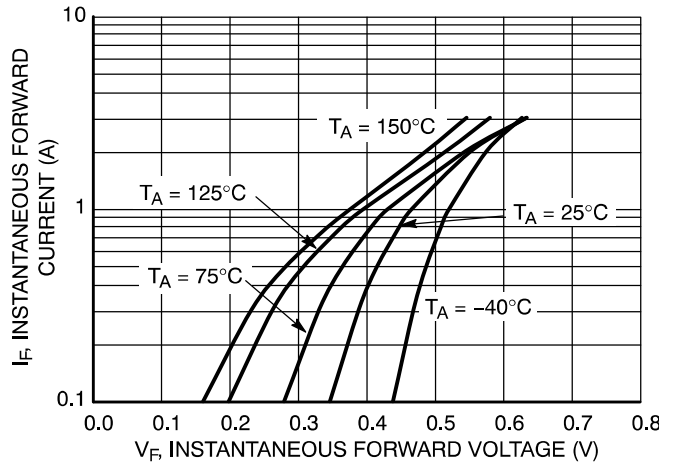


Figure 2. Maximum Forward Voltage

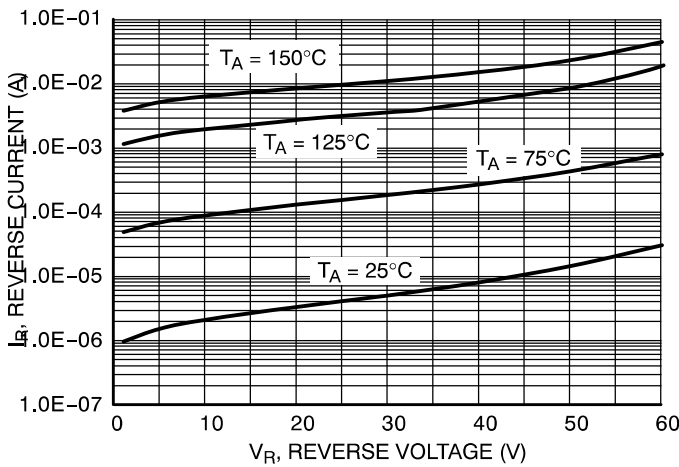


Figure 3. Typical Reverse Current

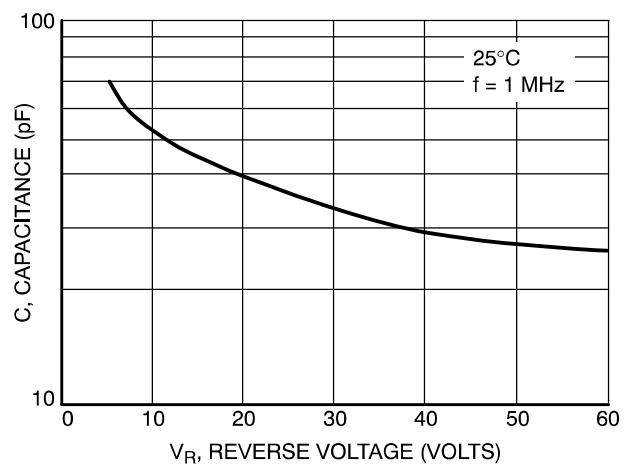


Figure 4. Typical Capacitance

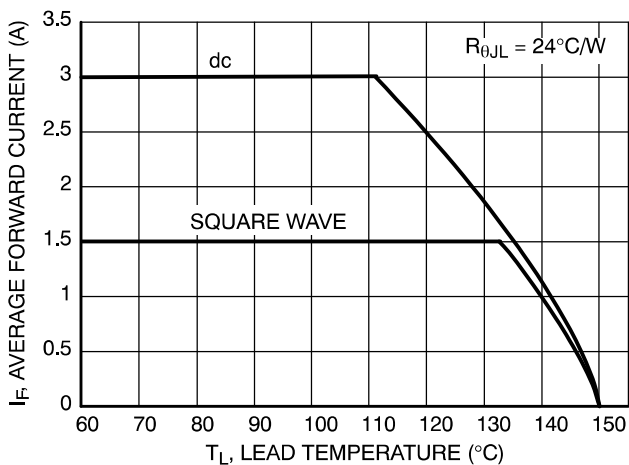


Figure 5. Current Derating - Junction to Lead

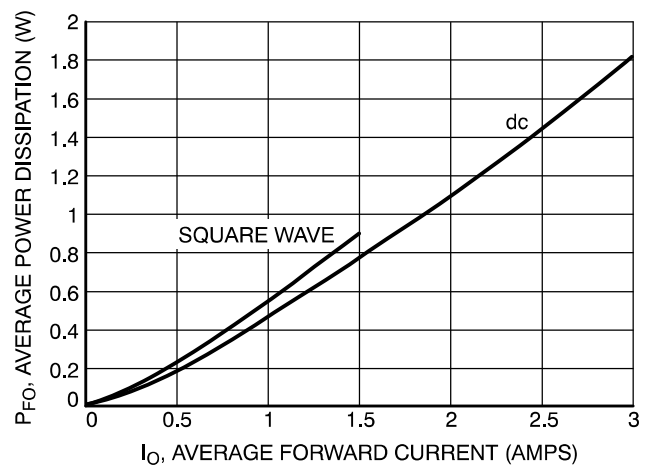


Figure 6. Forward Power Dissipation

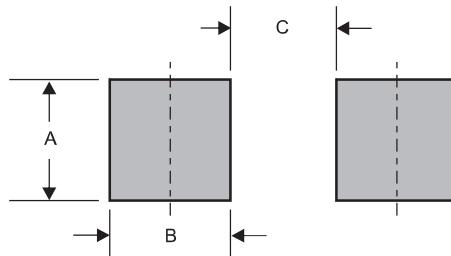
Pinning information

| Pin | Simplified outline | Symbol |
|----------------------------|--------------------|--------|
| Pin1 cathode Pin2 anode | | |

Marking

| Type number | Marking code | Example |
|-------------|--------------|---------|
| MBRS260T3G | B26 | |

Suggested solder pad layout

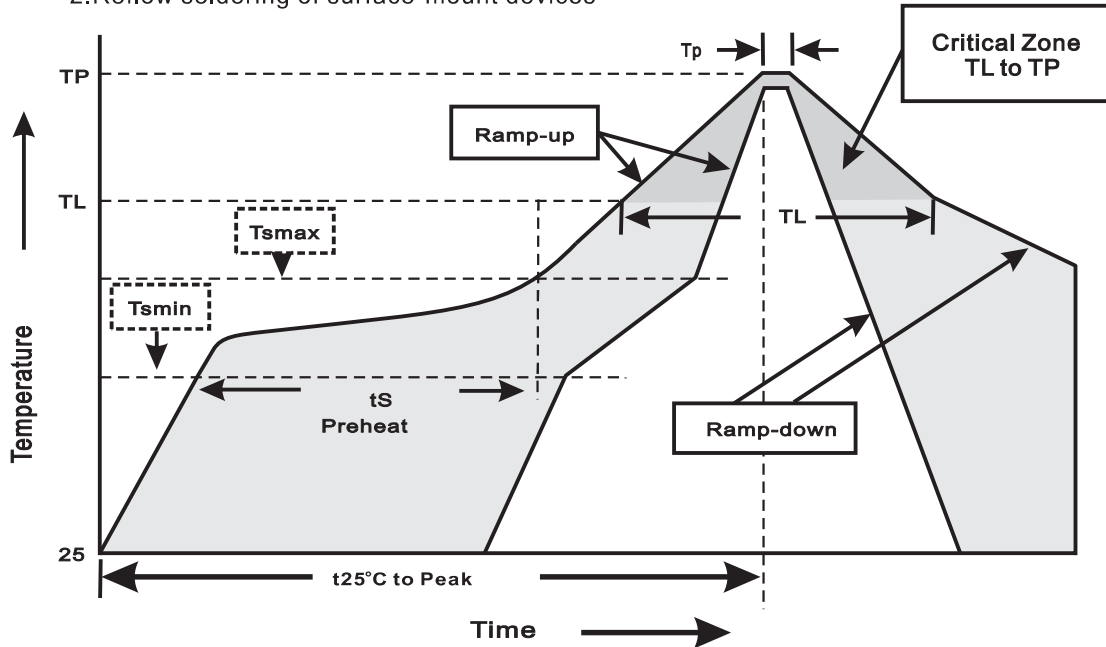


Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---------|--------------|--------------|--------------|
| SMB | 0.078 (2.00) | 0.059 (1.50) | 0.110 (2.80) |

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

| Profile Feature | Soldering Condition |
|--|-----------------------------|
| Average ramp-up rate(TL to TP) | <3°C/sec |
| Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts) | 150°C 200°C 60~120sec |
| Tsmax to TL -Ramp-upRate | <3°C/sec |
| Time maintained above: -Temperature(TL) -Time(tL) | 217°C 60~260sec |
| Peak Temperature(TP) | 255°C-0/+5°C |
| Time within 5°C of actual Peak Temperature(tp) | 10~30sec |
| Ramp-down Rate | <6°C/sec |
| Time 25°C to Peak Temperature | <6minutes |