

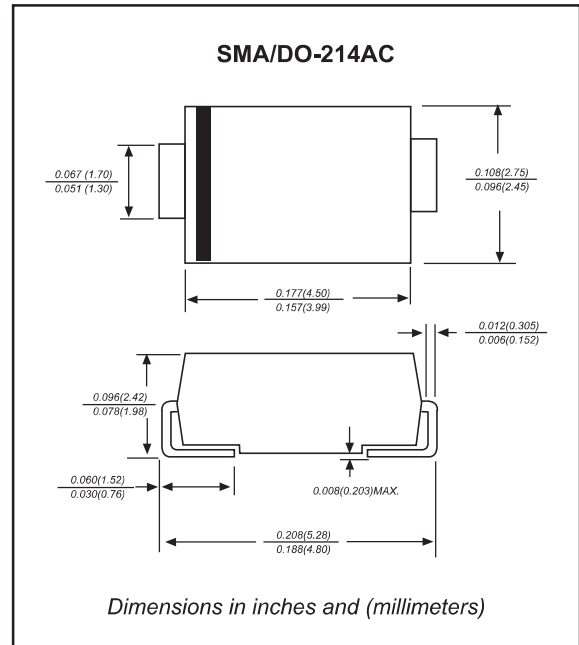
### Features

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

### Package outline

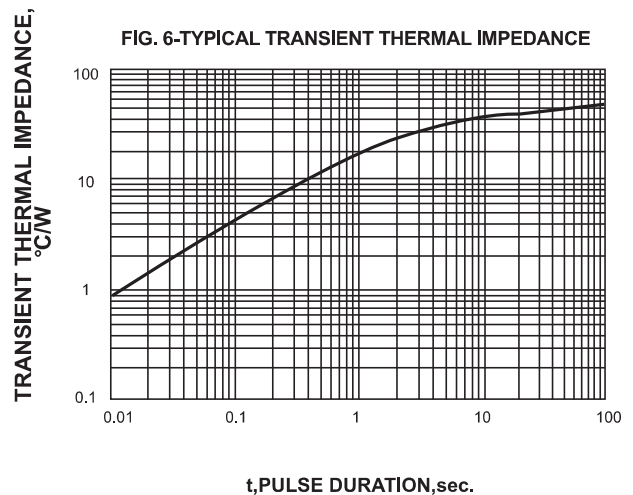
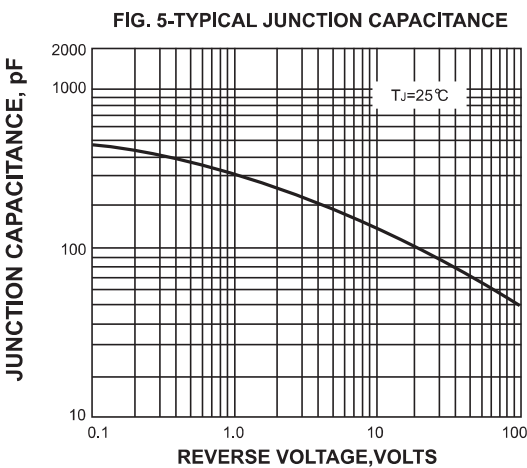
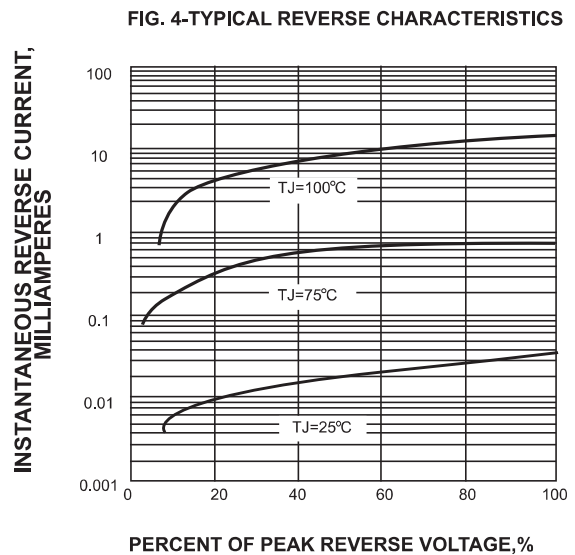
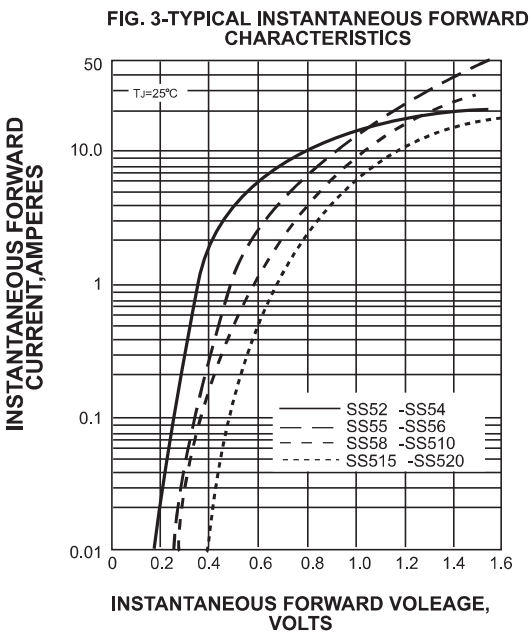
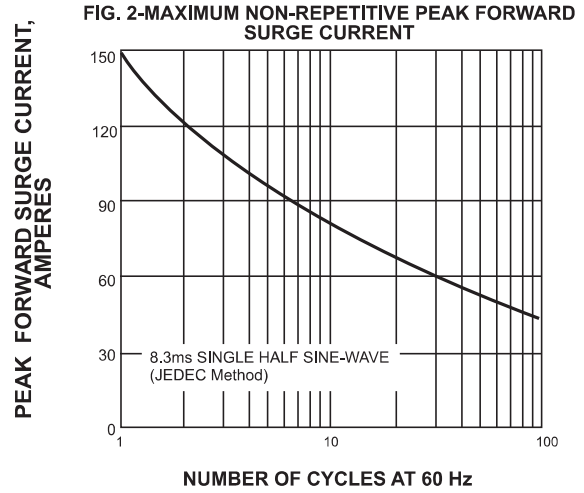
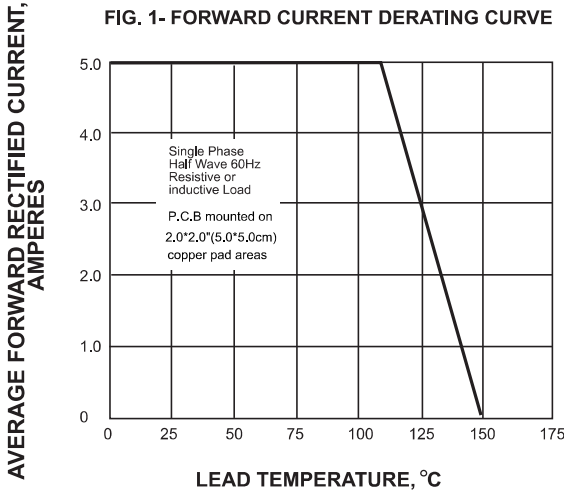


### Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)



|   | SYMBOLS         | SS52        | SS53 | SS54 | SS55 | SS56 | SS58 | SS510 | SS515 | SS520 | UNITS              |    |
|---|-----------------|-------------|------|------|------|------|------|-------|-------|-------|--------------------|----|
| 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 at $T_L$ (see fig.1)  | $I_{AV}$        | 5.0         |      |      |      |      |      |       |       |       | A                  |    |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load                            | $I_{FSM}$       | 150.0       |      |      |      |      |      |       |       |       | A                  |    |
| Maximum instantaneous forward voltage at 5.0A   | $V_F$           | 0.55        |      | 0.70 |      | 0.85 |      | 0.95  |       |       | V                  |    |
| Maximum DC reverse current<br>$T_A=25^\circ\text{C}$<br>at rated DC blocking voltage<br>$T_A=100^\circ\text{C}$ | $I_R$           | 0.5         |      |      |      | 0.1  |      | 10.0  |       | 2.0   |                    | mA |
| Typical junction capacitance (NOTE 1)   | $C_J$           | 500         |      |      |      |      |      |       |       |       | pF                 |    |
| Typical thermal resistance (NOTE 2)   | $R_{\theta JA}$ | 60          |      |      |      |      |      |       |       |       | $^\circ\text{C/W}$ |    |
| Operating junction temperature range  | $T_J$           | -55 to +150 |      |      |      |      |      |       |       |       | $^\circ\text{C}$   |    |
| Storage temperature range   | $T_{STG}$       | -55 to +150 |      |      |      |      |      |       |       |       | $^\circ\text{C}$   |    |

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
2. P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas

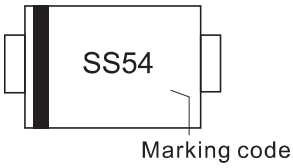
### Rating and characteristic curves



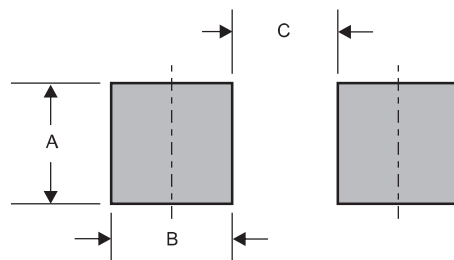
## Pinning information

| Pin                        | Simplified outline   | Symbol  |
|----------------------------|--|---|
| Pin1 cathode<br>Pin2 anode |  |  |

## Marking

| Type number | Marking code | Example   |
|-------------|--------------|---|
| SS52        | SS52         |  |
| SS53        | SS53         |   |
| SS54        | SS54         |   |
| SS55        | SS55         |   |
| SS56        | SS56         |   |
| SS58        | SS58         |   |
| SS510       | SS510        |   |
| SS515       | SS515        |   |
| SS520       | SS520        |   |

## Suggested solder pad layout

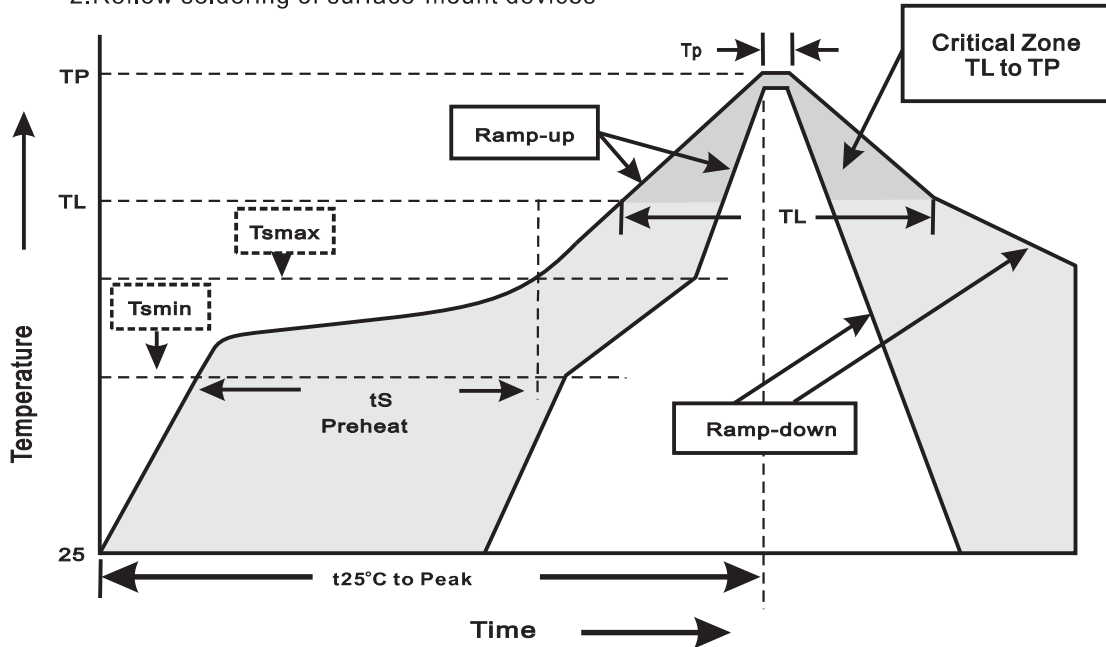


Dimensions in inches and (millimeters)

| PACKAGE | A            | B            | C            |
|---------|--------------|--------------|--------------|
| SMA     | 0.110 (2.80) | 0.063 (1.60) | 0.087 (2.20) |

**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<br>-Temperature Min(Tsmmin)<br>-Temperature Max(Tsmmax)<br>-Time(min to max)(tS) | 150°C<br>200°C<br>60~120sec |
| Tsmmax to TL<br>-Ramp-upRate   | <3°C/sec                    |
| Time maintained above:<br>-Temperature(TL)<br>-Time(tL)                                  | 217°C<br>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                   |