

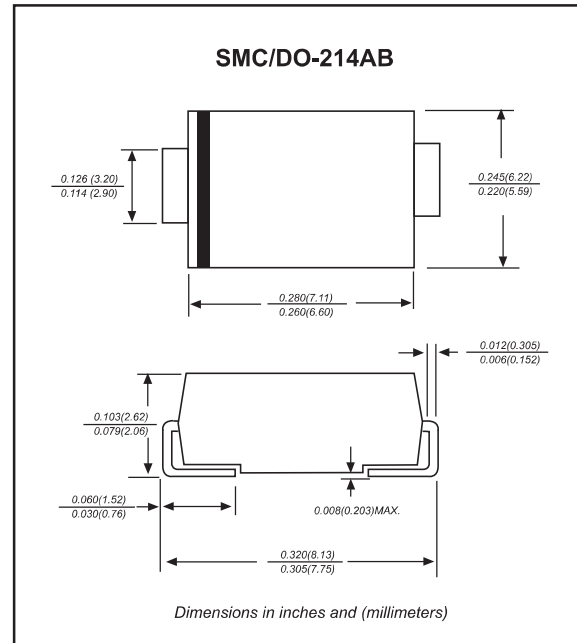
## Features

- ◆ 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
- ◆ Compliant to Halogen-free

## Mechanical data

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

## Package outline

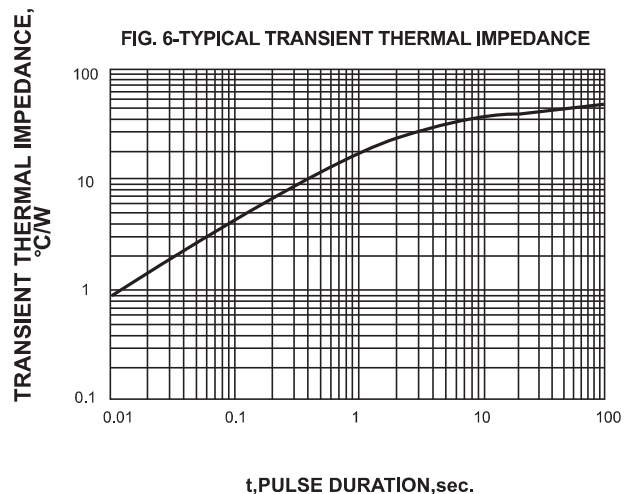
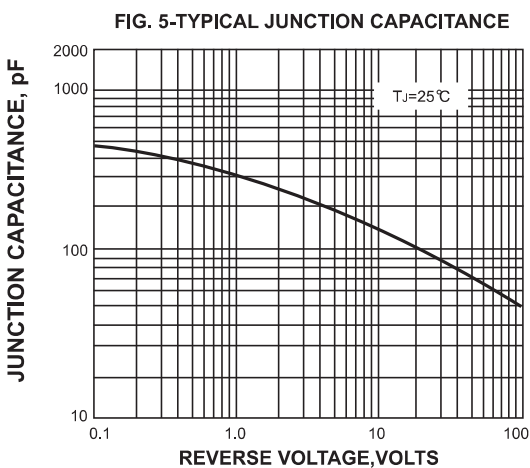
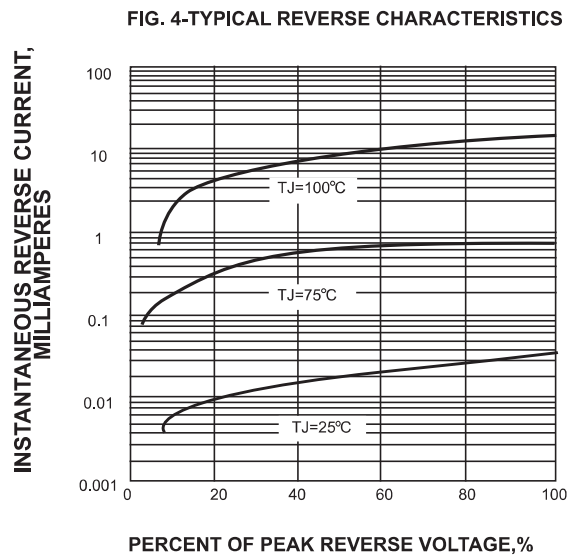
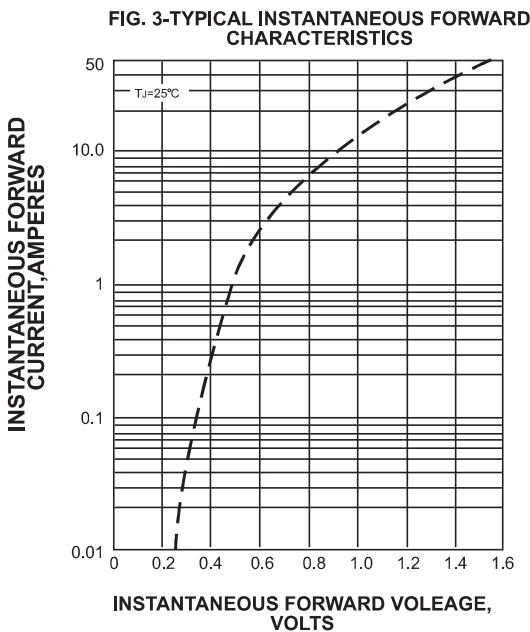
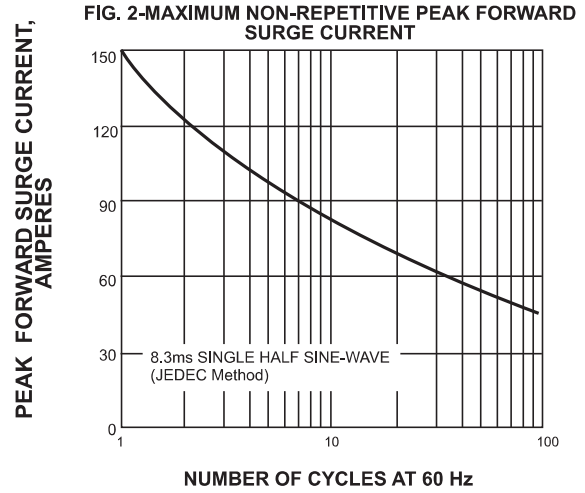
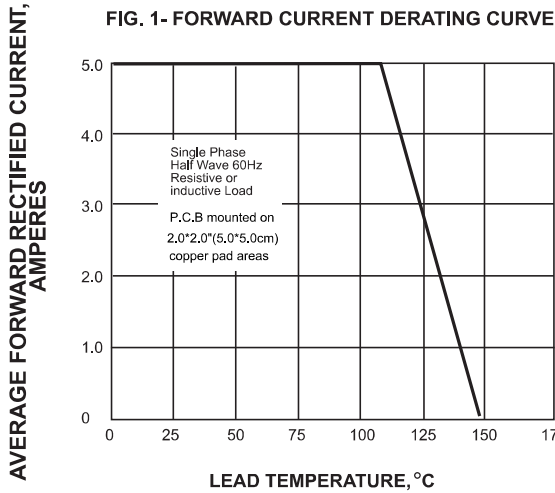


## Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)



| PARAMETER   | SYMBOLS         | SK56L       | UNITS                     |
|---|-----------------|-------------|---------------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 60          | V                         |
| Maximum RMS voltage   | $V_{RMS}$       | 42          | V                         |
| Maximum DC blocking voltage   | $V_{DC}$        | 60          | 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   | $V_F$           | 0.52        | V                         |
| Maximum DC reverse current<br>$T_A=25^\circ\text{C}$<br>at rated DC blocking voltage<br>$T_A=100^\circ\text{C}$ | $I_R$           | 0.2<br>10.0 | mA                        |
| Typical junction capacitance (NOTE 1)   | $C_J$           | 280         | pF                        |
| Typical thermal resistance (NOTE 2)   | $R_{\theta JA}$ | 50          | $^\circ\text{C}/\text{W}$ |
| 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

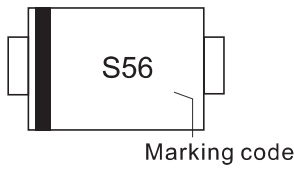
## Rating and characteristic curves



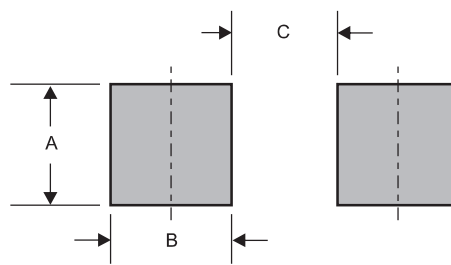
### Pinning information

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

### Marking

| Type number | Marking code | Example   |
|-------------|--------------|---|
| SK56L       | S56          |  |

### Suggested solder pad layout

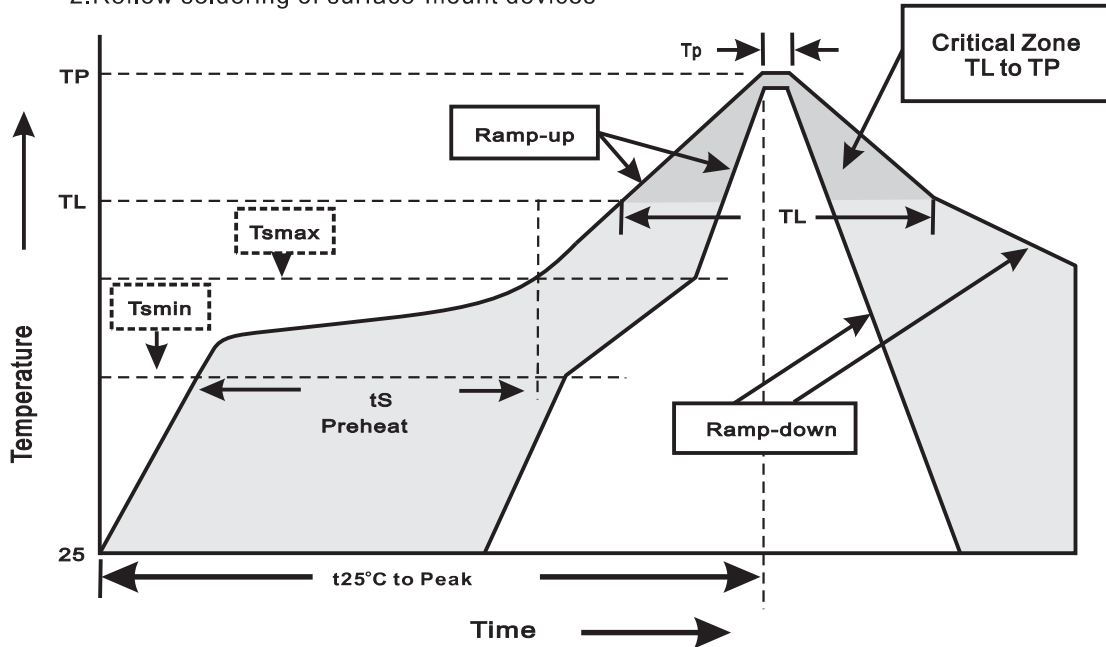


Dimensions in inches and (millimeters)

| PACKAGE | A            | B            | C           |
|---------|--------------|--------------|-------------|
| SMC     | 0.132 (3.30) | 0.100 (2.50) | 0.176(4.40) |

**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(T <sub>L</sub> to T <sub>P</sub> )   | <3°C/sec                    |
| Preheat<br>-Temperature Min(T <sub>smmin</sub> )<br>-Temperature Max(T <sub>smmax</sub> )<br>-Time(min to max)(t <sub>s</sub> ) | 150°C<br>200°C<br>60~120sec |
| T <sub>smmax</sub> to T <sub>L</sub><br>-Ramp-upRate  | <3°C/sec                    |
| Time maintained above:<br>-Temperature(T <sub>L</sub> )<br>-Time(t <sub>L</sub> )   | 217°C<br>60~260sec          |
| Peak Temperature(T <sub>P</sub> )   | 255°C-0/+5°C                |
| Time within 5°C of actual Peak Temperature(t <sub>P</sub> )   | 10~30sec                    |
| Ramp-down Rate  | <6°C/sec                    |
| Time 25°C to Peak Temperature   | <6minutes                   |

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