

## Features

- Low forward voltage drop
- High junction temperature
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has underwriters laboratory flammability classification 94V-0
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q101 qualified



Package: DO-214AA (SMB)

## Applications

For use in low voltage, high frequency inverters, free wheeling and polarity protection applications.

## Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                                            | Symbol                            | SK27        | SK28 | SK29 | SK2B | Unit |
|--------------------------------------------------------------------------------------|-----------------------------------|-------------|------|------|------|------|
| Maximum Repetitive Peak Reverse Voltage                                              | V <sub>RRM</sub>                  | 70          | 80   | 90   | 100  | V    |
| Maximum RMS Voltage                                                                  | V <sub>RMS</sub>                  | 42          | 56   | 63   | 70   | V    |
| Maximum DC Blocking Voltage                                                          | V <sub>DC</sub>                   | 70          | 80   | 90   | 100  | V    |
| Maximum Average Forward Rectified Current                                            | I <sub>F(AV)</sub>                | 2.0         |      |      |      | A    |
| Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load) | I <sub>FSM</sub>                  | 50          |      |      |      | A    |
| Operating Junction and Storage Temperature Range                                     | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 |      |      |      | °C   |

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                               | Test Conditions       | Symbol         | Value | Unit |
|---------------------------------------------------------|-----------------------|----------------|-------|------|
| Maximum Instantaneous Forward Voltage                   | I <sub>F</sub> =2A    | V <sub>F</sub> | 0.79  | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | T <sub>A</sub> =25°C  | I <sub>R</sub> | 30    | μA   |
|                                                         | T <sub>A</sub> =125°C |                | 2000  |      |
| Typical Junction Capacitance                            | 4.0 V, 1 MHz          | C <sub>J</sub> | 200   | pF   |

## Thermal Characteristics

| Parameter                               | Symbol           | Value | Unit |
|-----------------------------------------|------------------|-------|------|
| Typical Thermal Resistance <sup>1</sup> | R <sub>θJA</sub> | 75    | °C/W |
|                                         | R <sub>θJC</sub> | 30    |      |
|                                         | R <sub>θJL</sub> | 15    |      |

Note:

1. Thermal resistance from junction to lead, mounted on PCB with 8.0×8.0mm copper pads.

## Ratings and Characteristics Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

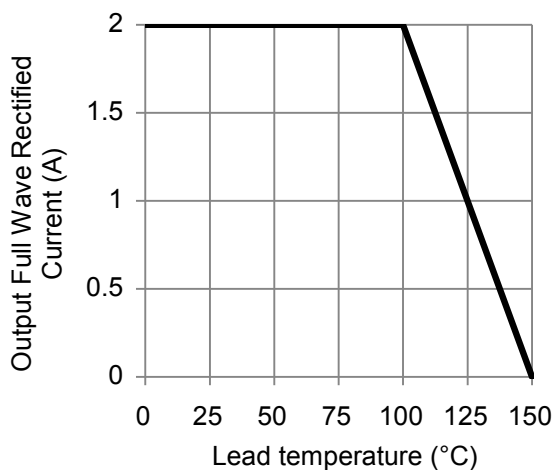


Figure 1. Forward Current Derating Curve

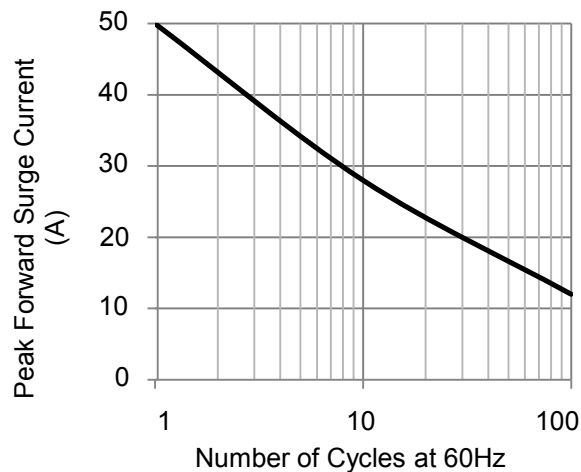


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

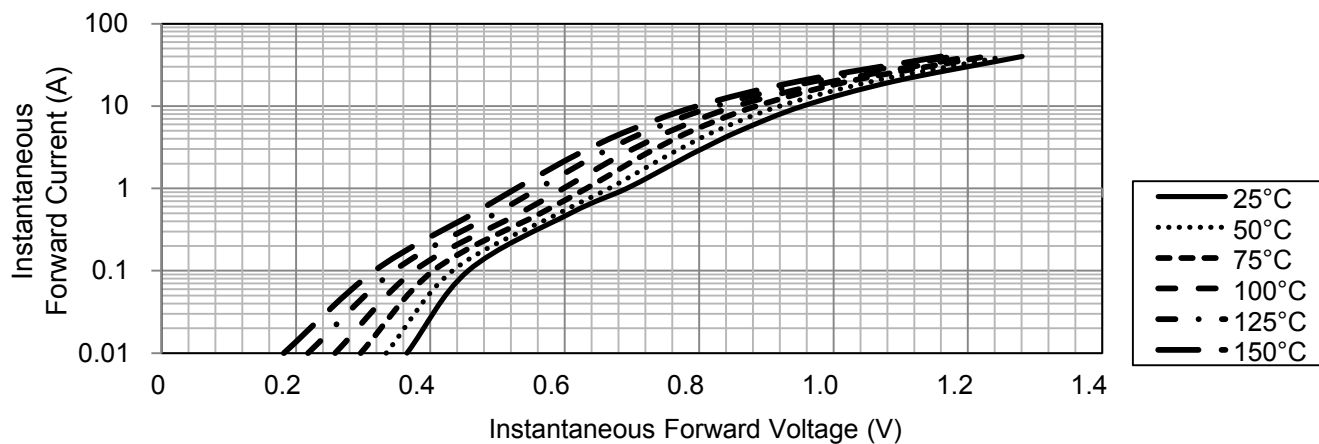


Figure 3. Typical Instantaneous Forward Characteristics

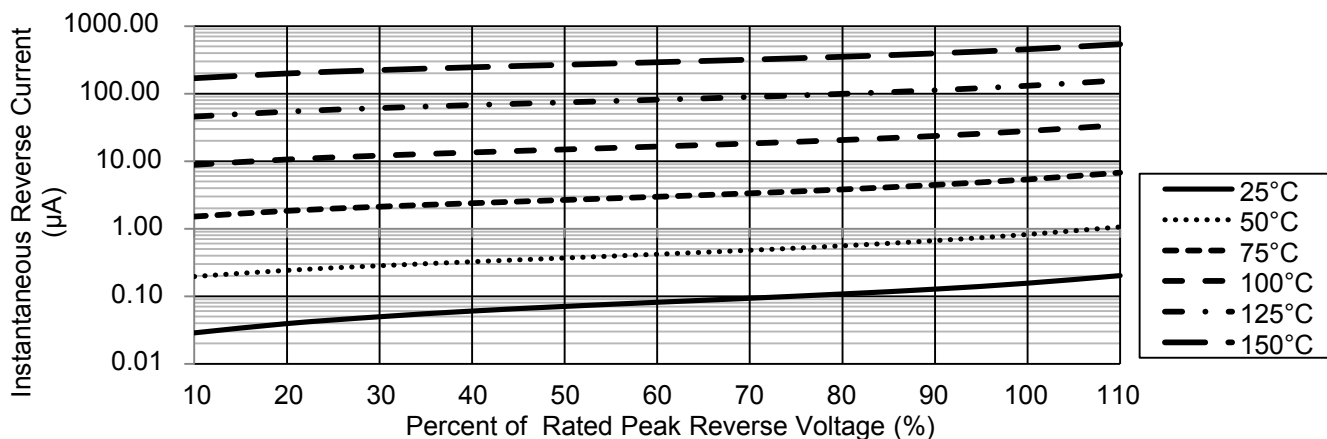
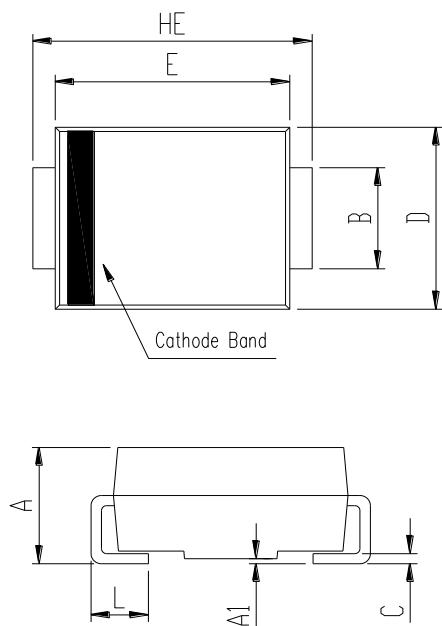


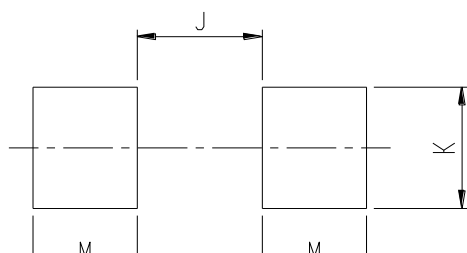
Figure 4. Typical Reverse Characteristics

## Package Outline Dimensions DO-214AA (SMB)



| SMB (DO-214AA) |             |      |        |       |
|----------------|-------------|------|--------|-------|
| DIM            | Millimeters |      | Inches |       |
|                | Min.        | Max. | Min.   | Max.  |
| A              | 1.99        | 2.61 | 0.078  | 0.103 |
| A1             | 0.00        | 0.30 | 0.000  | 0.012 |
| B              | 1.70        | 2.30 | 0.067  | 0.091 |
| C              | 0.15        | 0.31 | 0.006  | 0.012 |
| D              | 3.30        | 3.94 | 0.130  | 0.155 |
| E              | 4.06        | 4.75 | 0.160  | 0.187 |
| HE             | 4.70        | 5.70 | 0.185  | 0.224 |
| L              | 0.76        | 1.52 | 0.030  | 0.060 |

## Recommended Pad Layout



| SMB Recommended Pad Layout (Reference Only) |             |      |        |       |
|---------------------------------------------|-------------|------|--------|-------|
| DIM                                         | Millimeters |      | Inches |       |
|                                             | Min.        | Max. | Min.   | Max.  |
| J                                           | -           | 2.60 | -      | 0.102 |
| K                                           | 2.20        | -    | 0.087  | -     |
| M                                           | 1.80        | -    | 0.071  | -     |

## Order Information

| Device | Package        | Marking | Carrier     | Reel Quantity |
|--------|----------------|---------|-------------|---------------|
| SK27   | DO-214AA (SMB) | SK27    | Tape & Reel | 3,000pcs/Reel |
| SK28   | DO-214AA (SMB) | SK28    | Tape & Reel | 3,000pcs/Reel |
| SK29   | DO-214AA (SMB) | SK29    | Tape & Reel | 3,000pcs/Reel |
| SK2B   | DO-214AA (SMB) | SK2B    | Tape & Reel | 3,000pcs/Reel |