

SK22A thru SK26A

Surface Mount Schottky Rectifier
 Reverse Voltage 20-60V Forward Current 2A

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
- Add suffix 'E' for halogen-free
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q101 qualified



Package: DO-214AC (SMA)

Applications

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

Maximum Ratings (T_A = 25°C unless otherwise noted)

| Parameter | Symbol | SK22A | SK23A | SK24A | SK25A | SK26A | Unit |
|--|-----------------------------------|-------------|-------|-------|-------|-------|------|
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 20 | 30 | 40 | 50 | 60 | V |
| Maximum RMS Voltage | V _{RMS} | 14 | 21 | 28 | 35 | 42 | V |
| Maximum DC Blocking Voltage | V _{DC} | 20 | 30 | 40 | 50 | 60 | V |
| Maximum Average Forward Rectified Current | I _{F(AV)} | 2.0 | | | | | A |
| Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load) | I _{FSM} | 50 | | | | | A |
| Operating Junction and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | | | | | °C |

Electrical Characteristics (T_A = 25°C unless otherwise noted)

| Parameter | Test Conditions | Symbol | SK22A | SK23A | SK24A | SK25A | SK26A | Unit |
|---|-----------------------|----------------|-------|-------|-------|-------|-------|------|
| Maximum Instantaneous Forward Voltage | I _F =2A | V _F | 0.55 | | | 0.70 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | T _A =25°C | I _R | 0.20 | | | 0.15 | | mA |
| | T _A =125°C | | 10 | | | | | |
| Typical Junction Capacitance | 4.0 V, 1 MHz | C _J | 200 | | | | | pF |

Thermal Characteristics

| Parameter | Symbol | Value | Unit |
|---|------------------|-------|------|
| Typical Thermal Resistance ⁽¹⁾ | R _{θJA} | 82 | °C/W |
| | R _{θJC} | 42 | |
| | R _{θJL} | 20 | |

Note1: 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)

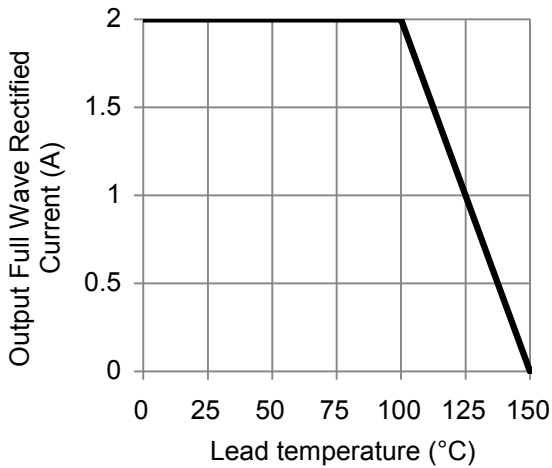


Figure 1. Forward Current Derating Curve

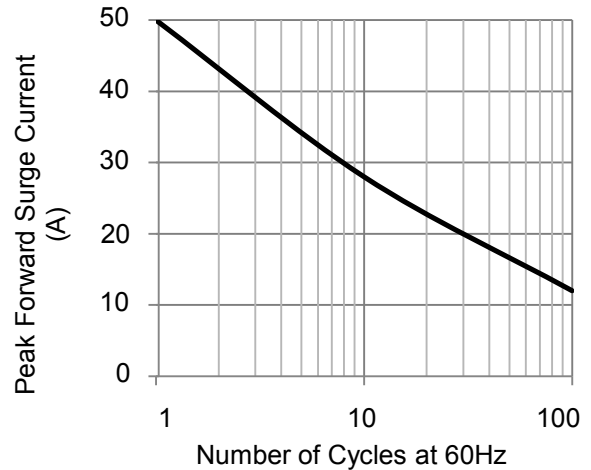


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

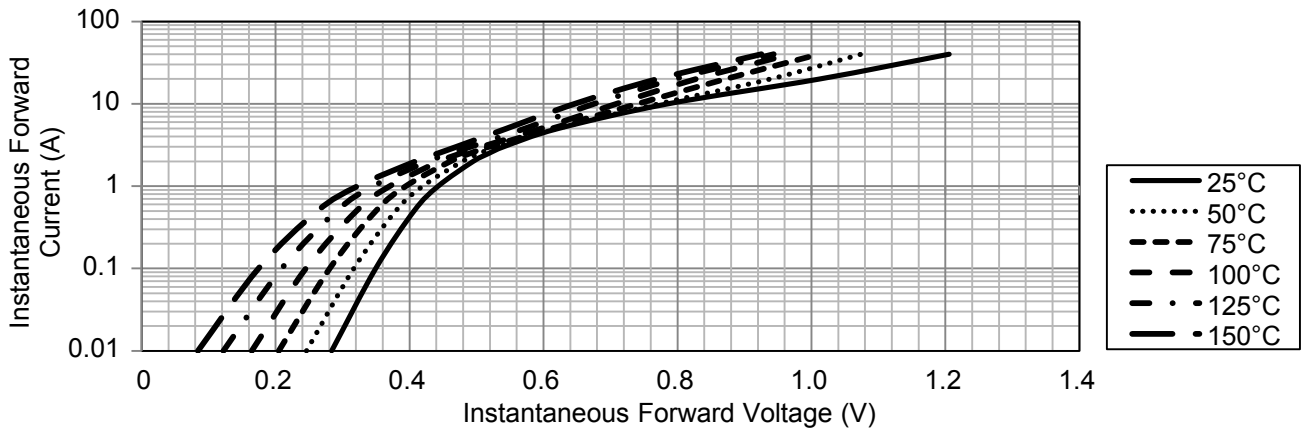


Figure 3. Typical Instantaneous Forward Characteristics (SK22A thru SK24A)

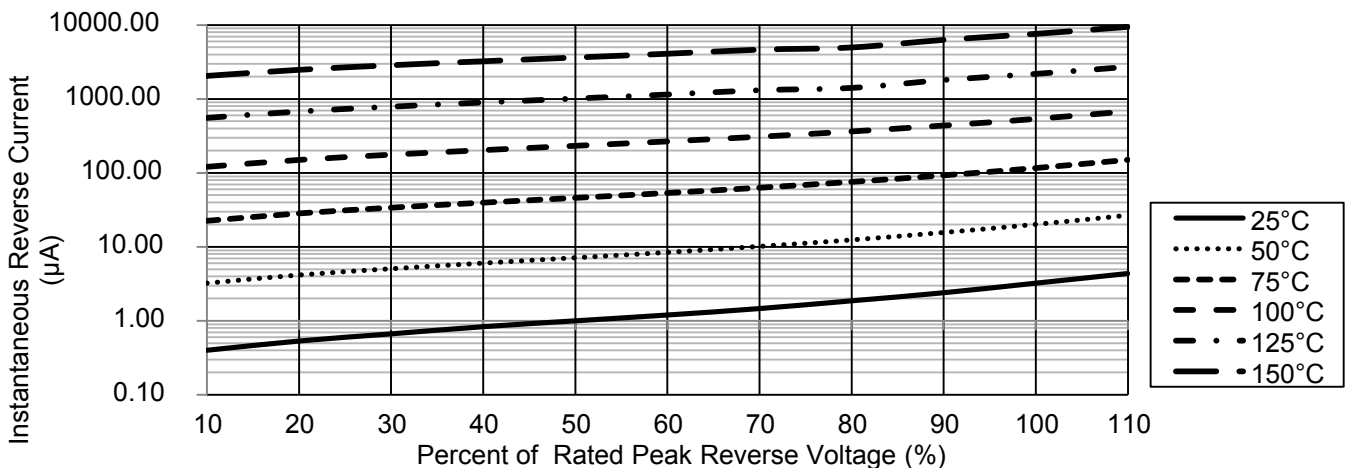


Figure 4. Typical Reverse Characteristics (SK22A thru SK24A)

SK22A thru SK26A

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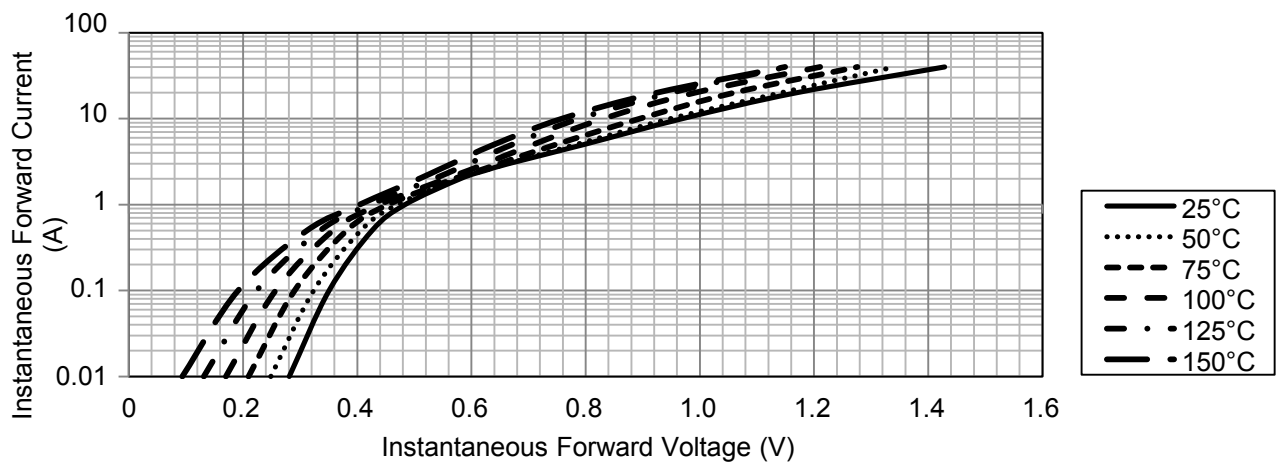


Figure 5. Typical Instantaneous Forward Characteristics
 (SK25A thru SK26A)

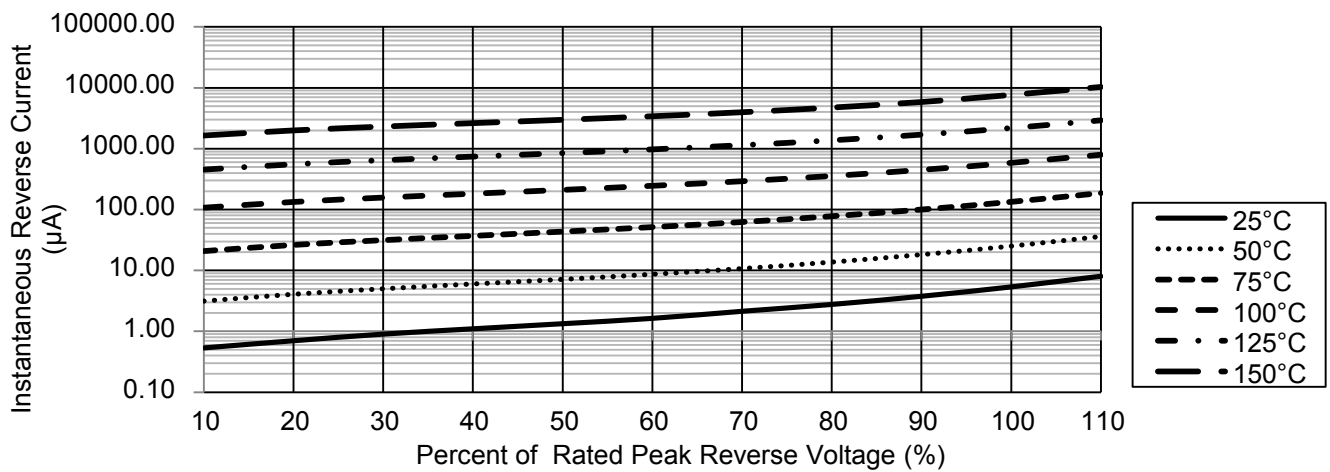


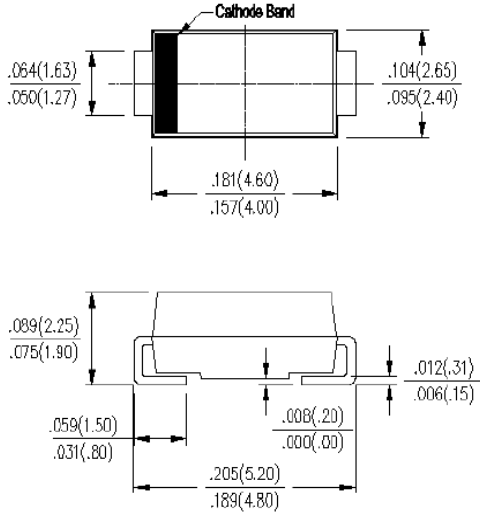
Figure 6. Typical Reverse Characteristics
 (SK25A thru SK26A)

SK22A thru SK26A

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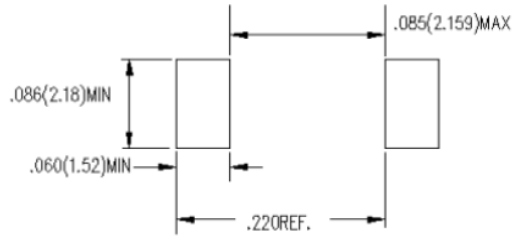
Package Outline Dimensions

in inches (millimeters)



DO-214AC (SMA)

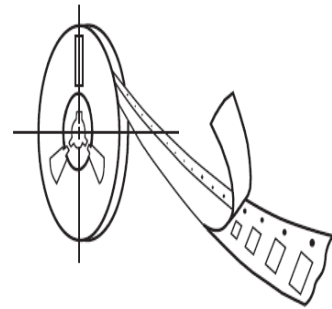
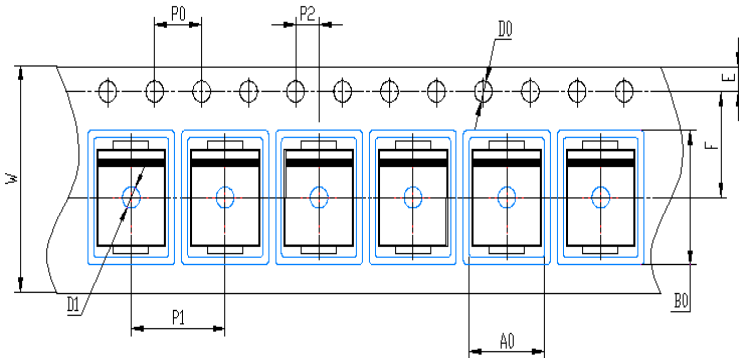
MOUNTING PAD LAYOUT



Packing Information

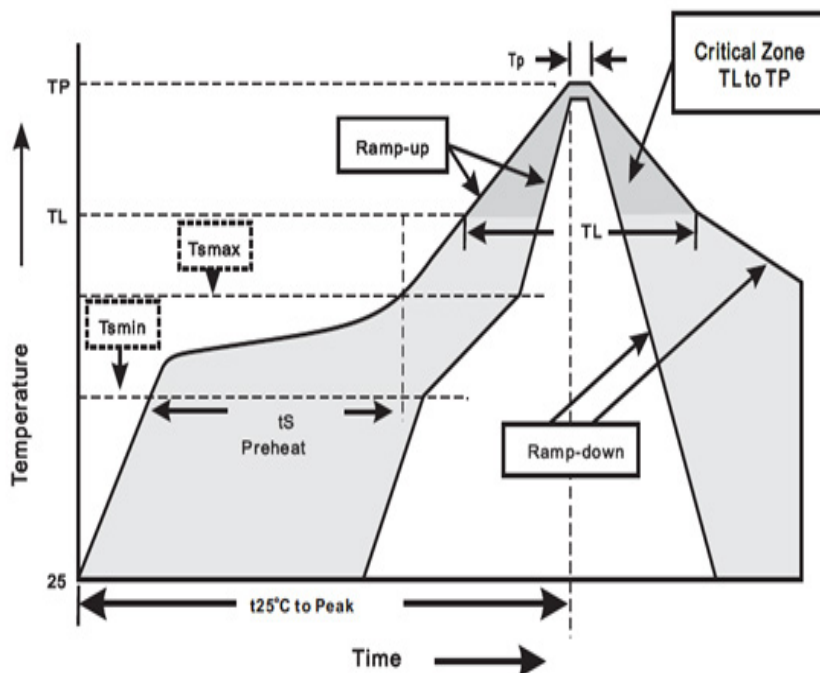
7500 pcs/Reel, 18 Reels/Box, 12mm Tape, 13" Reel

Tape & Reel Specification



| Symbol | SMA(mm) |
|--------|--------------|
| W | 12±0.2 |
| E | 1.75±0.1 |
| F | 5.5±0.05 |
| D0 | 1.5±0.1 |
| D1 | 1.50 +0.1/-0 |
| P0 | 4.0±0.1 |
| P1 | 4.0±0.1 |
| P2 | 2.0±0.05 |
| A0 | 2.65±0.1 |
| B0 | 5.25±0.1 |

Soldering Parameters



| Reflow Soldering | | Sn-Pb Eutectic Assembly | Pb-Free Assembly |
|--|------------------------------------|-------------------------|------------------|
| Pre Heat | - Temperature Min (T_s min) | 100°C | 150°C |
| | - Temperature Max (T_s max) | 150°C | 200°C |
| | - Time (min to max) (t_s) | 60 – 120 secs | 60 – 180 secs |
| Average ramp up rate (Liquidus) Temp (T_L) to peak | | 3°C/second max | 3°C/second max |
| TS(max) to T_L - Ramp-up Rate | | 3°C/second max | 3°C/second max |
| Reflow | - Temperature (T_L) (Liquidus) | 183°C | 217°C |
| | - Time (min to max) (t_s) | 60 – 150 seconds | 60 – 150 seconds |
| Peak Temperature (T_P) | | 240+0/-5 °C | 240+0/-5°C |
| Time within 5°C of actual peak Temperature (t_p) | | 10 – 30 seconds | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max | 6°C/second max |
| Time 25°C to peak Temperature (T_P) | | 6 minutes max | 8 minutes max |
| Do not exceed | | 260°C | 260°C |

| Wave Soldering | |
|------------------|------------|
| Peak Temperature | 260+0/-5°C |
| Dipping Time | 10 seconds |
| Soldering | 1 time |