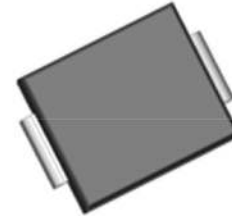


Features

- Schottky barrier diodes
- 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



DO-214AB (SMC)

Typical Applications

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

| Maximum Ratings (TA = 25 °C unless otherwise noted) | | | |
|--|----------------|-----------------|------|
| Parameter | Symbol | SK5C0 SK5C0E | Unit |
| Maximum repetitive peak reverse voltage | V_{RRM} | 200 | V |
| Maximum RMS voltage | V_{RMS} | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 200 | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 5.0 | A |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I_{FSM} | 120 | A |
| Operating junction and storage temperature range | T_J, T_{STG} | - 55 to + 150 | °C |

| Electrical Characteristics (TA = 25 °C unless otherwise noted) | | | | |
|---|---------------------------|--------|-----------------|------|
| Parameter | Test Conditions | Symbol | SK5C0 SK5C0E | Unit |
| Maximum instantaneous forward voltage | $I_F=5A, T_A=25^{\circ}C$ | V_F | 0.85 | V |
| Maximum DC reverse current at rated DC blocking voltage | $T_A=25^{\circ}C$ | I_R | 30 | uA |
| | $T_A=125^{\circ}C$ | | 1000 | |
| Typical junction capacitance | 4.0 V, 1 MHz | C_J | 96 | pF |

| Thermal Characteristics | | | |
|---|-----------------|-----------------|------|
| Parameter | Symbol | SK5C0 SK5C0E | Unit |
| Typical thermal resistance ⁽¹⁾ | $R_{\theta JA}$ | 65 | °C/W |
| | $R_{\theta JC}$ | 25 | |
| | $R_{\theta JI}$ | 15 | |

Note1: Thermal resistance from junction to lead, mounted on PCB with 8.0x8.0mm copper pads

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

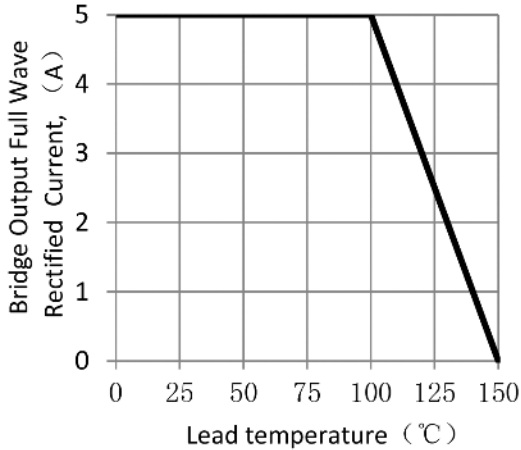


Figure 1. Forward Current Derating Curve

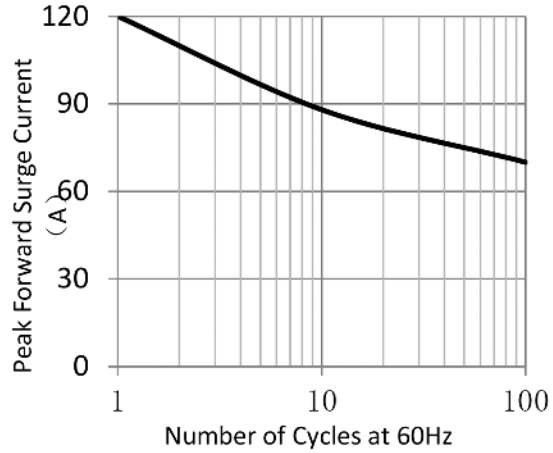


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

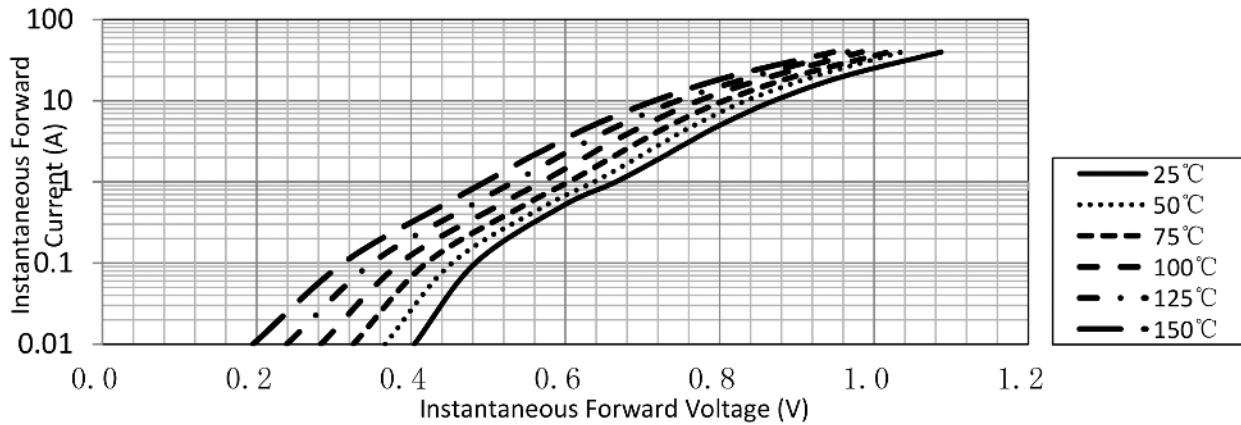


Figure 3. Typical Instantaneous Forward Characteristics

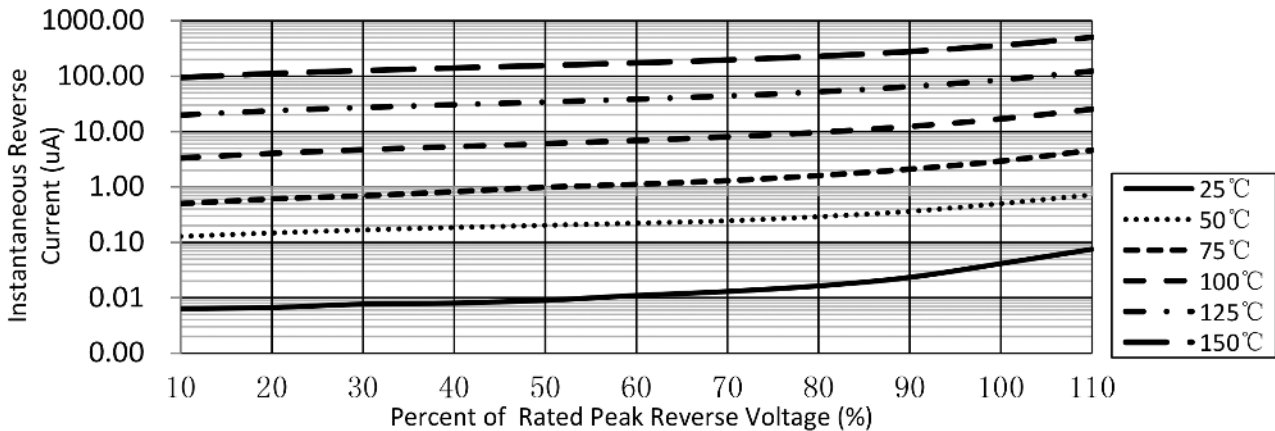
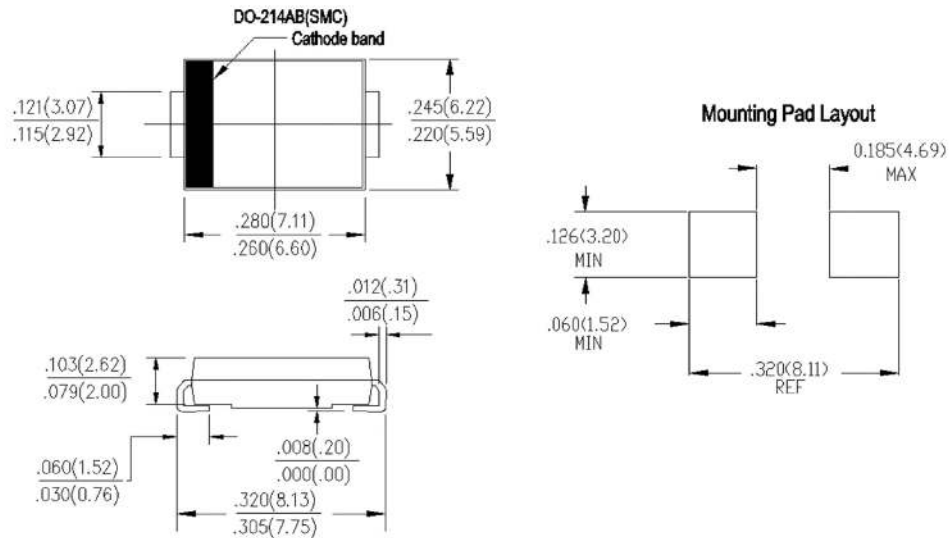


Figure 4. Typical Reverse Characteristics

Package Outline Dimensions

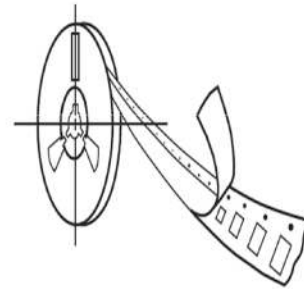
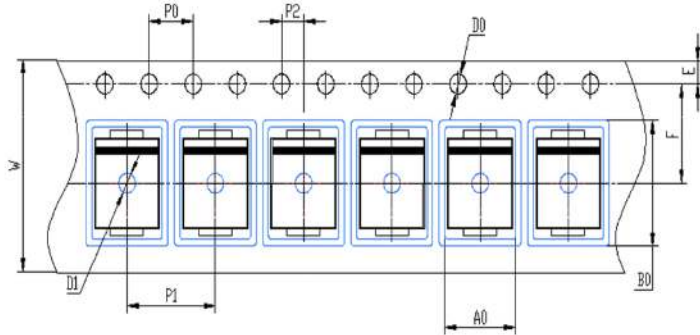
in inches (millimeters)



Packing Information

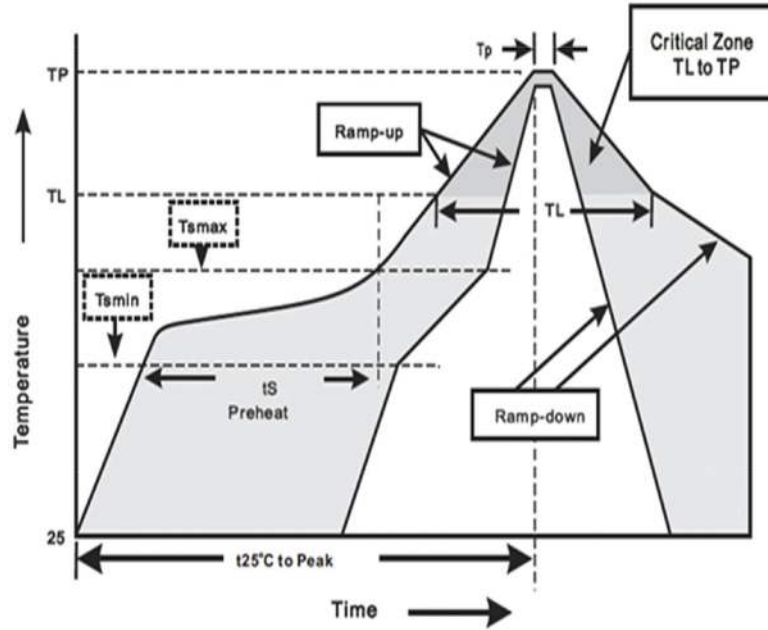
3000 pcs/Reel, 14 Reels/Box; 16mm Tape, 13" Reel

Tape & Reel Specification



| Symbol | SMC (mm) |
|--------|--------------|
| W | 16 ± 0.2 |
| E | 1.75 ± 0.1 |
| F | 7.5 ± 0.05 |
| D0 | 1.5 ± 0.1 |
| D1 | 1.50 +0.1/-0 |
| P0 | 4.0 ± 0.1 |
| P1 | 8.0 ± 0.1 |
| P2 | 2.0 ± 0.05 |
| A0 | 6.22 ± 0.1 |
| B0 | 8.31 ± 0.1 |

Soldering Parameters



| Reflow Soldering | | Sn-Pb Eutectic Assembly | Pb-Free assembly |
|---|-------------------------------|-------------------------|------------------|
| Pre Heat | - Temperature Min (Ts(min)) | 100°C | 150°C |
| | - Temperature Max (Ts(max)) | 150°C | 200°C |
| | - Time (min to max) (ts) | 60 – 120 secs | 60 – 180 secs |
| Average ramp up rate (Liquidus) Temp (TL) to peak | | 3°C/second max | 3°C/second max |
| TS(max) to TL - Ramp-up Rate | | 3°C/second max | 3°C/second max |
| Reflow | - Temperature (TL) (Liquidus) | 183°C | 217°C |
| | - Time (min to max) (ts) | 60 – 150 seconds | 60 – 150 seconds |
| Peak Temperature (TP) | | 240+0/-5 °C | 240+0/-5°C |
| Time within 5°C of actual peak Temperature (tp) | | 10 – 30 seconds | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max | 6°C/second max |
| Time 25°C to peak Temperature (TP) | | 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 |