

SK52C THRU SK5AC

SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 V

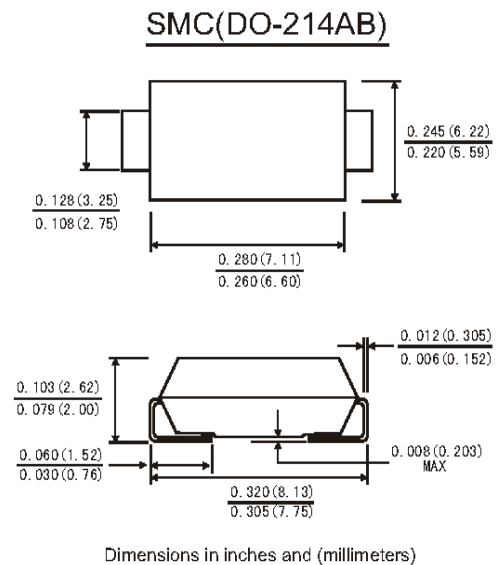
Forward Current - 5 A

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- For surface mount applications
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- Low profile package
- Built-in strain relief, ideal for automated placement
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Mechanical Data

- Case: JEDEC SMC (DO-214AB) molded plastic body
- Terminals: solder plated, solderable per MIL-STD-750, method 2026
- Polarity: color band denotes cathode end



Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.

| Parameter | Symbols | SK52C | SK53C | SK54C | SK55C | SK56C | SK58C | SK5AC | Units |
|--|------------------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 57 | 71 | V |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V |
| Maximum Average Forward Rectified Current 0.375"(9.5mm) Lead Length | $I_{F(AV)}$ | 5 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method at Rated T_L) | I_{FSM} | 150 | | | | | | | A |
| Maximum Forward Voltage at 5 A ¹⁾ | V_F | 0.55 | | 0.75 | | 0.8 | 0.85 | V | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I_R | 0.5 | | | | | | | mA |
| | | 20 | | 10 | | | | | |
| Typical Junction Capacitance ³⁾ | C_J | 500 | | 400 | | | pF | | |
| Typical Thermal Resistance ²⁾ | $R_{\theta JA}$ $R_{\theta JL}$ | 55 10 | | | | | | | °C/W |
| Operating Junction Temperature Range | T_J | - 65 to + 125 | | | | | | | °C |
| Storage Temperature Range | T_S | - 65 to + 150 | | | | | | | °C |

¹⁾ Pulse test: 300 μ s pulse width, 1% duty cycle

²⁾ P.C.B mounted 0.55 X 0.55" (14X14mm) copper pad areas

³⁾ Measured at 1 MHz and applied reverse voltage of 4 V

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FIG. 1-FORWARD CURRENT DERATING CURVE

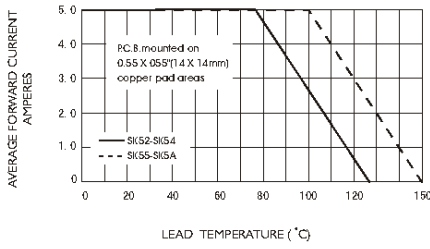


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

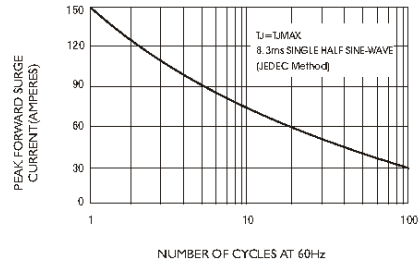


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

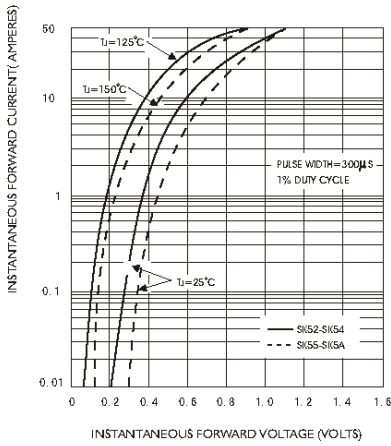


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

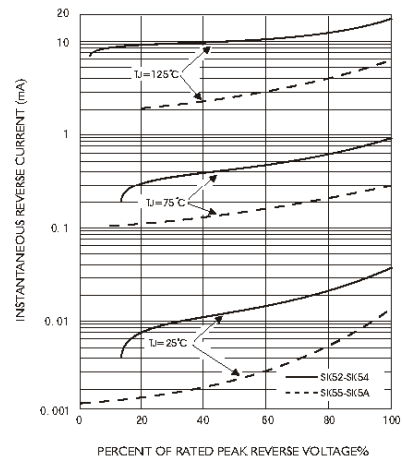


FIG. 5-TYPICAL JUNCTION CAPACITANCE

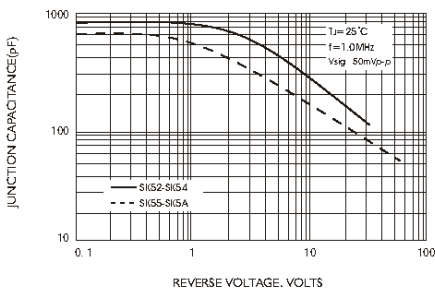


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

