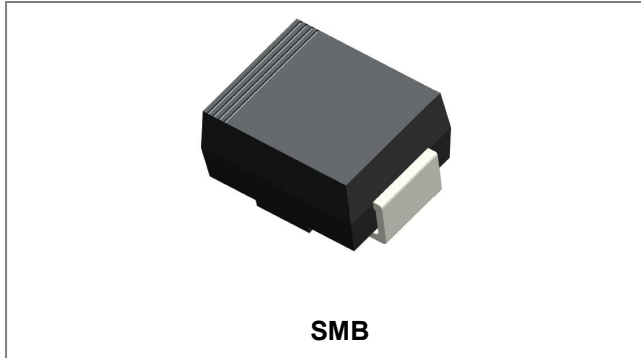




THE DATASHEET OF SK220



SK220 SCHOTTKY RECTIFIER



Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Disk drives
- Battery charging

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|---|-------------|---|------|-------|
| Peak Repetitive Reverse Voltage | V_{RRM} | - | 200 | V |
| Working Peak Reverse Voltage | V_{RWM} | | | |
| DC Blocking Voltage | V_R | | | |
| Average Rectified Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C=105^{\circ}C$, rectangular wave form | 2 | A |
| Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3ms, Half Sine pulse, $T_c = 25^{\circ}C$ | 50 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|------------------------|----------|---|------|--------|------------|
| Forward Voltage Drop* | V_{F1} | @ 2A, Pulse, $T_A = 25^{\circ}C$ | 0.88 | 0.90 | V |
| Reverse Current* | I_{R1} | @ $V_R = \text{rated } V_R, T_A = 25^{\circ}C$ | 0.05 | 1 | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R, T_A = 100^{\circ}C$ | - | 20 | mA |
| Junction Capacitance | C_T | @ $V_R = 5V, T_C = 25^{\circ}C, f_{SIG} = 1MHz$ | 150 | 170 | pF |
| Series Inductance | L_S | Measured lead to lead 5 mm from package body | 8.0 | - | nH |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/ μs |

* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------|--------------|---------------|-------|
| Junction Temperature | T_J | - | -55 to +150 | °C |
| Storage Temperature | T_{stg} | - | -55 to +150 | °C |
| Typical Thermal Resistance Junction to Lead | $R_{\theta JL}$ | DC operation | 23 | °C/W |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | DC operation | 88 | °C/W |
| Approximate Weight | wt | - | 0.09 | g |

Ratings and Characteristics Curves

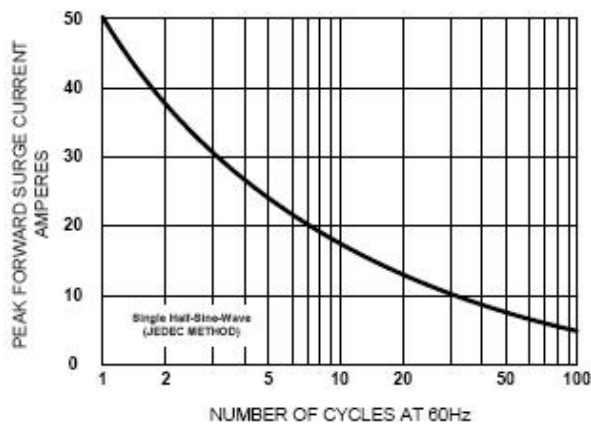


Figure 1. Maximum Non-repetitive Surge Current

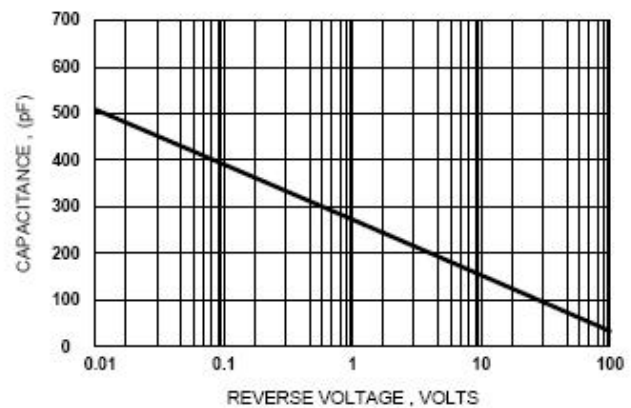


Figure 2. Typical Junction Capacitance

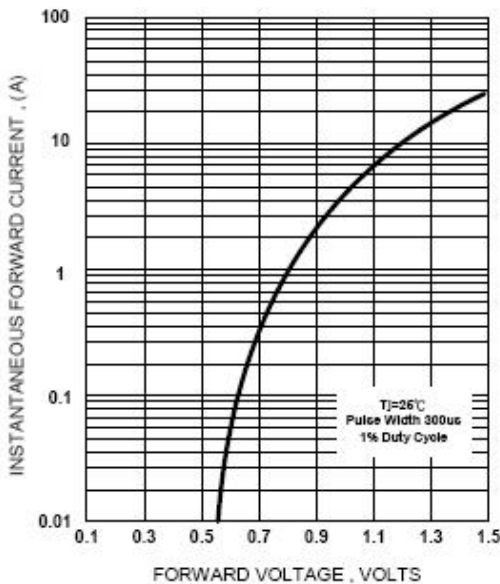


Figure 3. Typical Forward Characteristics

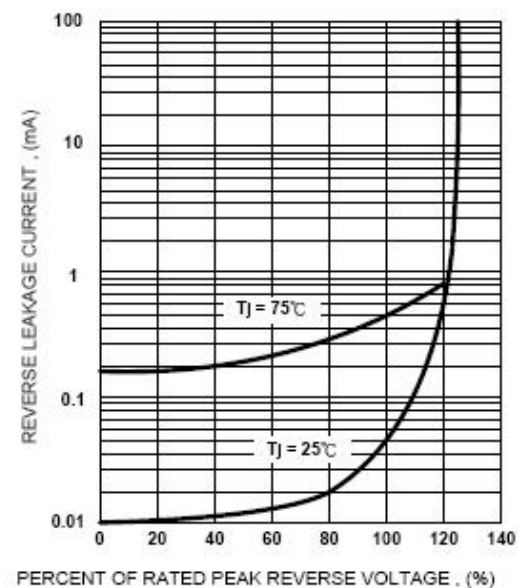
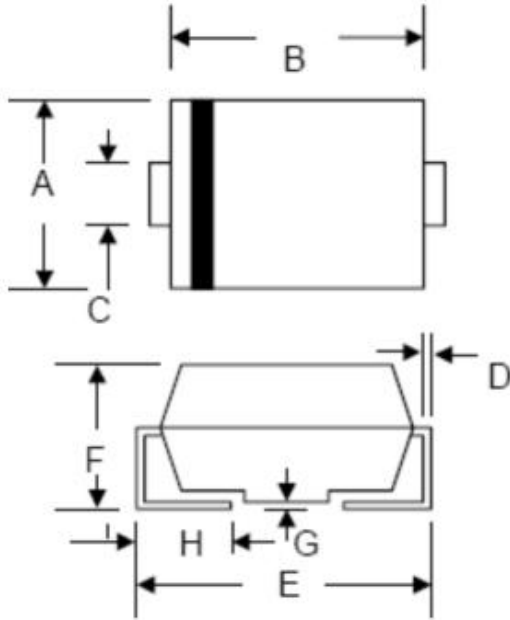


Figure 4. Typical Reverse Characteristics

Mechanical Dimensions SMB



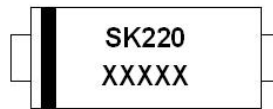
| SYMBOL | Millimeters | | Inches | |
|--------|-------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 3.30 | 3.94 | 0.130 | 0.155 |
| B | 4.06 | 4.70 | 0.160 | 0.185 |
| C | 1.80 | 2.20 | 0.071 | 0.087 |
| D | 0.152 | 0.305 | 0.006 | 0.012 |
| E | 4.80 | 5.59 | 0.189 | 0.220 |
| F | 2.10 | 2.60 | 0.083 | 0.102 |
| G | 0.051 | 0.203 | 0.002 | 0.008 |
| H | 0.76 | 1.52 | 0.030 | 0.060 |

Ordering Information

| Device | Package | Shipping |
|--------|---------------|----------------|
| SK220 | SMB (Pb-Free) | 3000pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram

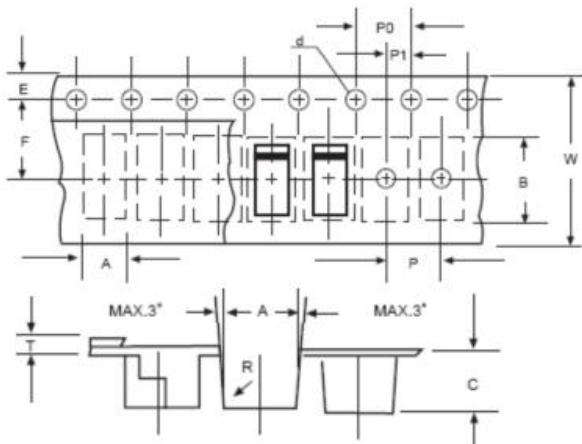


Where XXXXX is YYWWL

- SK = Device Type
- 2 = Forward Current (2A)
- 20 = Reverse Voltage (200V)
- YY = Year
- WW = Week
- L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification SMB



| SYMBOL | Millimeters | |
|--------|-------------|-------|
| | Min. | Max. |
| A | 2.97 | 3.17 |
| B | 5.70 | 5.90 |
| C | 2.32 | 2.52 |
| d | 1.40 | 1.60 |
| E | 1.40 | 1.60 |
| F | 5.60 | 5.70 |
| P | 3.90 | 4.10 |
| P0 | 3.90 | 4.10 |
| P1 | 1.90 | 2.10 |
| T | 0.25 | 0.35 |
| W | 11.80 | 12.20 |

Technical Data
Data Sheet N0635, Rev. A



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