

SK510B SCHOTTKY RECTIFIER

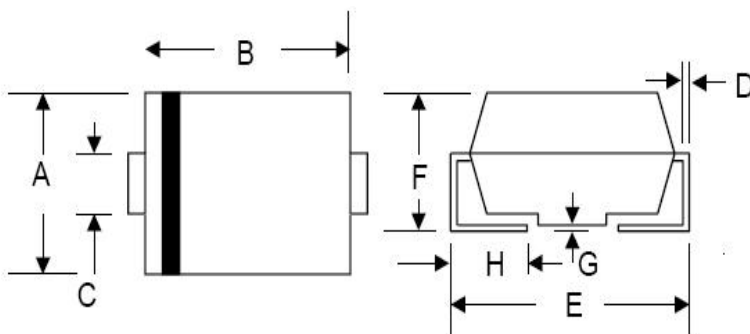
Applications:

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

Features:

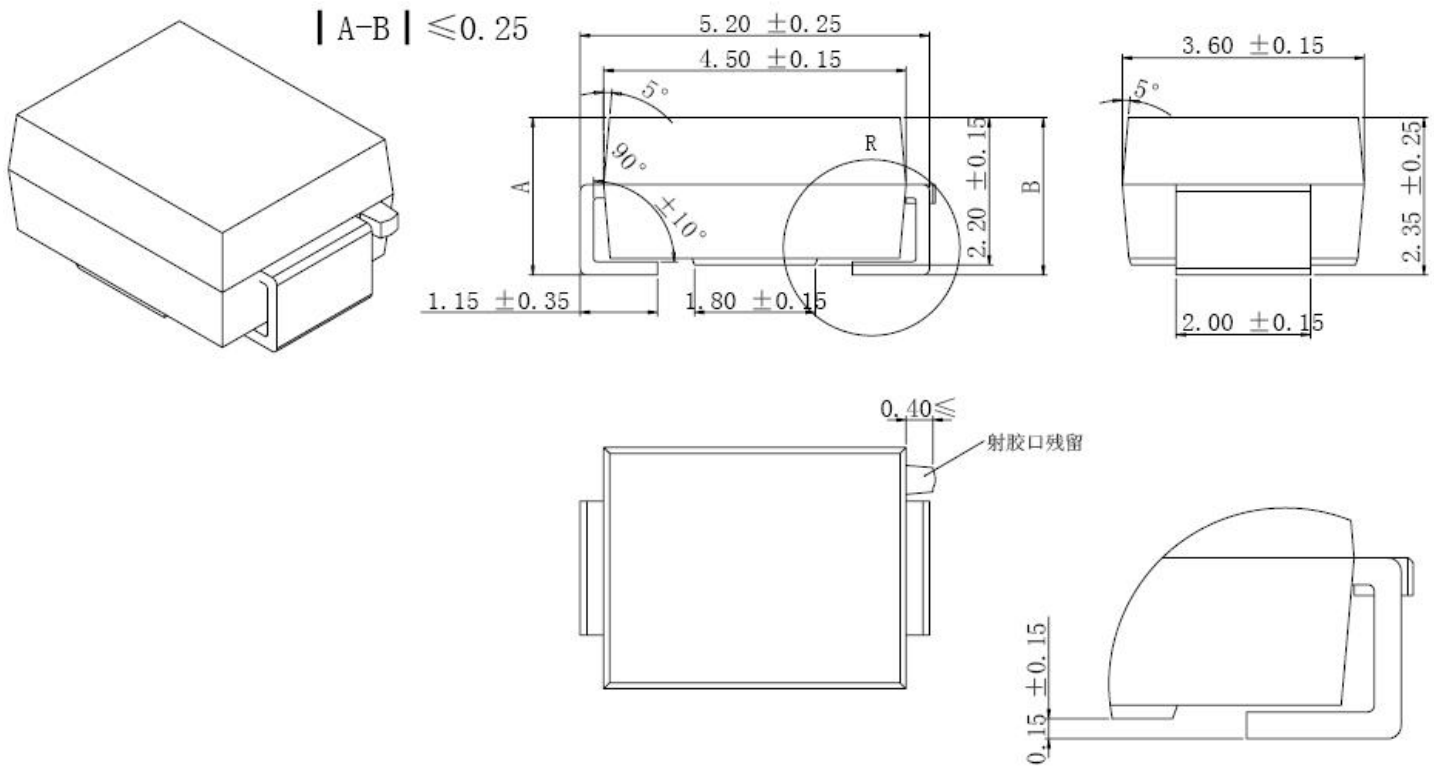
- Small foot print, surface mountable
- Very low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Green products in compliance the ROHS directive
- This is a Pb - Free device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Dimensions: In mm



| SMB/DO-214AA | | | | |
|--------------|-------|-------|---------|-------|
| Dim | Min | Max | Min | Max |
| A | 3.30 | 3.94 | 0.130 | 0.155 |
| B | 4.06 | 4.70 | 0.160 | 0.185 |
| C | 1.91 | 2.11 | 0.075 | 0.083 |
| D | 0.152 | 0.305 | 0.006 | 0.012 |
| E | 5.08 | 5.59 | 0.2 | 0.220 |
| F | 2.13 | 2.44 | 0.084 | 0.096 |
| G | 0.051 | 0.203 | 0.002 | 0.008 |
| H | 0.76 | 1.27 | 0.029 | 0.05 |
| | in mm | | In inch | |

OPTION 1



OPTION 2(JK)

SMB

Marking Diagram:



Where XXXXX is YYWWL

SK = Device Type
 5 = Forward Current (5A)
 10 = Reverse Voltage (100V)
 B = Package type
 YY = Year
 WW = Week
 L = Lot Number

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

Ordering Information:

| Device | Package | Shipping |
|--------|------------------|----------------|
| SK510B | 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.

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|---------------------------------|---|------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | - | 100 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_L=115^\circ\text{C}$, rectangular wave form | 5 | A |
| Peak one Cycle Non-repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine pulse | 120 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|----------------------------------|-----------------|---|--------|-------|
| Forward Voltage Drop (per leg) * | V _{F1} | @ 5A, Pulse, T _J = 25 °C | 0.85 | V |
| | V _{F2} | @ 5 A, Pulse, T _J = 125 °C | 0.70 | V |
| Reverse Current (per leg) * | I _{R1} | @V _R = rated VR T _J = 25 °C | 0.1 | mA |
| | I _{R2} | @V _R = rated VR T _J = 100 °C | 2.0 | mA |
| Junction Capacitance (per leg) | C _T | @V _R = 4V, T _C = 25 °C f _{SIG} = 1MHz | 200 | pF |
| Voltage Rate of Change | dv/dt | - | 10,000 | V/us |

* Pulse Width < 300μs, 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 _{θJL} | - | 17 | °C/W |
| Typical Thermal Resistance, Junction to Ambient | R _{θJA} | - | 75 | °C/W |
| Approximate Weight | wt | - | 0.68 | g |
| Case Style | SMB | | | |

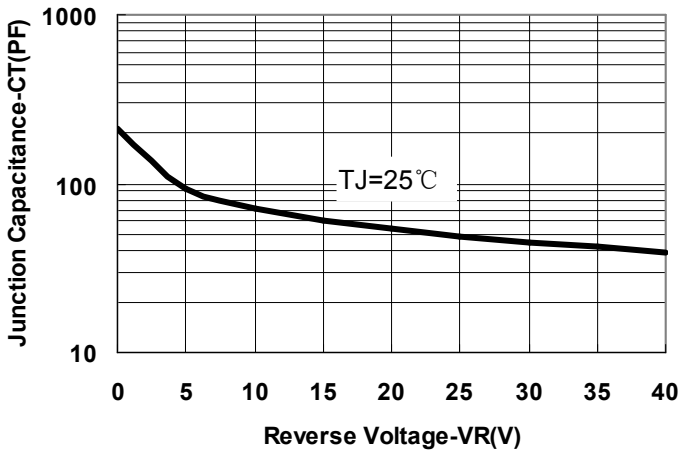


Fig.1-Typical Junction Capacitance Vs. Reverse Voltage

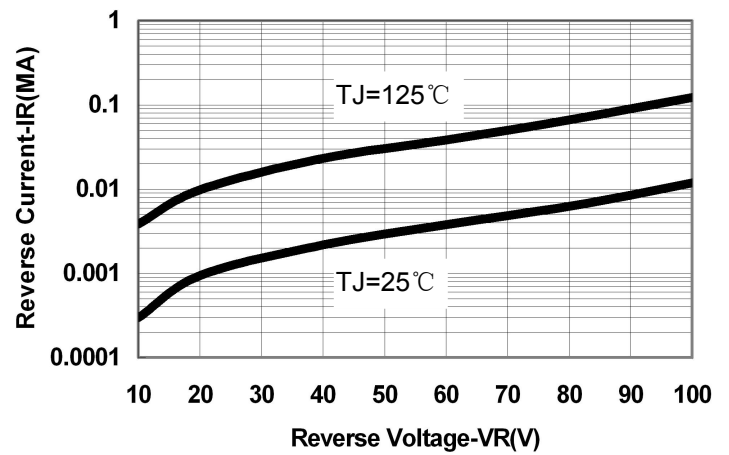


Fig.2-Typical Values Of Reverse Current Vs. Reverse Voltage

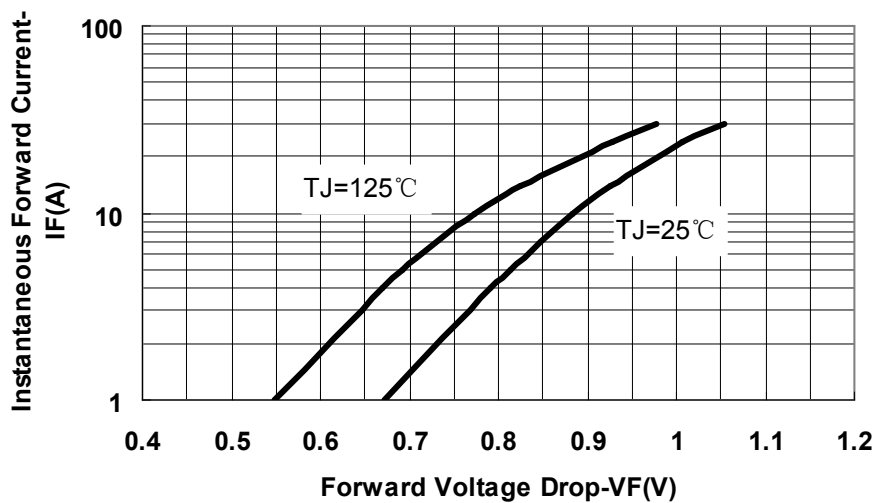


Fig.3-Typical Forward Voltage Drop Characteristics



SK510B

Technical Data
Data Sheet N0950, Rev. -

Green Products

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