

# SK22~SK210

# **Surface Mount Schottky Rectifiers**

### **Features**

- Low profile package
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- High temperature soldering: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/1 and WEEE 2002/96/EC

### Mechanical Date

- **Case:** JEDEC DO-214AA molded plastic body over glass passivated chip
- Terminals: Solder plated, solderable per J-STD-002B and JESD22-B102D
- Polarity: Laser band denotes cathode end

# Maximum Ratings & Thermal Characteristics



SMB (DO - 214AA)

## **Major Ratings and Characteristics**

| I <sub>F(AV)</sub>  | 2.0A                       |
|---------------------|----------------------------|
| V <sub>RRM</sub>    | 20 V to 100 V              |
| I <sub>FSM</sub>    | 50A                        |
| V <sub>F</sub>      | 0.50V, 0.55V, 0.70V, 0.85V |
| T <sub>j</sub> max. | 125 °C                     |

| $(T_A = 25 \degree C \text{ unless otherwise noted})$                              |                                  |             |      |      |      |      |      |       |      |
|--|----------------------------------|-------------|------|------|------|------|------|-------|------|
| Items  | Symbol                           | SK22        | SK23 | SK24 | SK25 | SK26 | SK28 | SK210 | UNIT |
| Maximum repetitive peak reverse voltage  | V <sub>RRM</sub>                 | 20          | 30   | 40   | 50   | 60   | 80   | 100   | V    |
| Maximum RMS voltage  | V <sub>RMS</sub>                 | 14          | 21   | 28   | 35   | 42   | 56   | 70    | V    |
| Maximum DC blocking voltage  | V <sub>DC</sub>                  | 20          | 30   | 40   | 50   | 60   | 80   | 100   | V    |
| Maximum average forward rectified current  | I <sub>F(AV)</sub>               | 2.0         |      |      |      |      | А    |       |      |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>                 | 50          |      |      |      |      | А    |       |      |
| Voltage rate of change (rated $V_R$ )  | dv/dt                            | 10000       |      |      |      |      | V/µs |       |      |
| Thermal resistance from junction to lead <sup>(1)</sup>                            | $R_{	extsf{	heta}JL}$            | JL 25       |      |      |      |      | °C/W |       |      |
| Operating junction and storage temperature range                                   | T <sub>J,</sub> T <sub>STG</sub> | -65 to +125 |      |      |      | °C   |      |       |      |

Note 1: Mounted on P.C.B. with 0.28 x 0.28" (7.0 x 7.0mm) copper pad areas.

# Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

|                               | 1                               |                      |                |      |         |         |          | I    |
|-------------------------------|---------------------------------|----------------------|----------------|------|---------|---------|----------|------|
| Items                         | Test co                         | nditions             | Symbol         | SK22 | SK23~24 | SK25~26 | SK28~210 | UNIT |
| Instantaneous forward voltage | I <sub>F</sub> =2               | .0A <sup>(2)</sup>   | V <sub>F</sub> | 0.50 | 0.55    | 0.70    | 0.85     | V    |
| Reverse current               | V <sub>R</sub> =V <sub>DC</sub> | T <sub>A</sub> =25℃  | 1_             | 0.5  |         |         |          |      |
|                               | VR <sup></sup> VDC              | T <sub>A</sub> =100℃ | IR             | 5    |         |         |          |      |

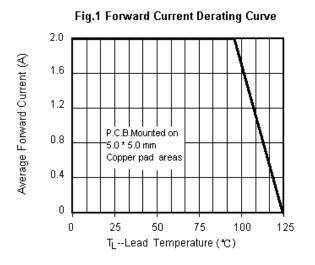
Note 2: Pulse test:300µs pulse width,1% duty cycle.

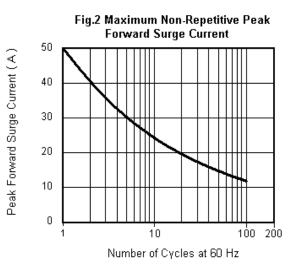




# SK22~SK210 Surface Mount Schottky Rectifiers

#### Characteristic Curves (T<sub>A</sub>=25 °C unless otherwise noted)





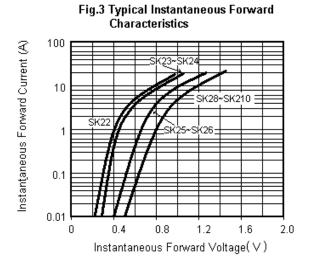
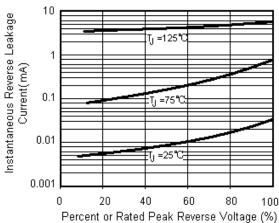


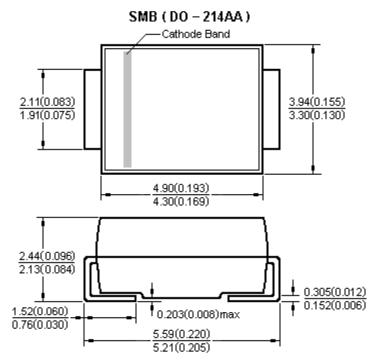
Fig.4 Typical Reverse Leakage Characteristics







### **Package Outline**



Dimensions in millimeters and (inches)

### Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage.or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.
  - $I_{\text{F(AV)}}$  : We recommend that the worst case current be no greater than 80% .
  - I<sub>FSM</sub> : This rating specifies the non-repetitive peak current. This is only applied for an abnormal operation, which the general during the lifespan of the device.
  - $T_J$ : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a  $T_J$  of below 125°C.
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- Rising-sun Technology advises customers to obtain the latest version of the device information before placing orders to verify that the
- required information is current.

