

# Schottky Barrier Rectifiers

## SL22--SL24

### Features

- Metal silicon junction, majority carrier conduction
- High surge capability
- High temperature soldering guaranteed:  
260°C/10 seconds
- High current capability, low forward voltage drop
- Guarding for over voltage protection
- RoHS Compliant



### Mechanical Data

- Case: SMB molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

| Characteristic   | Symbol             | SL22 | SL23 | SL24 | Units |
|--|--------------------|------|------|------|-------|
| Peak repetitive reverse voltage                            | V <sub>RRM</sub>   | 20   | 30   | 40   | V     |
| RMS reverse voltage  | V <sub>RMS</sub>   | 14   | 21   | 28   | V     |
| DC blocking voltage  | V <sub>DC</sub>    | 20   | 30   | 40   | V     |
| Maximum average forward output current                     | I <sub>F(AV)</sub> | 2.0  |      |      | A     |
| Peak forward surge current,<br>8.3ms single half-sine-wave | I <sub>FSM</sub>   | 50   |      |      | A     |

### Thermal Characteristics

| Parameter                              | Symbol           | SL22            | SL23 | SL24 | Units |
|--|------------------|-----------------|------|------|-------|
| Typical thermal resistance<br>(Note 1) | R <sub>θJA</sub> | 60              |      |      | °C/W  |
|  | R <sub>θJC</sub> | 23              |      |      |       |
|  | R <sub>θJL</sub> | 25              |      |      |       |
| Operating junction temperature range   | T <sub>J</sub>   | - 55 ---- + 125 |      |      | °C    |
| Storage temperature range              | T <sub>STG</sub> | - 55 ---- + 150 |      |      | °C    |

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                                     | Symbol | Test conditions   |                           | Typ. | Max. | Units         |
|---|--------|-------------------|---------------------------|------|------|---------------|
| Maximum instantaneous forward voltage(Note 1) | $V_F$  | $I_F=2.0\text{A}$ | @ $T_A=25^\circ\text{C}$  | --   | 0.45 | V             |
| Maximum Reverse current (Note 2)              | $I_R$  | Rated $V_R$ ,     | @ $T_J=25^\circ\text{C}$  | --   | 500  | $\mu\text{A}$ |
|   |        |                   | @ $T_J=100^\circ\text{C}$ | --   | 40   | m A           |

Note:

- 1.Pulse test: 300us pulse width, 1 % duty cycle
- 2.Pulse test: Pulse width 40ms

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## Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

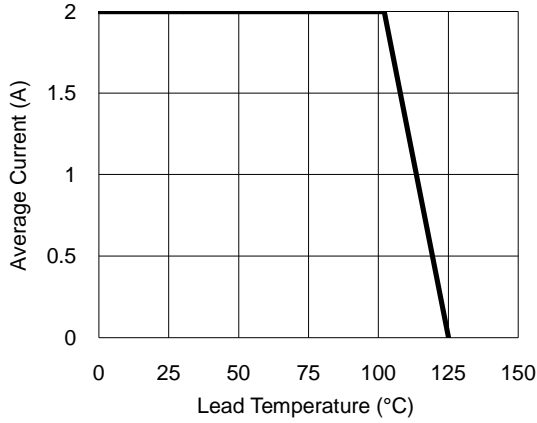


Fig.2- Surge Current Derating Curve

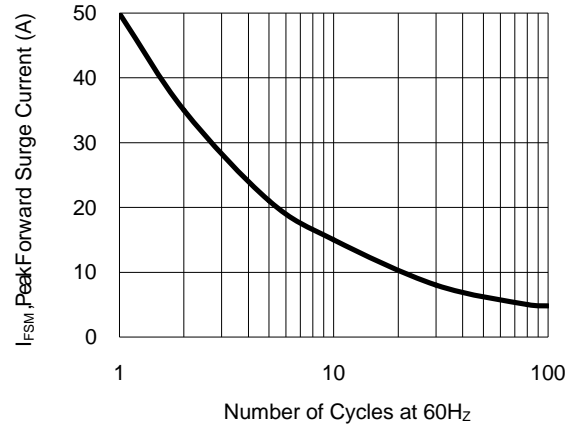


Fig.3- Typical Forward Voltage Characteristic

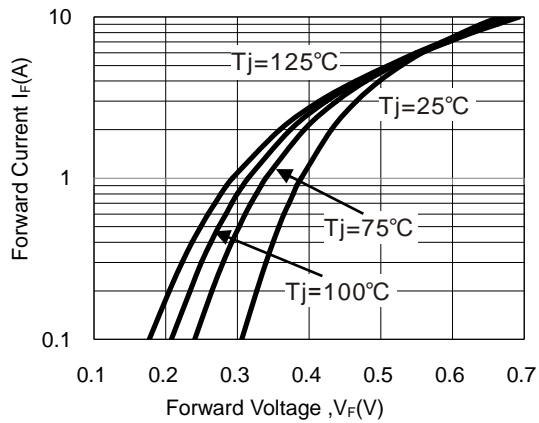
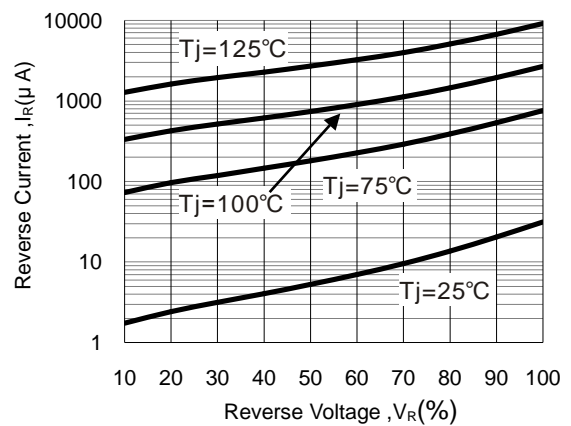


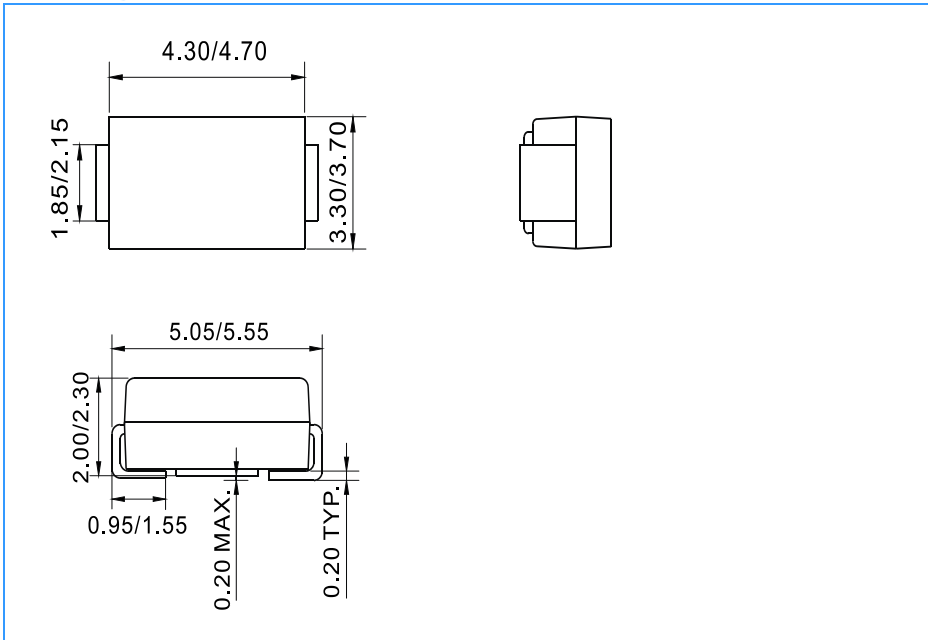
Fig.4- Typical Reverse Characteristic



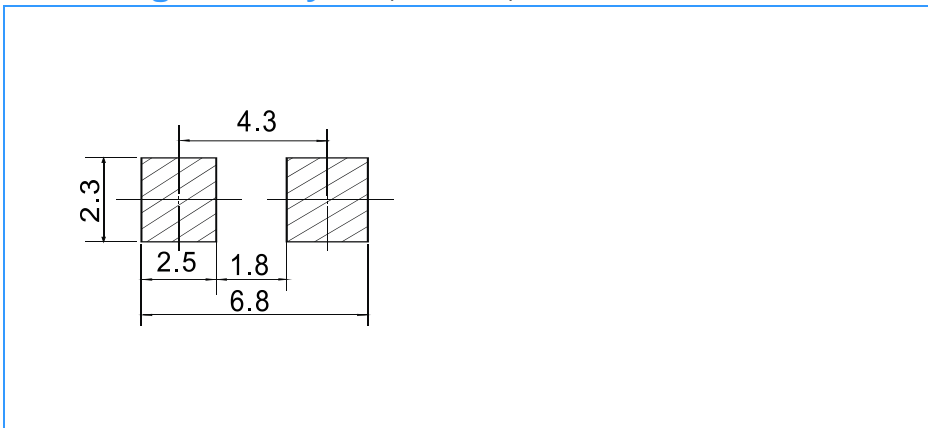
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### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



### Ordering Information

| Part No. | Marking | Package | Shipping       |
|----------|---------|---------|----------------|
| SL22     | SL22    | SMB     | 3000/Tape&Reel |
| SL23     | SL23    | SMB     | 3000/Tape&Reel |
| SL24     | SL24    | SMB     | 3000/Tape&Reel |