

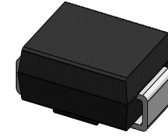
5A,20-40V Schottky Barrier Rectifiers

Features

- Low leakage current
- Schottky barrier diodes
- Low forward voltage drop
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



RoHS
COMPLIANT



SMB (DO-214AA)

Applications

For use in low voltage, high frequency inverters, free-wheeling and polarity protection application.

| Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted) | | | | | |
|--|--------------------|-------------|-------|-------|------|
| Parameter | Symbol | SL52B | SL53B | SL54B | Unit |
| Maximum repetitive peak reverse voltage | V _{RRM} | 20 | 30 | 40 | V |
| Maximum RMS voltage | V _{RMS} | 14 | 21 | 28 | V |
| Maximum DC blocking voltage | V _{DC} | 20 | 30 | 40 | V |
| Maximum average forward rectified current | I _{F(AV)} | 5 | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode | I _{FSM} | 120 | | | A |
| Operating junction temperature range | T _J | -55 to +125 | | | °C |
| Storage temperature range | T _{STG} | -55 to +150 | | | °C |

| Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted) | | | |
|---|------------------|-----|--------|
| Parameter | Symbol | Typ | Unit |
| Thermal Resistance, Junction to Ambient | R _{θJA} | 85 | °C / W |
| Thermal Resistance, Junction to Case | R _{θJC} | 15 | °C / W |
| Thermal Resistance, Junction to Lead | R _{θJL} | 20 | °C / W |

Electrical Specifications (T_A=25°C unless otherwise noted)

| Parameter | Symbol | Test Conditions | SL52B | SL53B | SL54B | Unit |
|---|----------------|-----------------------|-------|-------|-------|------|
| Forward Drop Voltage | V _F | I _F =5A | 0.45 | | | V |
| Reverse leakage current @V _R | I _R | T _J =25°C | 0.5 | | | mA |
| | | T _J =100°C | 50 | | | |
| Typical junction capacitance | C _J | 4.0 V 1 MHZ | 350 | | | pF |

Note:

1. Mounted on copper pad area of 0.2x0.2" (5.0 x 5.0mm) to each terminal.

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

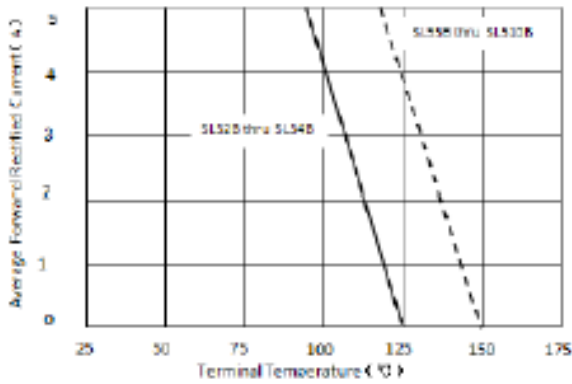


Figure 1. Forward Current Derating Curve

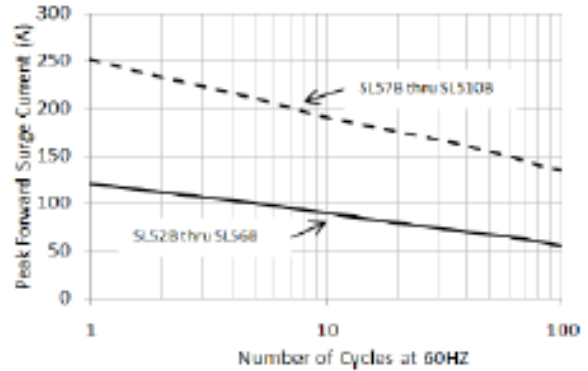


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

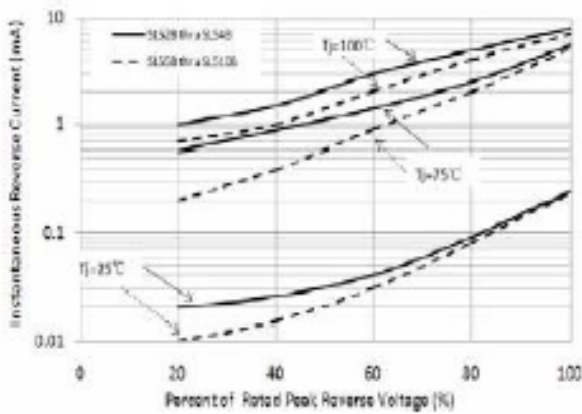


Figure 3. Typical Reverse Characteristics

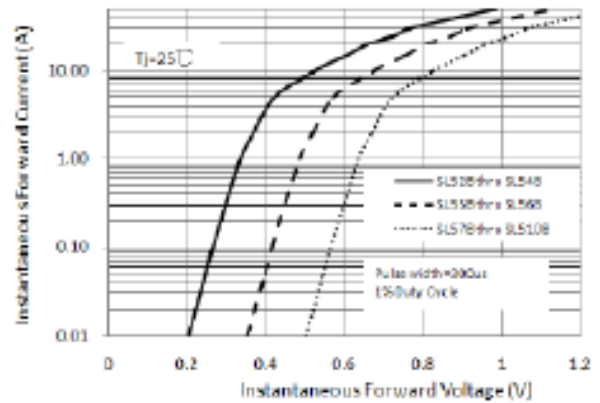


Figure 4. Typical Instantaneous Forward Characteristics

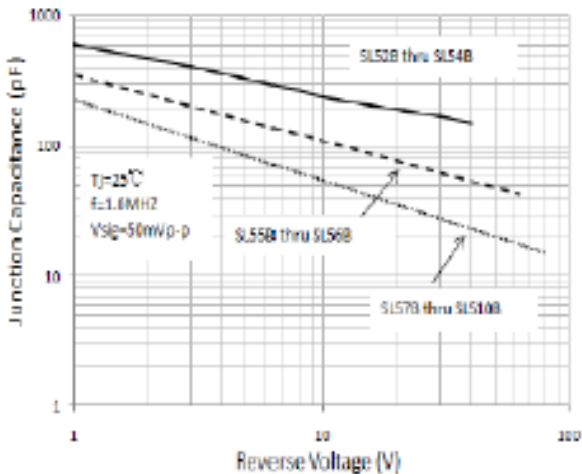
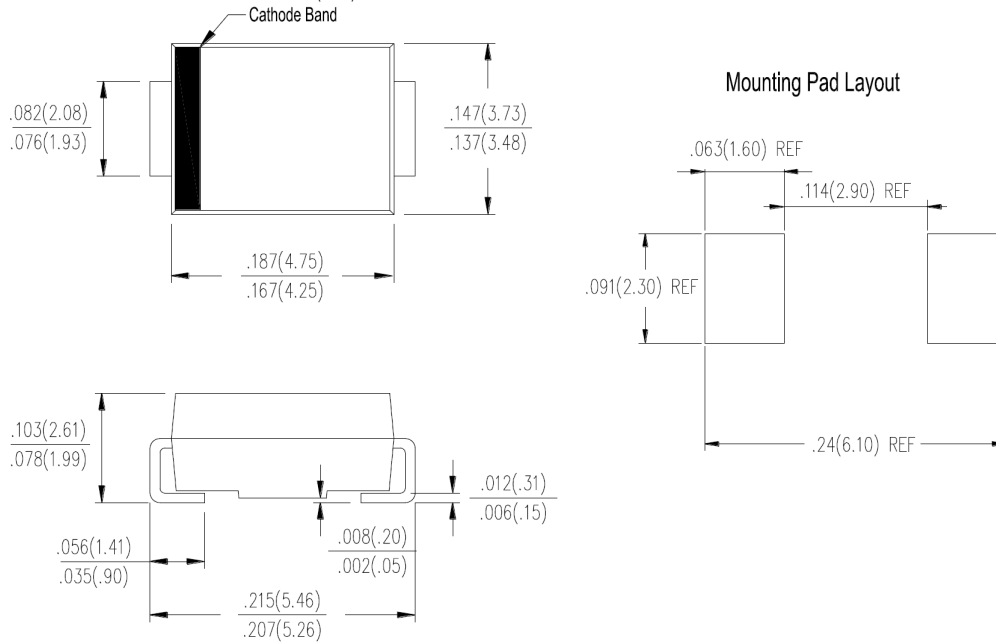


Figure 5. Typical Junction Capacitance

Package Outline Dimensions

in inches (millimeters)

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Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2021.06.01 | Released Datasheet |
| Rev.B | 2023.10.16 | Modify document format |

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