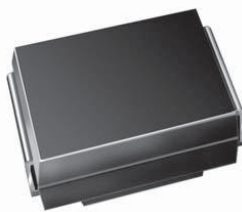


## Surface Mount Schottky Barrier Rectifier


**DO-214AA (SMB)**

### FEATURES

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Very low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

### MECHANICAL DATA

**Case:** DO-214AA (SMB)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes the cathode end

| PRIMARY CHARACTERISTICS |              |
|-------------------------|--------------|
| $I_{F(AV)}$             | 2.0 A        |
| $V_{RRM}$               | 20 V to 30 V |
| $I_{FSM}$               | 100 A        |
| $V_F$                   | 0.32 V       |
| $T_J$ max.              | 125 °C       |

| MAXIMUM RATINGS (TA = 25 °C unless otherwise noted)                                |             |               |      |            |
|--|-------------|---------------|------|------------|
| PARAMETER  | SYMBOL      | SL22          | SL23 | UNIT       |
| Device marking code  |             | SL2           | SL3  |            |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$   | 20            | 30   | V          |
| Maximum RMS voltage  | $V_{RMS}$   | 14            | 21   | V          |
| Maximum DC blocking voltage  | $V_{DC}$    | 20            | 30   | V          |
| Maximum average forward rectified current at $T_L$ (fig.1)                         | $I_{F(AV)}$ | 2.0           |      | A          |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$   | 100           |      | A          |
| Voltage rate of change (rated $V_R$ )  | $dV/dt$     | 10 000        |      | V/ $\mu$ s |
| Operating junction temperature range   | $T_J$       | - 55 to + 125 |      | °C         |
| Storage temperature range  | $T_{STG}$   | - 55 to + 150 |      | °C         |



| ELECTRICAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)         |                 |             |        |       |      |      |
|--|-----------------|-------------|--------|-------|------|------|
| PARAMETER  | TEST CONDITIONS |             | SYMBOL | SL22  | SL23 | UNIT |
| Maximum instantaneous forward voltage at <sup>(1)</sup>                | IF = 1.0 A      | TA = 125 °C | VF     | 0.280 |      | V    |
|  |                 | TA = 25 °C  |        | 0.395 |      |      |
|  | IF = 2.0 A      | TA = 125 °C |        | 0.320 |      |      |
|  |                 | TA = 25 °C  |        | 0.440 |      |      |
| Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup> |                 |             | IR     | 0.4   |      | mA   |
|  |                 |             |        | 10    |      |      |

**Note**

<sup>(1)</sup> Pulse test: 300 µs pulse width, 1 % duty cycle

| THERMAL CHARACTERISTICS (TA = 25 °C unless otherwise noted) |        |      |      |      |
|---|--------|------|------|------|
| PARAMETER   | SYMBOL | SL22 | SL23 | UNIT |
| Maximum thermal resistance <sup>(1)</sup>                   | RθJA   | 75   |      | °C/W |
|   | RθJL   | 17   |      |      |

**Note**

<sup>(1)</sup> P.C.B. mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas, TL = 90 °C

| ORDERING INFORMATION (Example) |                 |                        |               |                                    |
|--------------------------------|-----------------|------------------------|---------------|------------------------------------|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
| SL23-E3/52T                    | 0.096           | 52T                    | 750           | 7" diameter plastic tape and reel  |
| SL23-E3/5BT                    | 0.096           | 5BT                    | 3200          | 13" diameter plastic tape and reel |
| SL23HE3/52T <sup>(1)</sup>     | 0.096           | 52T                    | 750           | 7" diameter plastic tape and reel  |
| SL23HE3/5BT <sup>(1)</sup>     | 0.096           | 5BT                    | 3200          | 13" diameter plastic tape and reel |

**Note**

<sup>(1)</sup> AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES**

(TA = 25 °C unless otherwise noted)

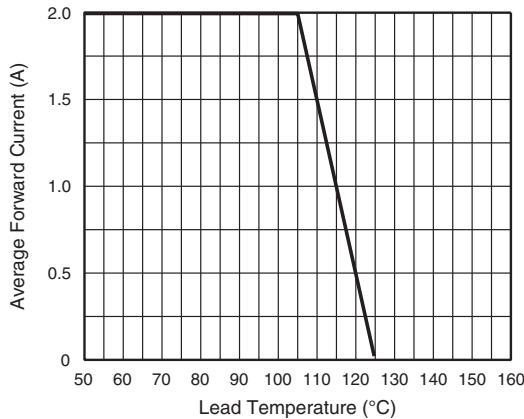


Fig. 1 - Forward Derating Curve

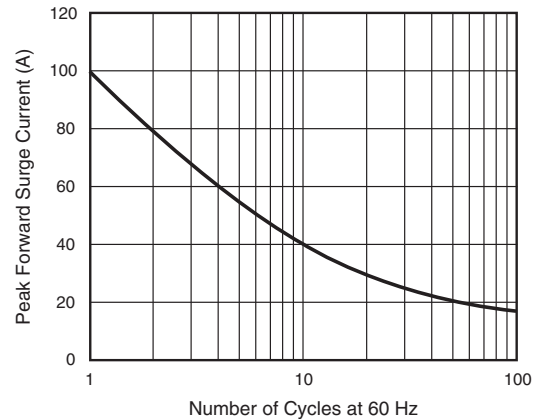


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

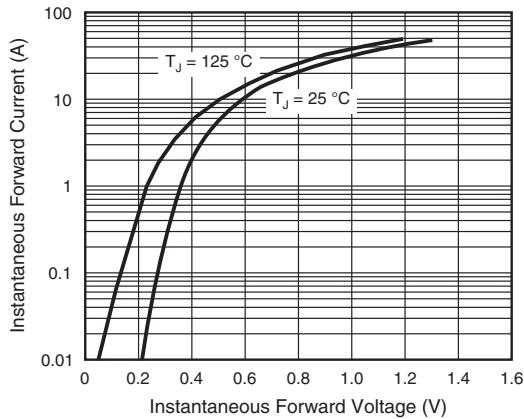


Fig. 3 - Typical Instantaneous Forward Characteristics

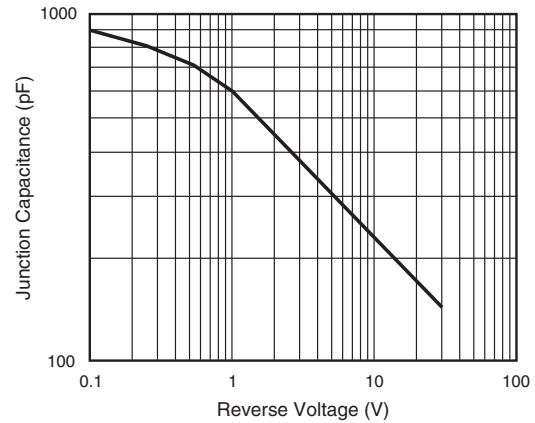


Fig. 5 - Typical Junction Capacitance

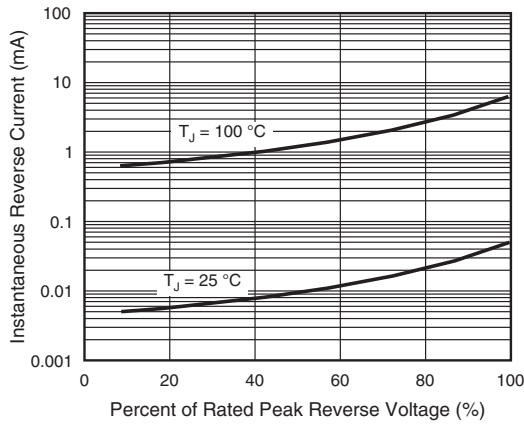
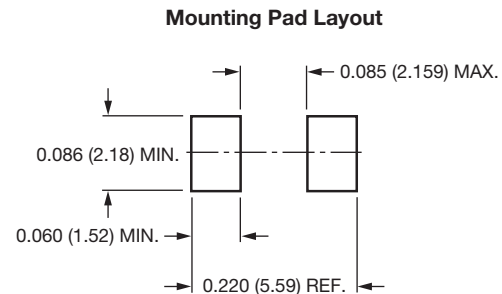
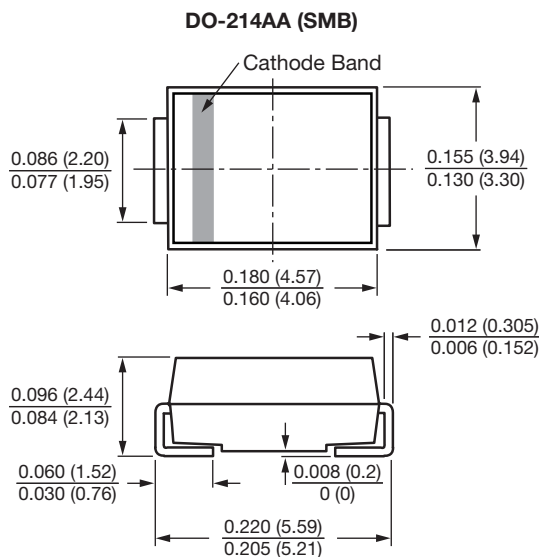


Fig. 4 - Typical Reverse Current Characteristics

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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