

## Surface Mount Schottky Barrier Rectifier


**DO-214AB (SMC)**

### 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-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating  
 Base P/N-E3 - RoHS-compliant, commercial grade  
 Base P/NHE3\_X - RoHS-compliant and AEC-Q101 qualified ("X" denotes revision code e.g. A, B, .....) )

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

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

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

| PRIMARY CHARACTERISTICS |                  |
|-------------------------|------------------|
| $I_{F(AV)}$             | 4.0 A            |
| $V_{RRM}$               | 20 V, 30 V, 40 V |
| $I_{FSM}$               | 150 A            |
| $V_F$                   | 0.31 V, 0.35 V   |
| $T_J$ max.              | 125 °C           |
| Package                 | DO-214AB         |
| Diode variations        | Single           |

| MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)                            |             |             |      |      |      |
|--|-------------|-------------|------|------|------|
| PARAMETER  | SYMBOL      | SL42        | SL43 | SL44 | UNIT |
| Device marking code  |             | SL2         | SL3  | SL4  |      |
| 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 <sup>(1)</sup> at $T_L$ (fig. 1)         | $I_{F(AV)}$ | 4.0         |      |      | A    |
|  |             | 8.0         |      |      |      |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$   | 150         |      |      | A    |
| Operating junction temperature range   | $T_J$       | -55 to +125 |      |      | °C   |
| Storage temperature range  | $T_{STG}$   | -55 to +150 |      |      | °C   |

#### Note

<sup>(1)</sup> PCB mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas,  $T_L = 90$  °C



| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                        |                         |                |      |      |      |      |
|--|------------------------|-------------------------|----------------|------|------|------|------|
| PARAMETER  | TEST CONDITIONS        |                         | SYMBOL         | SL42 | SL43 | SL44 | UNIT |
| Maximum instantaneous forward voltage at <sup>(1)</sup>                    | I <sub>F</sub> = 4.0 A | T <sub>A</sub> = 125 °C | V <sub>F</sub> | 0.31 |      | 0.35 | V    |
|  |                        | T <sub>A</sub> = 25 °C  |                | 0.42 |      | 0.44 |      |
|  | I <sub>F</sub> = 8.0 A | T <sub>A</sub> = 125 °C |                | 0.37 |      | 0.41 |      |
|  |                        | T <sub>A</sub> = 25 °C  |                | 0.47 |      | 0.50 |      |
| Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>     |                        |                         | I <sub>R</sub> | 0.5  |      |      | mA   |
|  |                        |                         |                | 35   |      |      |      |

**Note**

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

| THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                  |      |      |      |      |
|---|------------------|------|------|------|------|
| PARAMETER   | SYMBOL           | SL42 | SL43 | SL44 | UNIT |
| Typical thermal resistance <sup>(1)</sup>                               | R <sub>θJA</sub> | 50   |      |      | °C/W |
|   | R <sub>θJL</sub> | 14   |      |      |      |

**Note**

<sup>(1)</sup> PCB mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas, T<sub>L</sub> = 90 °C

| ORDERING INFORMATION (Example) |                 |                        |               |                                    |
|--------------------------------|-----------------|------------------------|---------------|------------------------------------|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
| SL43-E3/57T                    | 0.235           | 57T                    | 850           | 7" diameter plastic tape and reel  |
| SL43-E3/9AT                    | 0.235           | 9AT                    | 3500          | 13" diameter plastic tape and reel |
| SL43HE3_A/H <sup>(1)</sup>     | 0.235           | H                      | 850           | 7" diameter plastic tape and reel  |
| SL43HE3_A/I <sup>(1)</sup>     | 0.235           | I                      | 3500          | 13" diameter plastic tape and reel |

**Note**

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

**RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)**

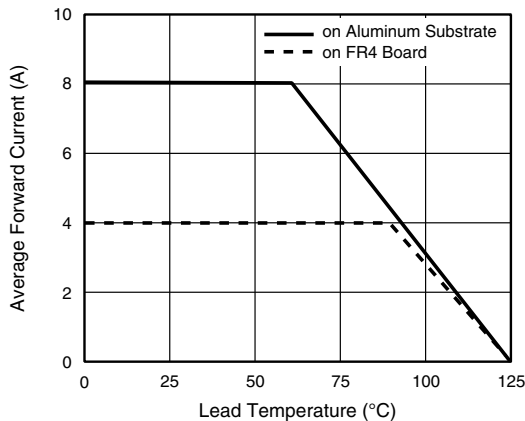


Fig. 1 - Forward Current Derating Curve

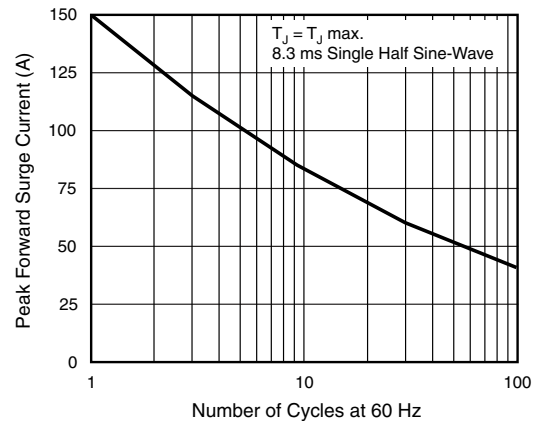


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

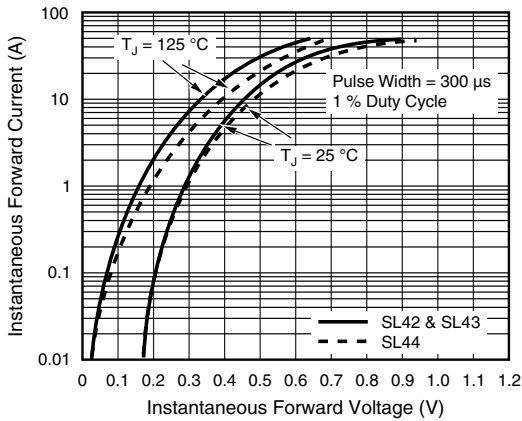


Fig. 3 - Typical Instantaneous Forward Characteristics

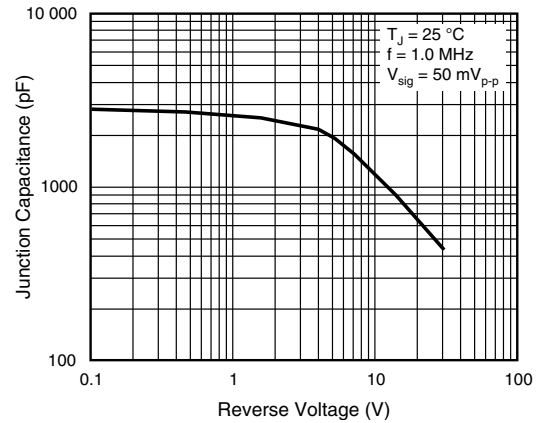


Fig. 5 - Typical Junction Capacitance

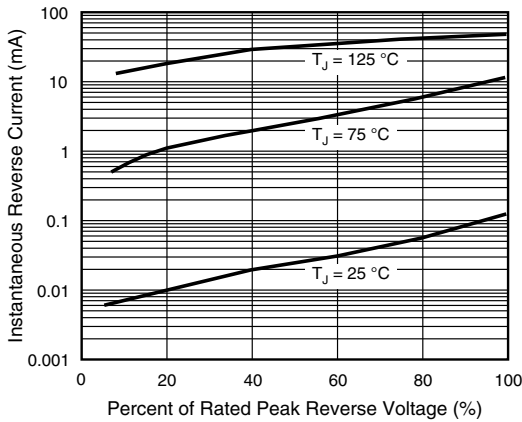
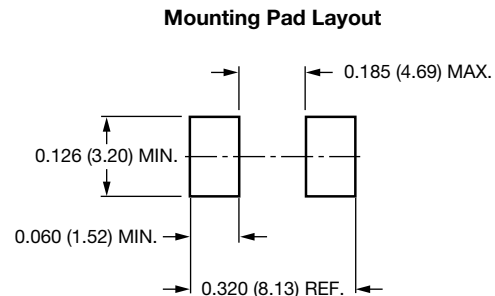
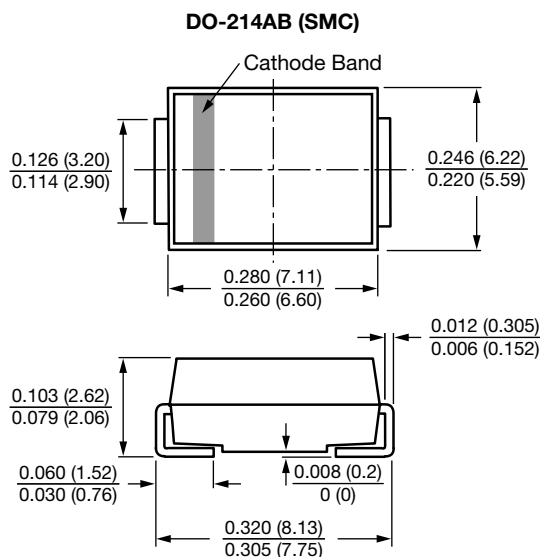


Fig. 4 - Typical Reverse Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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