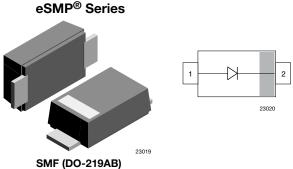
**HALOGEN** 

FREE



# Vishay Semiconductors

# **Schottky Rectifier Surface-Mount**



#### **LINKS TO ADDITIONAL RESOURCES**



#### **MECHANICAL DATA**

Case: SMF (DO-219AB)

Polarity: color band denotes cathode end

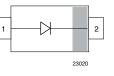
Weight: approx. 15 mg Packaging codes / options:

18/10K per 13" reel (8 mm tape), MOQ = 50K 08/3K per 7" reel (8 mm tape), MOQ = 30K

Circuit configuration: single

#### **FEATURES**

- · For surface mounted applications
- Low-profile package
- Ideal for automated placement
- · Low power loss, high efficiency
- · Oxide planar chip junction
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Meets JESD 201 class 2 whisker test
- · Wave and reflow solderable
- AEC-Q101 qualified
- Compatible to SOD-123W package case outline or SOD-123F and SOD-123FL
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



| PARTS TABLE |                        |         |               |  |  |  |
|-------------|------------------------|---------|---------------|--|--|--|
| PART        | ORDERING CODE          | MARKING | REMARKS       |  |  |  |
| SL02-M      | SL02-M-18 or SL02-M-08 | U2      | Tape and reel |  |  |  |
| SL03-M      | SL03-M-18 or SL03-M-08 | U3      | Tape and reel |  |  |  |

| <b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                         |        |                    |       |      |
|--|-------------------------|--------|--------------------|-------|------|
| PARAMETER  | TEST CONDITION          | PART   | SYMBOL             | VALUE | UNIT |
| Maximum van atitiva maak vavaraa valtaaa   |                         | SL02-M | $V_{RRM}$          | 20    | V    |
| Maximum repetitive peak reverse voltage  |                         | SL03-M | $V_{RRM}$          | 30    | V    |
| Maximum PMC voltage  |                         | SL02-M | V <sub>RMS</sub>   | 14    | V    |
| Maximum RMS voltage  |                         | SL03-M | $V_{RMS}$          | 21    | V    |
| Maximum DC blocking voltage  |                         | SL02-M | $V_{DC}$           | 20    | V    |
| Maximum DC blocking voltage  |                         | SL03-M | $V_{DC}$           | 30    | V    |
| Maximum average forward rectified current  | T <sub>L</sub> = 109 °C |        | I <sub>F(AV)</sub> | 1.1   | Α    |
| Peak forward surge current 8.3 ms single half sine-wave                                |                         |        | I <sub>FSM</sub>   | 40    | А    |

| THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                |                   |             |      |  |
|--|----------------|-------------------|-------------|------|--|
| PARAMETER  | TEST CONDITION | SYMBOL            | VALUE       | UNIT |  |
| Thermal resistance junction to ambient air (1)                                 |                | R <sub>thJA</sub> | 180         | K/W  |  |
| Maximum operating junction temperature   |                | Tj                | 125         | °C   |  |
| Storage temperature range  |                | T <sub>stg</sub>  | -55 to +150 | °C   |  |

### Note

(1) Mounted on epoxy substrate with 3 mm x 3 mm Cu pads ( $\geq$  40  $\mu$ m thick)



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| <b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                                       |        |                 |      |       |       |      |
|--|---------------------------------------|--------|-----------------|------|-------|-------|------|
| PARAMETER  | TEST CONDITION                        | PART   | SYMBOL          | MIN. | TYP.  | MAX.  | UNIT |
| Instantaneous forward voltage  | I <sub>F</sub> = 0.5 A <sup>(1)</sup> | SL02-M | $V_{F}$         |      | 0.360 | 0.385 | V    |
|  |                                       | SL03-M | $V_{F}$         |      | 0.395 | 0.43  | V    |
| Typical instantaneous forward voltage  | I <sub>F</sub> = 1.1 A                | SL02-M | $V_{F}$         |      | 0.420 |       | V    |
|  |                                       | SL03-M | $V_{F}$         |      | 0.450 |       | V    |
| Maximum DC reverse current at rated DC blocking voltage                                  | T <sub>A</sub> = 25 °C                | SL02-M | I <sub>R</sub>  |      |       | 250   | μA   |
|  | T <sub>A</sub> = 100 °C               | SL02-M | I <sub>R</sub>  |      |       | 8     | mA   |
|  | T <sub>A</sub> = 25 °C                | SL03-M | I <sub>R</sub>  |      |       | 130   | μA   |
|  | T <sub>A</sub> = 100 °C               | SL03-M | I <sub>R</sub>  |      |       | 6     | mA   |
| Reverse recovery time  |                                       | SL02-M | t <sub>rr</sub> |      |       | < 10  | ns   |
|  |                                       | SL03-M | t <sub>rr</sub> |      |       | < 10  | ns   |

#### Note

### TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

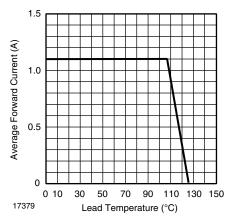


Fig. 1 - Forward Current Derating Curve

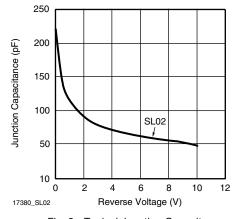


Fig. 2 - Typical Junction Capacitance

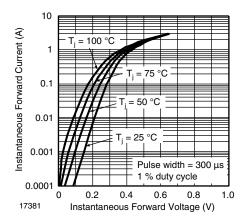


Fig. 3 - Typical Instantaneous Forward Characteristics - SL02

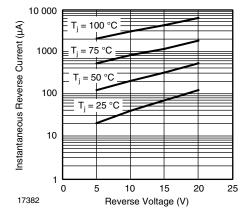


Fig. 4 - Typical Reverse Current Characteristics - SL02

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



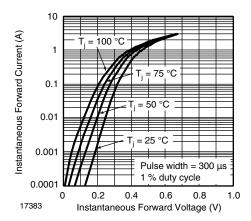


Fig. 5 - Typical Instantaneous Forward Characteristics - SL03

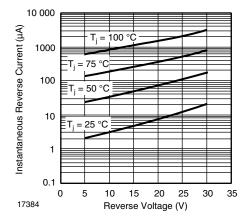
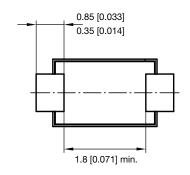
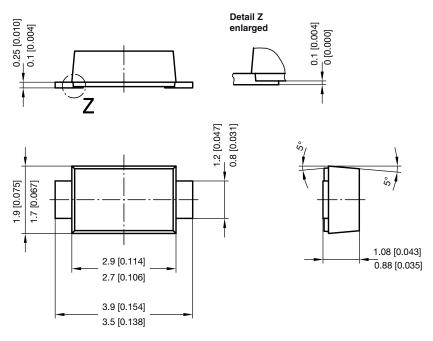


Fig. 6 - Typical Reverse Current Characteristics - SL03

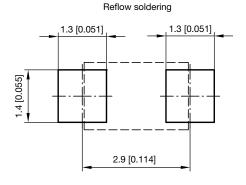
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### PACKAGE DIMENSIONS in millimeters (inches): SMF (DO-219AB)





foot print recommendation:



Created - Date: 15. February 2005 Rev. 6 - Date: 24.Feb.2021

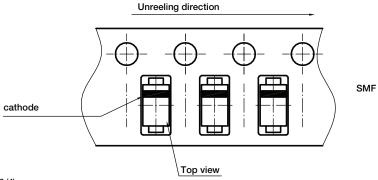
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### **ORIENTATION IN CARRIER TAPE - SMF (DO-219AB)**



Document no.: S8-V-3717.02-003 (4) Created - Date: 09. Feb. 2010

22670



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