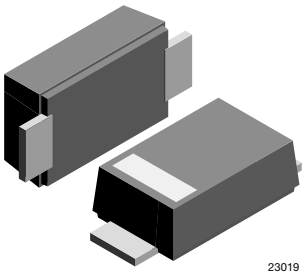
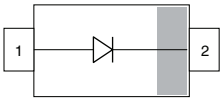
# Schottky Rectifier Surface-Mount

**eSMP® Series**



23019




23020

**SMF (DO-219AB)**

## FEATURES

- For surface mounted applications
- 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

RoHS COMPLIANT

## LINKS TO ADDITIONAL RESOURCES

3D Models

## MECHANICAL DATA

**Case:** SMF (DO-219AB)

**Polarity:** color band denotes cathode end

**Weight:** approx. 15 mg

**Packaging codes / options:**
GS18/10K per 13" reel (8 mm tape), MOQ = 50K
GS08/3K per 7" reel (8 mm tape), MOQ = 30K

**Circuit configuration:** single

**PARTS TABLE**

| PART | ORDERING CODE | MARKING | REMARKS |
|---|---|---|---|
| SL02 | SL02-GS18 or SL02-GS08 | S2 | Tape and reel |
| SL03 | SL03-GS18 or SL03-GS08 | S3 | Tape and reel |

**ABSOLUTE MAXIMUM RATINGS** ($T_{amb}$ = 25 °C, unless otherwise specified)

| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | | SL02 | $V_{RRM}$ | 20 | V |
| | | SL03 | $V_{RRM}$ | 30 | V |
| Maximum RMS voltage | | SL02 | $V_{RMS}$ | 14 | V |
| | | SL03 | $V_{RMS}$ | 21 | V |
| Maximum DC blocking voltage | | SL02 | $V_{DC}$ | 20 | V |
| | | SL03 | $V_{DC}$ | 30 | V |
| Maximum average forward rectified current | $T_L$ = 109 °C | | $I_{F(AV)}$ | 1.1 | A |
| Peak forward surge current 8.3 ms single half sine-wave | | | $I_{FSM}$ | 40 | A |

**THERMAL CHARACTERISTICS** ($T_{amb}$ = 25 °C, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|---|---|---|---|---|
| Thermal resistance junction to ambient air (1) | | $R_{thJA}$ | 180 | K/W |
| Maximum operating junction temperature | | $T_j$ | 125 | °C |
| Storage temperature range | | $T_{stg}$ | -55 to +150 | °C |

**Note**

(1) Mounted on epoxy substrate with 3 mm x 3 mm Cu pads (≥ 40 µm thick)



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| ELECTRICAL CHARACTERISTICS ($T_{amb}$ = 25 °C, unless otherwise specified) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **PARAMETER** | **TEST CONDITION** | **PART** | **SYMBOL** | **MIN.** | **TYP.** | **MAX.** | **UNIT** |
| Instantaneous forward voltage | $I_F$ = 0.5 A (1) | SL02 | $V_F$ | | 0.360 | 0.385 | V |
| | | SL03 | $V_F$ | | 0.395 | 0.43 | V |
| Typical instantaneous forward voltage | $I_F$ = 1.1 A | SL02 | $V_F$ | | 0.420 | | V |
| | | SL03 | $V_F$ | | 0.450 | | V |
| Maximum DC reverse current at rated DC blocking voltage | $T_A$ = 25 °C | SL02 | $I_R$ | | | 250 | µA |
| | $T_A$ = 100 °C | SL02 | $I_R$ | | | 8 | mA |
| | $T_A$ = 25 °C | SL03 | $I_R$ | | | 130 | µA |
| | $T_A$ = 100 °C | SL03 | $I_R$ | | | 6 | mA |
| Reverse recovery time | | SL02 | $t_{rr}$ | | | < 10 | ns |
| | | SL03 | $t_{rr}$ | | | < 10 | ns |

**Note**

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

## TYPICAL CHARACTERISTICS ($T_{amb}$ = 25 °C, unless otherwise specified)

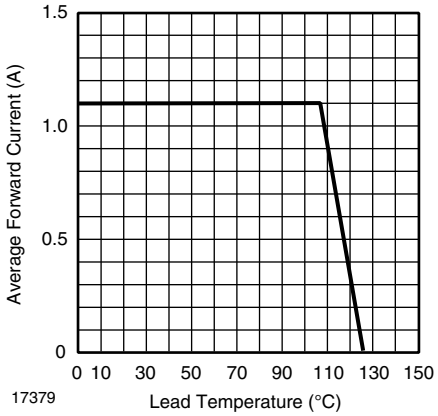



Fig. 1 - Forward Current Derating Curve

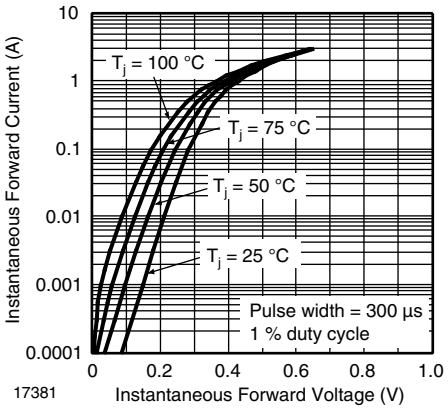



Fig. 3 - Typical Instantaneous Forward Characteristics - SL02

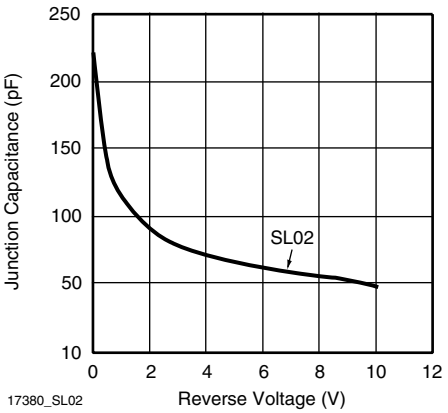



Fig. 2 - Typical Junction Capacitance

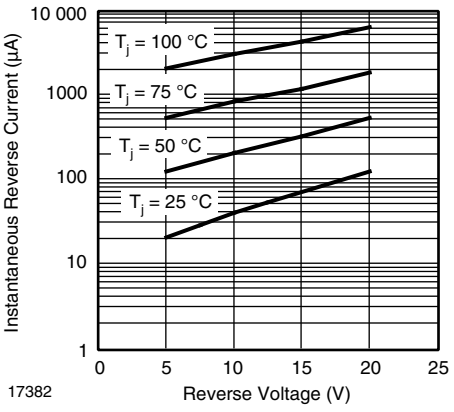



Fig. 4 - Typical Reverse Current Characteristics - SL02


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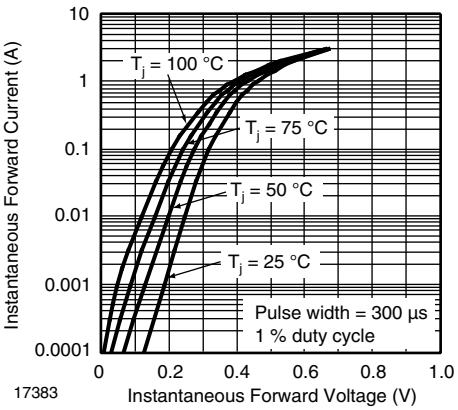



Fig. 5 - Typical Instantaneous Forward Characteristics - SL03

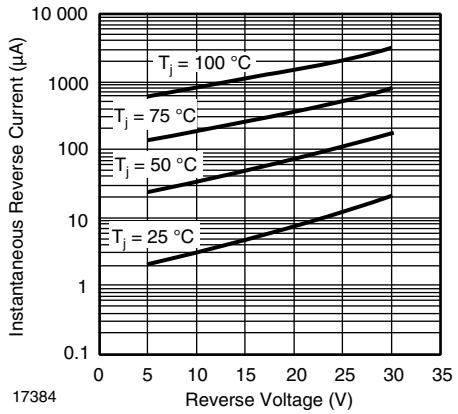
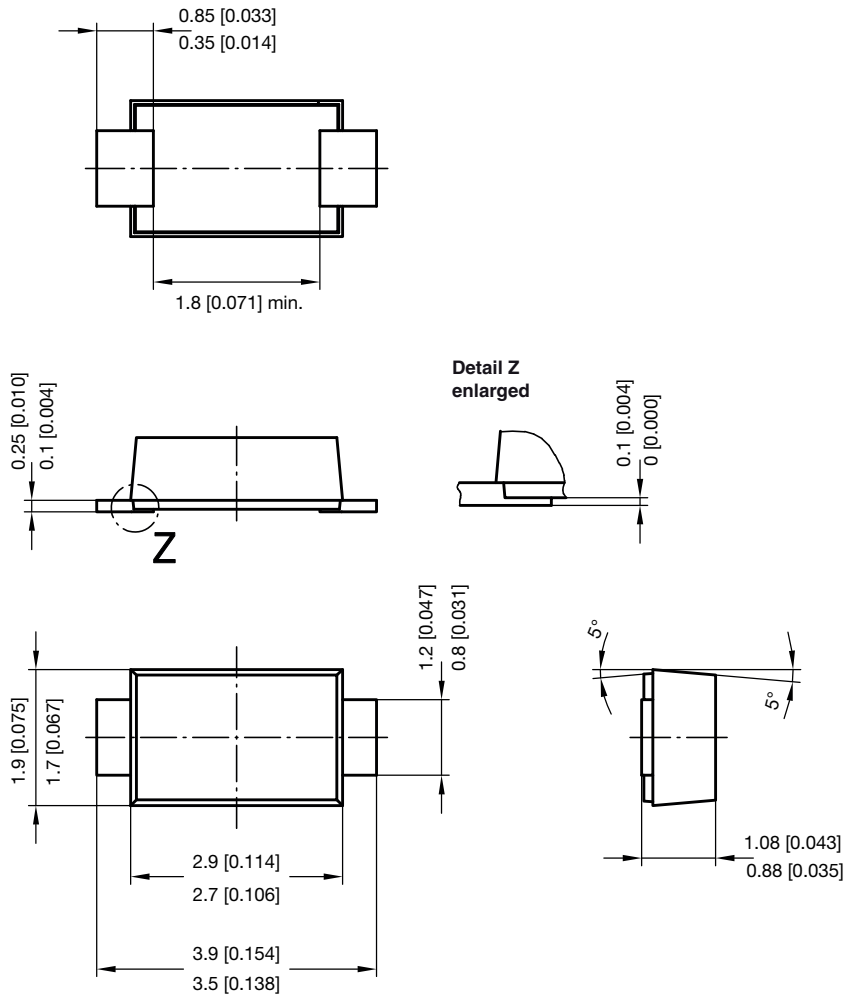



Fig. 6 - Typical Reverse Current Characteristics - SL03

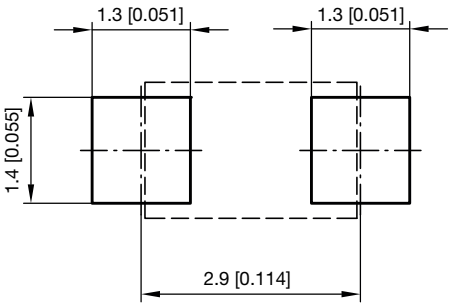

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**PACKAGE DIMENSIONS** in millimeters (inches): **SMF (DO-219AB)**




foot print recommendation:

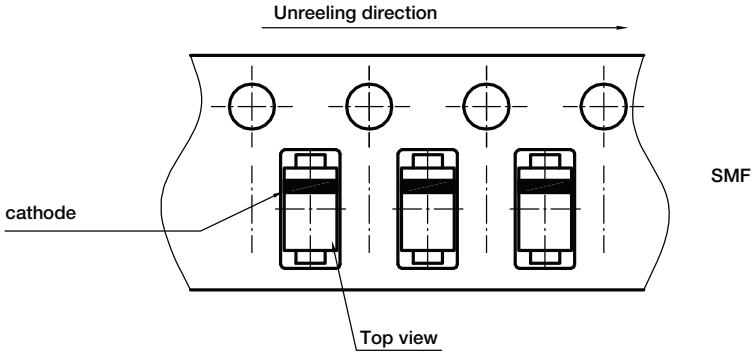
Reflow soldering




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




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