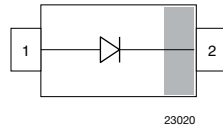
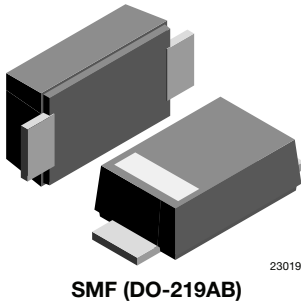




Standard Recovery Rectifier, High Voltage Surface-Mount

eSMP® Series



FEATURES

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- High temperature soldering: 260 °C / 10 s at terminals
- Wave and reflow solderable
- 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

MECHANICAL DATA

Case: SMF (DO-219AB)

Polarity: 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

LINKS TO ADDITIONAL RESOURCES



| PARTS TABLE | | | |
|-------------|--------------------------|---------|---------------|
| PART | ORDERING CODE | MARKING | REMARKS |
| S1FLB | S1FLB-GS18 or S1FLB-GS08 | FB | Tape and reel |
| S1FLD | S1FLD-GS18 or S1FLD-GS08 | FD | Tape and reel |
| S1FLG | S1FLG-GS18 or S1FLG-GS08 | FG | Tape and reel |
| S1FLJ | S1FLJ-GS18 or S1FLJ-GS08 | FJ | Tape and reel |
| S1FLK | S1FLK-GS18 or S1FLK-GS08 | FK | Tape and reel |
| S1FLM | S1FLM-GS18 or S1FLM-GS08 | FM | 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 | | S1FLB | V _{RRM} | 100 | V |
| | | S1FLD | V _{RRM} | 200 | V |
| | | S1FLG | V _{RRM} | 400 | V |
| | | S1FLJ | V _{RRM} | 600 | V |
| | | S1FLK | V _{RRM} | 800 | V |
| | | S1FLM | V _{RRM} | 1000 | V |
| Maximum RMS voltage | | S1FLB | V _{RMS} | 70 | V |
| | | S1FLD | V _{RMS} | 140 | V |
| | | S1FLG | V _{RMS} | 280 | V |
| | | S1FLJ | V _{RMS} | 420 | V |
| | | S1FLK | V _{RMS} | 560 | V |
| | | S1FLM | V _{RMS} | 700 | V |
| Maximum DC blocking voltage | | S1FLB | V _{DC} | 100 | V |
| | | S1FLD | V _{DC} | 200 | V |
| | | S1FLG | V _{DC} | 400 | V |
| | | S1FLJ | V _{DC} | 600 | V |
| | | S1FLK | V _{DC} | 800 | V |
| | | S1FLM | V _{DC} | 1000 | V |
| Maximum average forward rectified current | T _L = 75 °C | | I _{F(AV)} | 1.5 | A |
| | T _A = 65 °C ⁽¹⁾ | | I _{F(AV)} | 0.7 | A |
| Peak forward surge current 8.3 ms single half sine-wave | T _L = 25 °C | | I _{FSM} | 22 | A |

Note

⁽¹⁾ Averaged over any 20 ms period



| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|---|----------------|----------------|-------------|--------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air ⁽¹⁾ | | R_{thJA} | 180 | K/W |
| Operating junction and storage temperature range | | T_j, T_{stg} | -55 to +150 | $^{\circ}\text{C}$ |

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

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | | | |
|--|--|-------|----------|------|------|------|---------------|---------------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT | |
| Maximum instantaneous forward voltage | 1 A ⁽¹⁾ | S1FLB | V_F | | | 1.1 | V | |
| | | S1FLD | V_F | | | 1.1 | V | |
| | | S1FLG | V_F | | | 1.1 | V | |
| | | S1FLJ | V_F | | | 1.1 | V | |
| | | S1FLK | V_F | | | 1.1 | V | |
| | | S1FLM | V_F | | | 1.1 | V | |
| Maximum DC reverse current at rated DC blocking voltage | $T_A = 25\text{ }^{\circ}\text{C}$ | S1FLB | I_R | | | 10 | μA | |
| | | S1FLD | I_R | | | 10 | μA | |
| | | S1FLG | I_R | | | 10 | μA | |
| | | S1FLJ | I_R | | | 10 | μA | |
| | | S1FLK | I_R | | | 10 | μA | |
| | | S1FLM | I_R | | | 10 | μA | |
| | $T_A = 125\text{ }^{\circ}\text{C}$ | S1FLB | I_R | | | | 50 | μA |
| | | S1FLD | I_R | | | | 50 | μA |
| | | S1FLG | I_R | | | | 50 | μA |
| | | S1FLJ | I_R | | | | 50 | μA |
| | | S1FLK | I_R | | | | 50 | μA |
| | | S1FLM | I_R | | | | 50 | μA |
| Reverse recovery time | $I_F = 0.5\text{ A}, I_R = 1\text{ A}, I_{rr} = 0.25\text{ A}$ | S1FLB | t_{rr} | | | 1800 | ns | |
| | | S1FLD | t_{rr} | | | 1800 | ns | |
| | | S1FLG | t_{rr} | | | 1800 | ns | |
| | | S1FLJ | t_{rr} | | | 1800 | ns | |
| | | S1FLK | t_{rr} | | | 1800 | ns | |
| | | S1FLM | t_{rr} | | | 1800 | ns | |
| Typical capacitance | 4 V, 1 MHz | S1FLB | C_j | | 4 | | pF | |
| | | S1FLD | C_j | | 4 | | pF | |
| | | S1FLG | C_j | | 4 | | pF | |
| | | S1FLJ | C_j | | 4 | | pF | |
| | | S1FLK | C_j | | 4 | | pF | |
| | | S1FLM | C_j | | 4 | | pF | |

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



TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

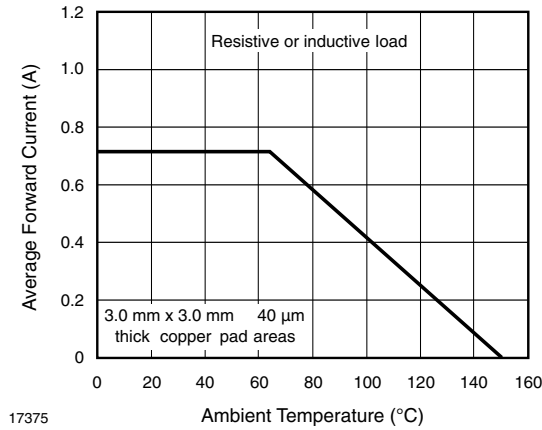


Fig. 1 - Forward Current Derating Curve

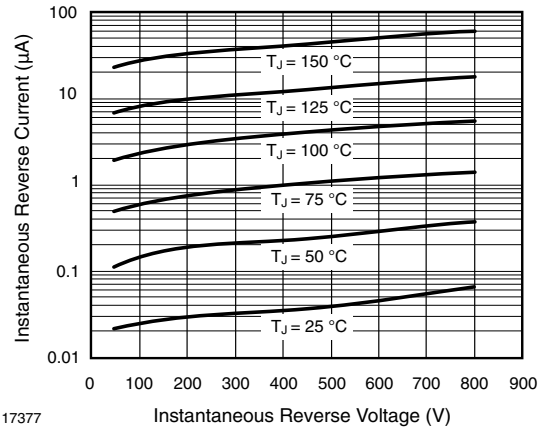


Fig. 3 - Typical Instantaneous Reverse Characteristics

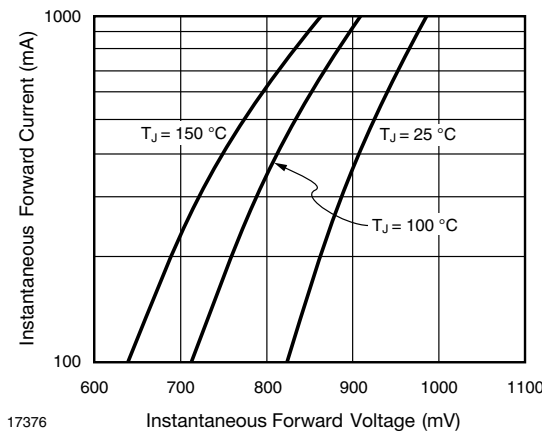


Fig. 2 - Typical Instantaneous Forward Characteristics

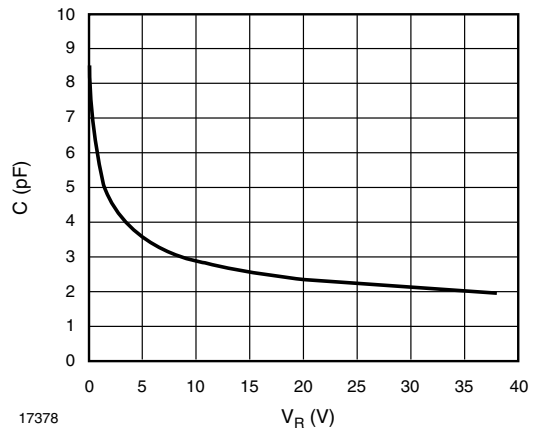
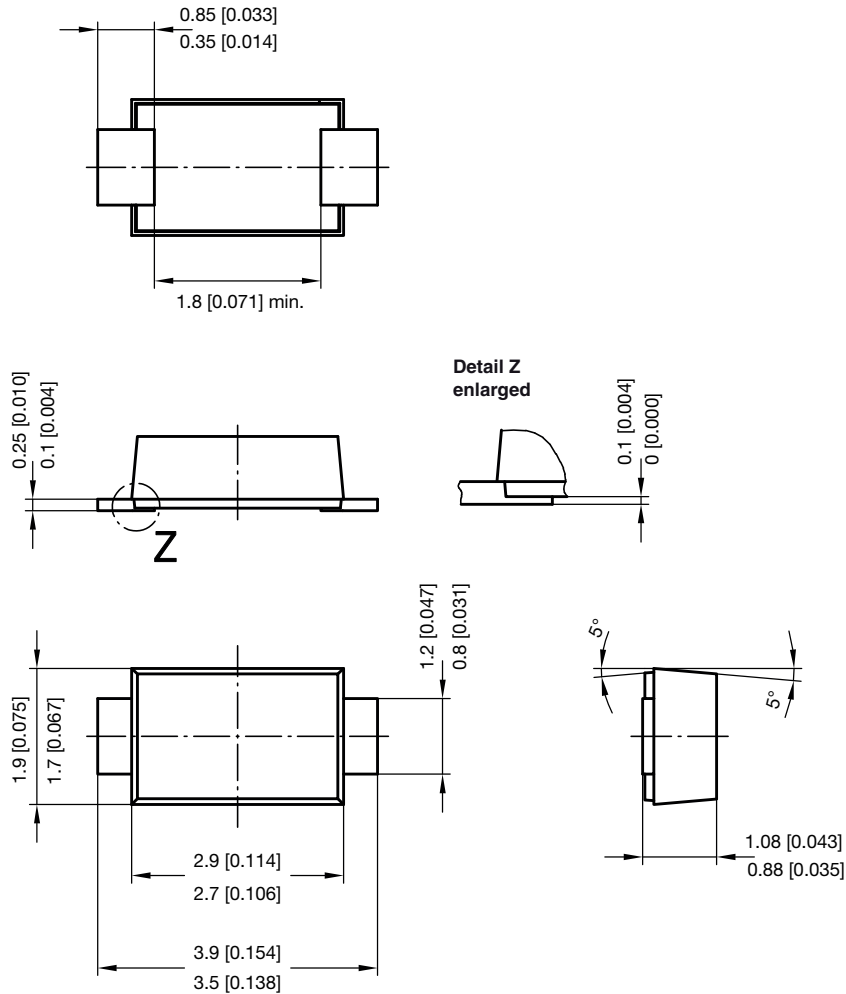


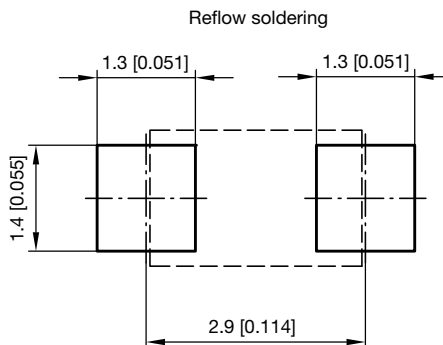
Fig. 4 - Capacitance vs. Reverse Voltage



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



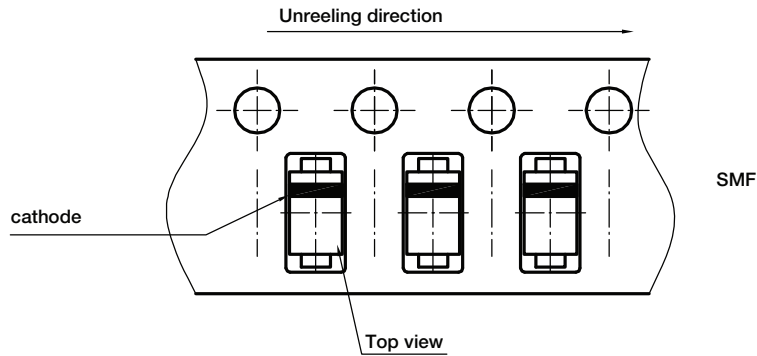
foot print recommendation:



Created - Date: 15. February 2005
 Rev. 6 - Date: 24.Feb.2021
 Document no.: S8-V-3915.01-001 (4)
 22989



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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