

Small Signal Switching Diodes, High Voltage



FEATURES

- Silicon epitaxial planar diode
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

- General purposes

DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

Case: MiniMELF (SOD-80)

Weight: approx. 31 mg

Cathode band color: black

Packaging codes / options:

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

| PARTS TABLE | | | | | |
|-------------|--------------------------|----------------------------|--------------|-----------------------|---------------|
| PART | TYPE DIFFERENTIATION | ORDERING CODE | TYPE MARKING | CIRCUIT CONFIGURATION | REMARKS |
| BAV100 | $V_{RRM} = 60\text{ V}$ | BAV100-GS18 or BAV100-GS08 | - | Single | Tape and reel |
| BAV101 | $V_{RRM} = 120\text{ V}$ | BAV101-GS18 or BAV101-GS08 | - | Single | Tape and reel |
| BAV102 | $V_{RRM} = 200\text{ V}$ | BAV102-GS18 or BAV102-GS08 | - | Single | Tape and reel |
| BAV103 | $V_{RRM} = 250\text{ V}$ | BAV103-GS18 or BAV103-GS08 | - | Single | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | |
|---|--------------------|--------|-----------|-------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
| Repetitive peak reverse voltage | | BAV100 | V_{RRM} | 60 | V |
| | | BAV101 | V_{RRM} | 120 | V |
| | | BAV102 | V_{RRM} | 200 | V |
| | | BAV103 | V_{RRM} | 250 | V |
| Reverse voltage | | BAV100 | V_R | 50 | V |
| | | BAV101 | V_R | 100 | V |
| | | BAV102 | V_R | 150 | V |
| | | BAV103 | V_R | 200 | V |
| Peak forward surge current | $t_p = 1\text{ s}$ | | I_{FSM} | 1 | A |
| Repetitive peak forward current | | | I_{FRM} | 625 | mA |
| Forward continuous current | | | I_F | 250 | mA |
| Power dissipation | | | P_{tot} | 500 | mW |



| THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | |
|--|---------------------------------------|-------------------|-------------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to lead | | R _{thJL} | 350 | K/W |
| Thermal resistance junction to ambient air | On PC board 50 mm x 50 mm x 1.6 mm | R _{thJA} | 500 | K/W |
| Junction temperature | | T _j | 175 | °C |
| Storage temperature range | | T _{stg} | -65 to +175 | °C |

| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | | |
|---|--|--------|-------------------|------|------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | I _F = 100 mA | | V _F | | | 1 | V |
| Reverse current | V _R = 50 V | BAV100 | I _R | | | 100 | nA |
| | V _R = 100 V | BAV101 | I _R | | | 100 | nA |
| | V _R = 150 V | BAV102 | I _R | | | 100 | nA |
| | V _R = 200 V | BAV103 | I _R | | | 100 | nA |
| | T _j = 100 °C, V _R = 50 V | BAV100 | I _R | | | 15 | μA |
| | T _j = 100 °C, V _R = 100 V | BAV101 | I _R | | | 15 | μA |
| | T _j = 100 °C, V _R = 150 V | BAV102 | I _R | | | 15 | μA |
| | T _j = 100 °C, V _R = 200 V | BAV103 | I _R | | | 15 | μA |
| Breakdown voltage | I _R = 100 μA, t _p /T = 0.01, t _p = 0.3 ms | BAV100 | V _(BR) | 60 | | | V |
| | I _R = 100 μA, t _p /T = 0.01, t _p = 0.3 ms | BAV101 | V _(BR) | 120 | | | V |
| | I _R = 100 μA, t _p /T = 0.01, t _p = 0.3 ms | BAV102 | V _(BR) | 200 | | | V |
| | | BAV103 | V _(BR) | 250 | | | V |
| Diode capacitance | V _R = 0 V, f = 1 MHz, V _{HF} = 50 mV | | C _D | | 1.5 | | pF |
| Differential forward current | I _F = 10 mA | | r _f | | 5 | | Ω |
| Reverse recovery time | I _F = I _R = 30 mA, i _R = 3 mA, R _L = 100 Ω | | t _{rr} | | | 50 | ns |

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

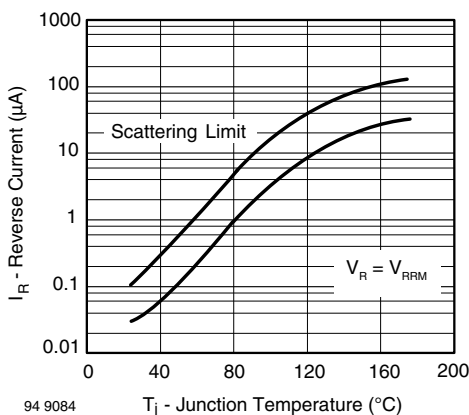


Fig. 1 - Reverse Current vs. Junction Temperature

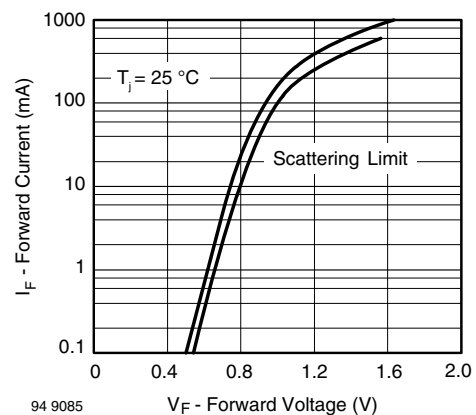


Fig. 2 - Forward Current vs. Forward Voltage

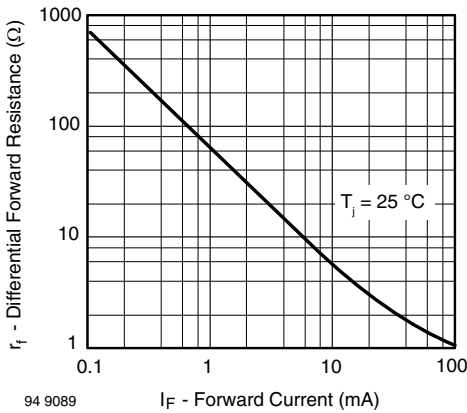
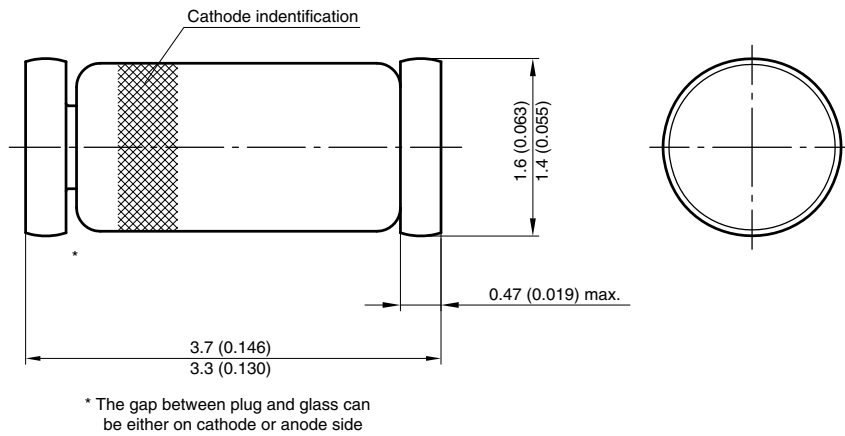
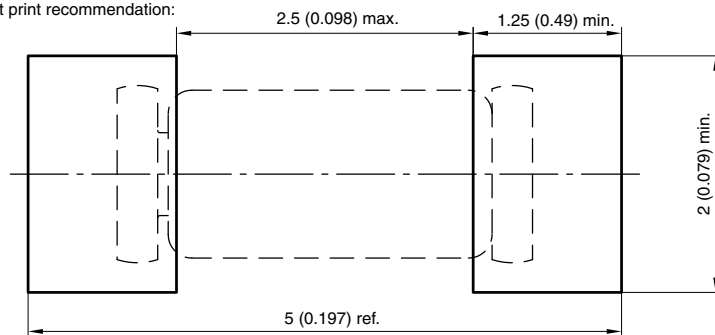


Fig. 3 - Differential Forward Resistance vs. Forward Current

PACKAGE DIMENSIONS in millimeters (inches): **MiniMELF (SOD-80)**



Foot print recommendation:



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