

Small Signal Switching Diodes, High Voltage



FEATURES

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


RoHS
COMPLIANT

APPLICATIONS

- General purposes

MECHANICAL DATA

Case: QuadroMELF SOD-80

Weight: approx. 34 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 | INTERNAL CONSTRUCTION | REMARKS |
|--------|--------------------------|----------------------------|--------------|-----------------------|---------------|
| BAV200 | $V_{RRM} = 60\text{ V}$ | BAV200-GS18 or BAV200-GS08 | - | Single | Tape and reel |
| BAV201 | $V_{RRM} = 120\text{ V}$ | BAV201-GS18 or BAV201-GS08 | - | Single | Tape and reel |
| BAV202 | $V_{RRM} = 200\text{ V}$ | BAV202-GS18 or BAV202-GS08 | - | Single | Tape and reel |
| BAV203 | $V_{RRM} = 250\text{ V}$ | BAV203-GS18 or BAV203-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 | | BAV200 | V_{RRM} | 60 | V |
| | | BAV201 | V_{RRM} | 120 | V |
| | | BAV202 | V_{RRM} | 200 | V |
| | | BAV203 | V_{RRM} | 250 | V |
| Reverse voltage | | BAV200 | V_R | 50 | V |
| | | BAV201 | V_R | 100 | V |
| | | BAV202 | V_R | 150 | V |
| | | BAV203 | V_R | 200 | V |
| Forward continuous current | | | I_F | 250 | mA |
| Peak forward surge current | $t_p = 1\text{ s}, T_j = 25\text{ }^{\circ}\text{C}$ | | I_{FSM} | 1 | A |
| Repetitive peak forward current | $f = 50\text{ Hz}$ | | I_{FRM} | 625 | mA |
| Power dissipation | | | P_{tot} | 500 | mW |

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--|---------------------------------------|------------|---------------|--------------------|
| 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 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | - 65 to + 175 | $^{\circ}\text{C}$ |



| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | | |
|---|---|--------|------------|------|------|------|---------------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | $I_F = 100\text{ mA}$ | | V_F | | | 1 | V |
| Reverse current | $V_R = 50\text{ V}$ | BAV200 | I_R | | | 100 | nA |
| | $V_R = 100\text{ V}$ | BAV201 | I_R | | | 100 | nA |
| | $V_R = 150\text{ V}$ | BAV202 | I_R | | | 100 | nA |
| | $V_R = 200\text{ V}$ | BAV203 | I_R | | | 100 | nA |
| | $T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 50\text{ V}$ | BAV200 | I_R | | | 15 | μA |
| | $T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 100\text{ V}$ | BAV201 | I_R | | | 15 | μA |
| | $T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 150\text{ V}$ | BAV202 | I_R | | | 15 | μA |
| | $T_j = 100\text{ }^{\circ}\text{C}$, $V_R = 200\text{ V}$ | BAV203 | I_R | | | 15 | μA |
| Breakdown voltage | $I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$ | BAV200 | $V_{(BR)}$ | 60 | | | V |
| | | BAV201 | $V_{(BR)}$ | 120 | | | V |
| | | BAV202 | $V_{(BR)}$ | 200 | | | V |
| | | BAV203 | $V_{(BR)}$ | 250 | | | V |
| Diode capacitance | $V_R = 0$, $f = 1\text{ MHz}$ | | C_D | | 1.5 | | pF |
| Differential forward resistance | $I_F = 10\text{ mA}$ | | r_f | | 5 | | Ω |
| Reverse recovery time | $I_F = I_R = 30\text{ mA}$, $i_R = 3\text{ mA}$, $R_L = 100\text{ }\Omega$ | | t_{rr} | | | 50 | ns |

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

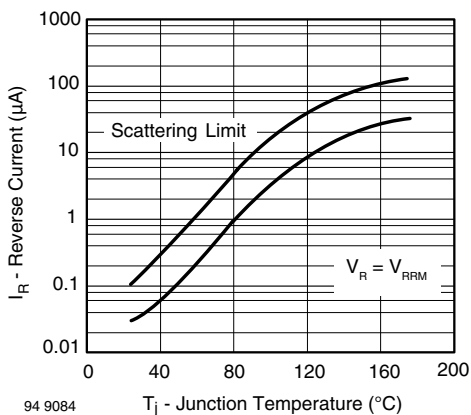


Fig. 1 - Reverse Current vs. Junction Temperature

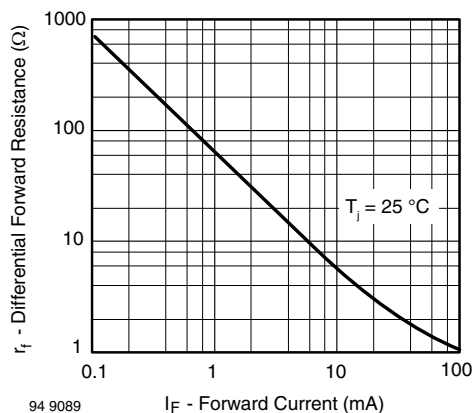


Fig. 3 - Differential Forward Resistance vs. Forward Current

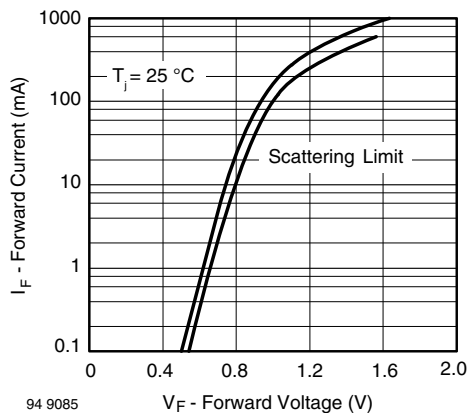
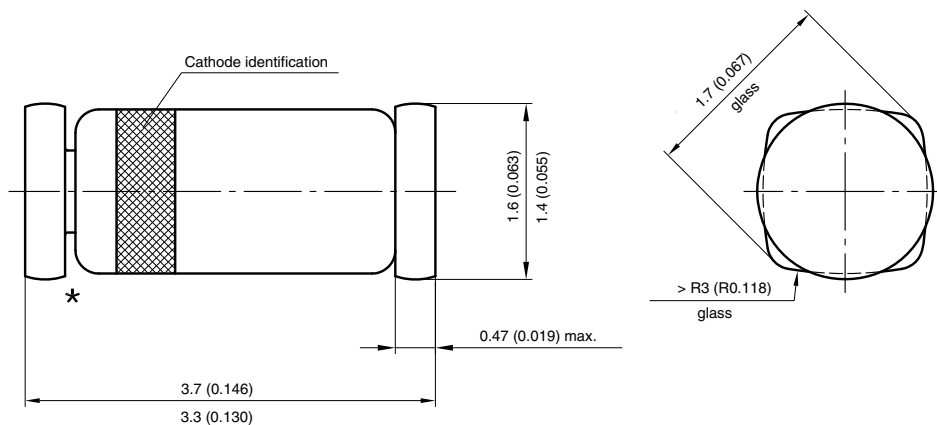


Fig. 2 - Forward Current vs. Forward Voltage

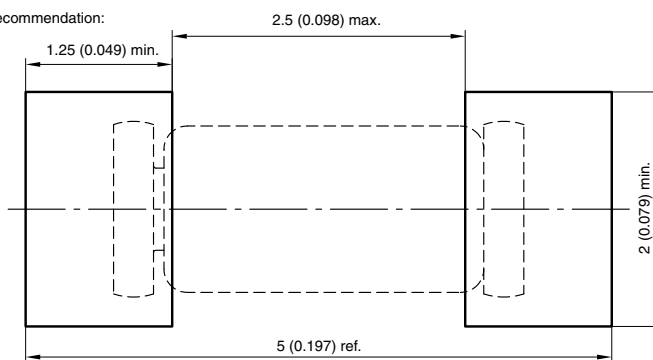


PACKAGE DIMENSIONS in millimeters (inches): **QuadroMELF SOD-80**



★ The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



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96 12071



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