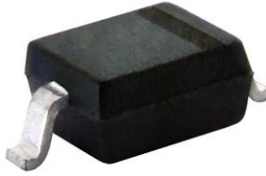




Small Signal Switching Diodes, High Voltage



FEATURES

- Silicon epitaxial planar diodes
- For general purpose
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 mg

Packaging codes / options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

| PARTS TABLE | | | | | |
|-------------|----------------------|--|--------------|-----------------------|---------------|
| PART | TYPE DIFFERENTIATION | ORDERING CODE | TYPE MARKING | CIRCUIT CONFIGURATION | REMARKS |
| BAV19WS | $V_R = 100\text{ V}$ | BAV19WS-E3-08 or BAV19WS-E3-18 BAV19WS-HE3-08 or BAV19WS-HE3-18 | A8 | Single | Tape and reel |
| BAV20WS | $V_R = 150\text{ V}$ | BAV20WS-E3-08 or BAV20WS-E3-18 BAV20WS-HE3-08 or BAV20WS-HE3-18 | A9 | Single | Tape and reel |
| BAV21WS | $V_R = 200\text{ V}$ | BAV21WS-E3-08 or BAV21WS-E3-18 BAV21WS-HE3-08 or BAV21WS-HE3-18 | AA | Single | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified) | | | | | |
|---|--|---------|-------------|-------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
| Continuous reverse voltage | | BAV19WS | V_R | 100 | V |
| | | BAV20WS | V_R | 150 | V |
| | | BAV21WS | V_R | 200 | V |
| Repetitive peak reverse voltage | | BAV19WS | V_{RRM} | 120 | V |
| | | BAV20WS | V_{RRM} | 200 | V |
| | | BAV21WS | V_{RRM} | 250 | V |
| Forward continuous current ⁽¹⁾ | | | I_F | 250 | mA |
| Rectified current (average) half wave rectification with resistive load ⁽¹⁾ | | | $I_{F(AV)}$ | 200 | mA |
| Repetitive peak forward current ⁽¹⁾ | $f \geq 50\text{ Hz}, \theta = 180^\circ$ | | I_{FRM} | 625 | mA |
| Surge forward current | $t < 1\text{ s}, T_J = 25\text{ }^\circ\text{C}$ | | I_{FSM} | 1 | A |
| Power dissipation | | | P_{tot} | 200 | mW |

Note

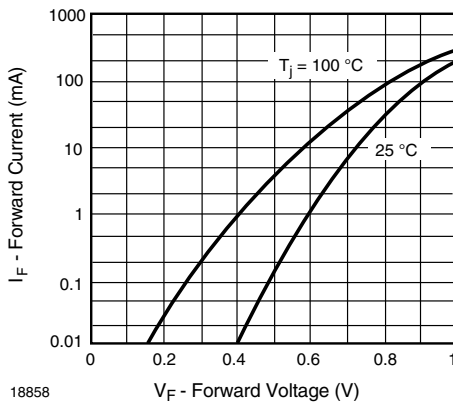
⁽¹⁾ Valid provided that leads are kept at ambient temperature

| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified) | | | | |
|--|----------------|------------|-------------|------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air | | R_{thJA} | 625 | K/W |
| Thermal resistance junction to lead | | R_{thJL} | 450 | K/W |
| Junction temperature | | T_J | 150 | $^\circ\text{C}$ |
| Storage temperature range | | T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Operating temperature range | | T_{op} | -55 to +150 | $^\circ\text{C}$ |



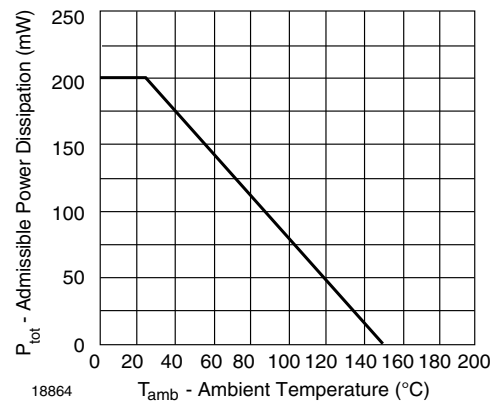
| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | | |
|---|---|---------|-----------------|------|------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | I _F = 100 mA | | V _F | | | 1 | V |
| | I _F = 200 mA | | V _F | | | 1.25 | V |
| Reverse leakage current | V _R = 100 V | BAV19WS | I _R | | | 100 | nA |
| | V _R = 100 V, T _J = 100 °C | BAV19WS | I _R | | | 15 | μA |
| | V _R = 150 V | BAV20WS | I _R | | | 100 | nA |
| | V _R = 150 V, T _J = 100 °C | BAV20WS | I _R | | | 15 | μA |
| | V _R = 200 V | BAV21WS | I _R | | | 100 | nA |
| | V _R = 200 V, T _J = 100 °C | BAV21WS | I _R | | | 15 | μA |
| Dynamic forward resistance | I _F = 10 mA | | r _f | | 5 | | Ω |
| Diode capacitance | V _R = 0, f = 1 MHz | | C _D | | | 1.5 | pF |
| Reverse recovery time | I _F = 30 mA, 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)



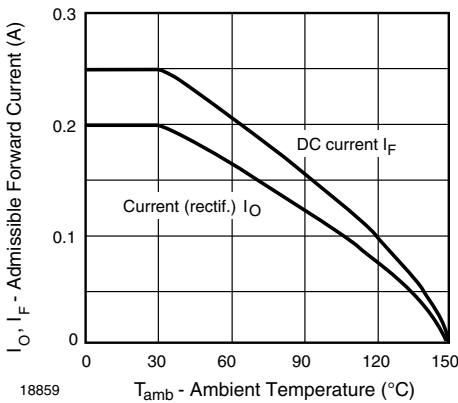
18858

Fig. 1 - Forward Current vs. Forward Voltage



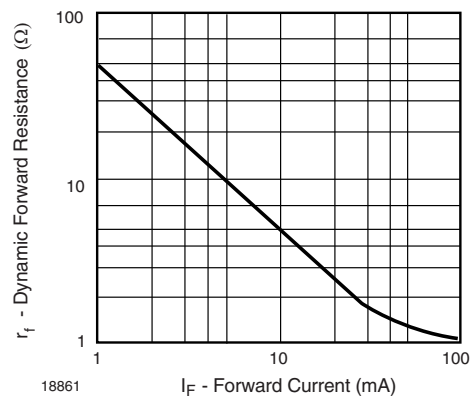
18864

Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature



18859

Fig. 2 - Admissible Forward Current vs. Ambient Temperature



18861

Fig. 4 - Dynamic Forward Resistance vs. Forward Current

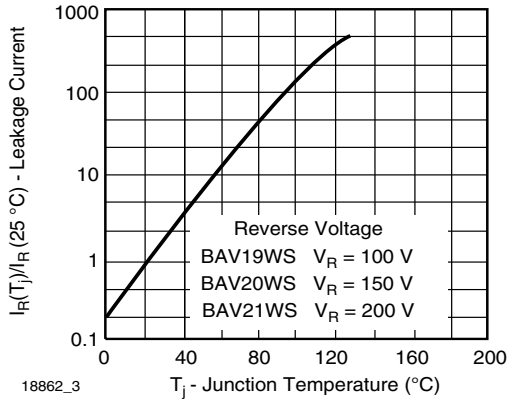


Fig. 5 - Leakage Current vs. Junction Temperature

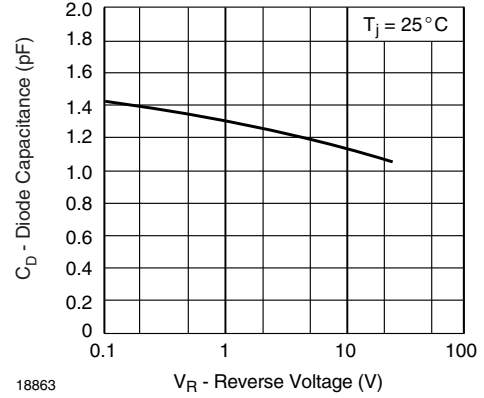
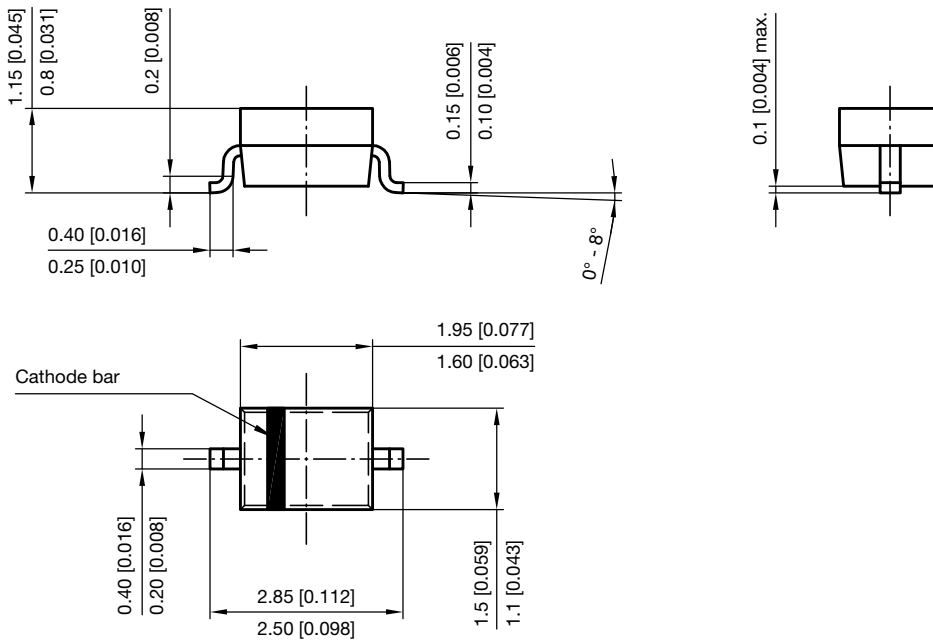
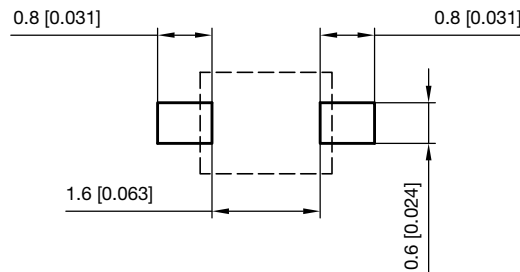


Fig. 6 - Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:



Document no.: S8-V-3910.02-001 (4)
 Created - Date: 24.August.2004
 Rev. 6 - Date: 23.Sept.2016
 17443



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