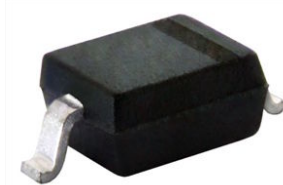


## Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- 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](http://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        | ORDERING CODE  | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS       |
| BAS16WS     | BAS16WS-E3-08 or BAS16WS-E3-18<br>BAS16WS-HE3-08 or BAS16WS-HE3-18 | Single                | A6           | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                            |           |       |      |
|---|----------------------------|-----------|-------|------|
| PARAMETER   | TEST CONDITION             | SYMBOL    | VALUE | UNIT |
| Reverse voltage   |                            | $V_R$     | 75    | V    |
| Repetitive peak reverse voltage   |                            | $V_{RRM}$ | 100   | V    |
| Forward current (continuous)  |                            | $I_F$     | 250   | mA   |
| Non-repetitive peak forward current   | $t = 1\text{ }\mu\text{s}$ | $I_{FSM}$ | 2     | A    |
|   | $t = 1\text{ ms}$          | $I_{FSM}$ | 1     | A    |
|   | $t = 1\text{ s}$           | $I_{FSM}$ | 0.5   | A    |
| Power dissipation   |                            | $P_{tot}$ | 200   | 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   |                | $R_{thJA}$ | 650         | 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 | $^{\circ}\text{C}$ |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |   |          |      |      |       |               |
|--|---|----------|------|------|-------|---------------|
| PARAMETER  | TEST CONDITION  | SYMBOL   | MIN. | TYP. | MAX.  | UNIT          |
| Forward voltage  | $I_F = 150\text{ mA}$   | $V_F$    |      |      | 1.250 | V             |
|  | $I_F = 1\text{ mA}$   | $V_F$    |      |      | 0.715 | V             |
|  | $I_F = 10\text{ mA}$  | $V_F$    |      |      | 0.855 | V             |
|  | $I_F = 50\text{ mA}$  | $V_F$    |      |      | 1     | V             |
| Leakage current  | $V_R = 75\text{ V}$   | $I_R$    |      |      | 1000  | nA            |
|  | $V_R = 25\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$                                    | $I_R$    |      |      | 30    | $\mu\text{A}$ |
|  | $V_R = 75\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$                                    | $I_R$    |      |      | 50    | $\mu\text{A}$ |
| Diode capacitance  | $V_R = 0, f = 1\text{ MHz}$   | $C_D$    |      |      | 2     | pF            |
| Reverse recovery time  | $I_F = 10\text{ mA}, I_R = 10\text{ mA},$<br>$i_R = 1\text{ mA}, R_L = 100\text{ }\Omega$ | $t_{rr}$ |      |      | 6     | ns            |

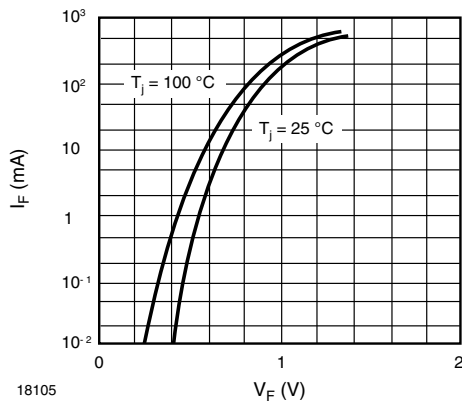
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Forward Characteristics

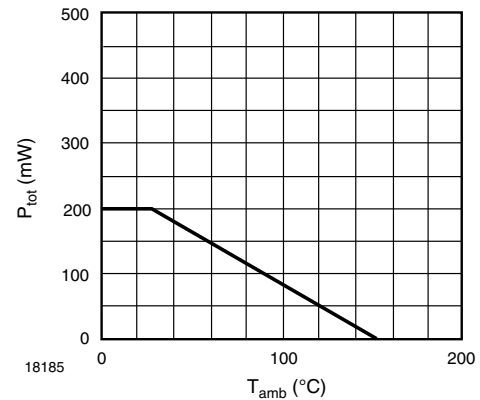


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

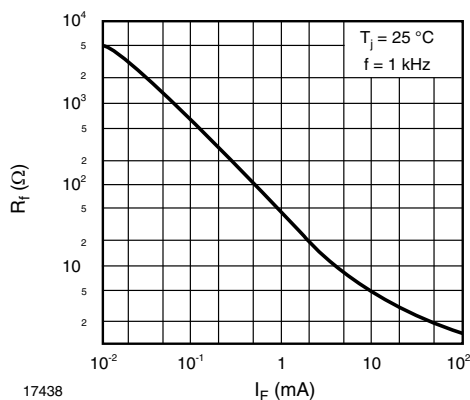


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

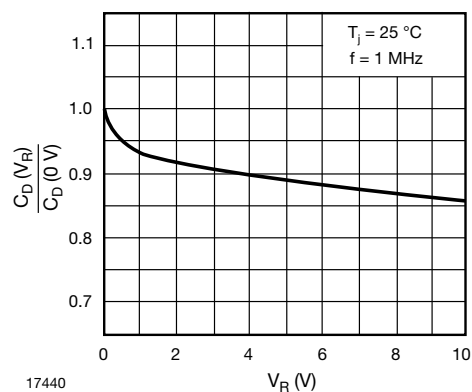


Fig. 4 - Relative Capacitance vs. Reverse Voltage

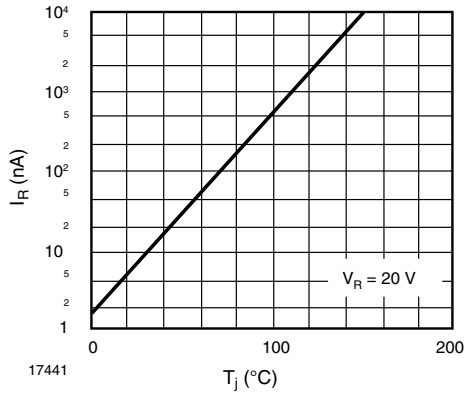
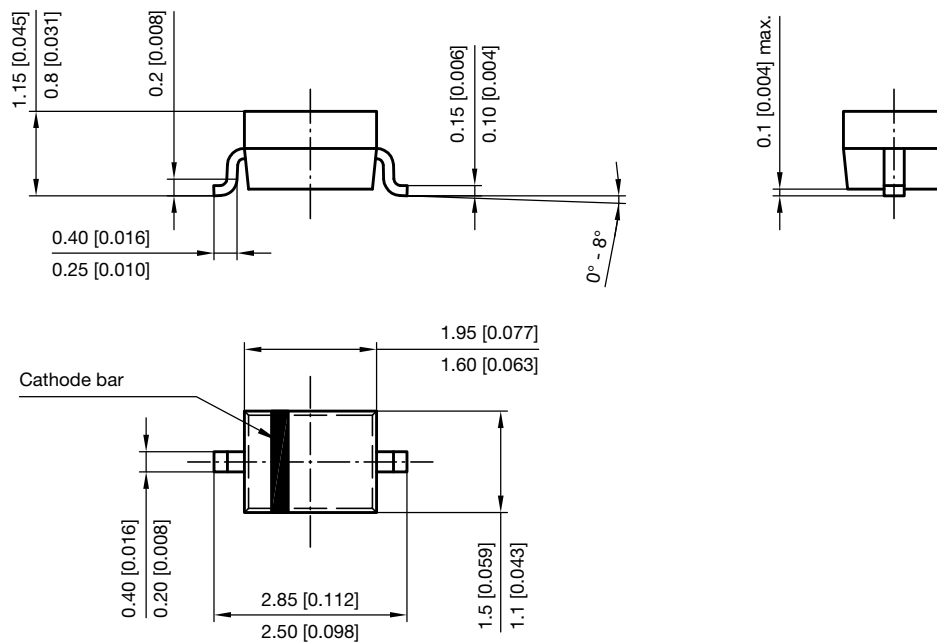
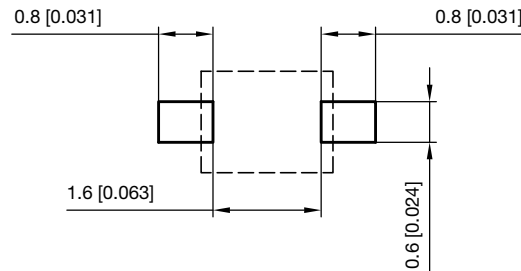


Fig. 5 - Leakage Current vs. Junction Temperature

**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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