



Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- AEC-Q101 qualified available (part number on request)
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

DESIGN SUPPORT TOOLS

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MECHANICAL DATA

Case: SOD-123

Weight: approx. 9.4 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 |
| BAS16D-G | BAS16D-G3-08 or BAS16D-G3-18 | Single | AK | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °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 μs | I _{FSM} | 2 | A |
| | t = 1 ms | I _{FSM} | 1 | A |
| | t = 1 s | I _{FSM} | 0.5 | A |
| Power dissipation ⁽¹⁾ | | P _{tot} | 350 | mW |

| THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | |
|--|----------------|-------------------|-------------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air ⁽¹⁾ | | R _{thJA} | 375 | K/W |
| Maximum junction temperature | | T _j | 150 | °C |
| Storage temperature range ⁽¹⁾ | | T _{stg} | -65 to +150 | °C |
| Operating temperature range | | T _{op} | -55 to +150 | °C |

Note

⁽¹⁾ Valid provided electrodes are kept at ambient temperature

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|--|---|----------|------|------|-------|---------------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | $I_F = 150\text{ mA}$ | V_F | | | 1.25 | 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 | μA |
| | $V_R = 75\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$ | I_R | | | 50 | μA |
| Diode capacitance | $V_R = 0; f = 1\text{ MHz}$ | C_D | | | 2 | pF |
| Reverse recovery time | $I_F = 10\text{ mA}, I_R = 10\text{ mA},$ $i_R = 1\text{ mA}, R_L = 100\text{ }\Omega$ | t_{rr} | | | 6 | ns |

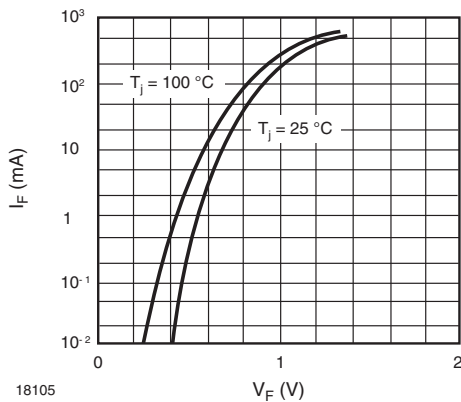
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Characteristics

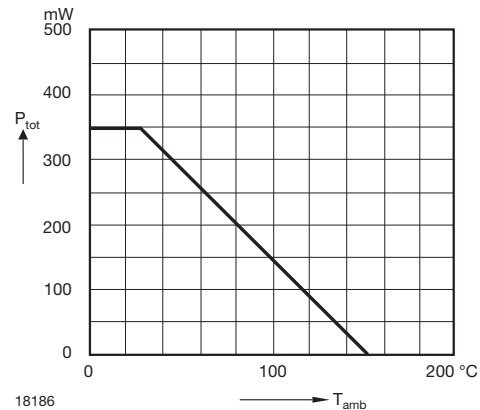


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

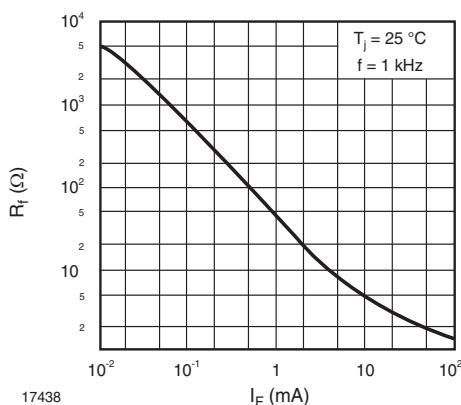


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

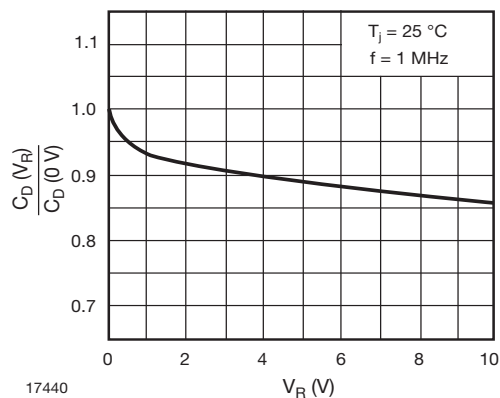


Fig. 4 - Relative Capacitance vs. Reverse Voltage

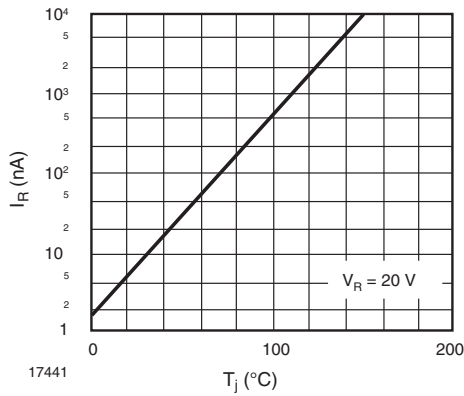


Fig. 5 - Leakage Current vs. Junction Temperature

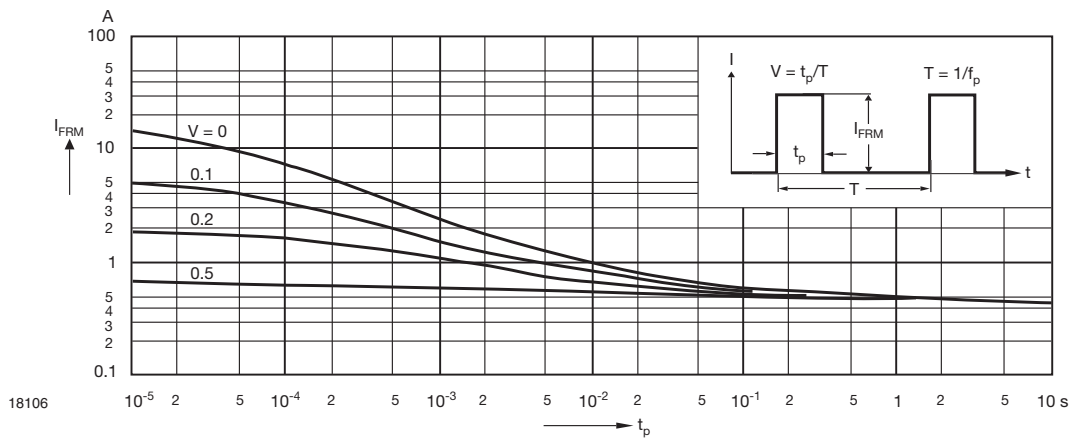
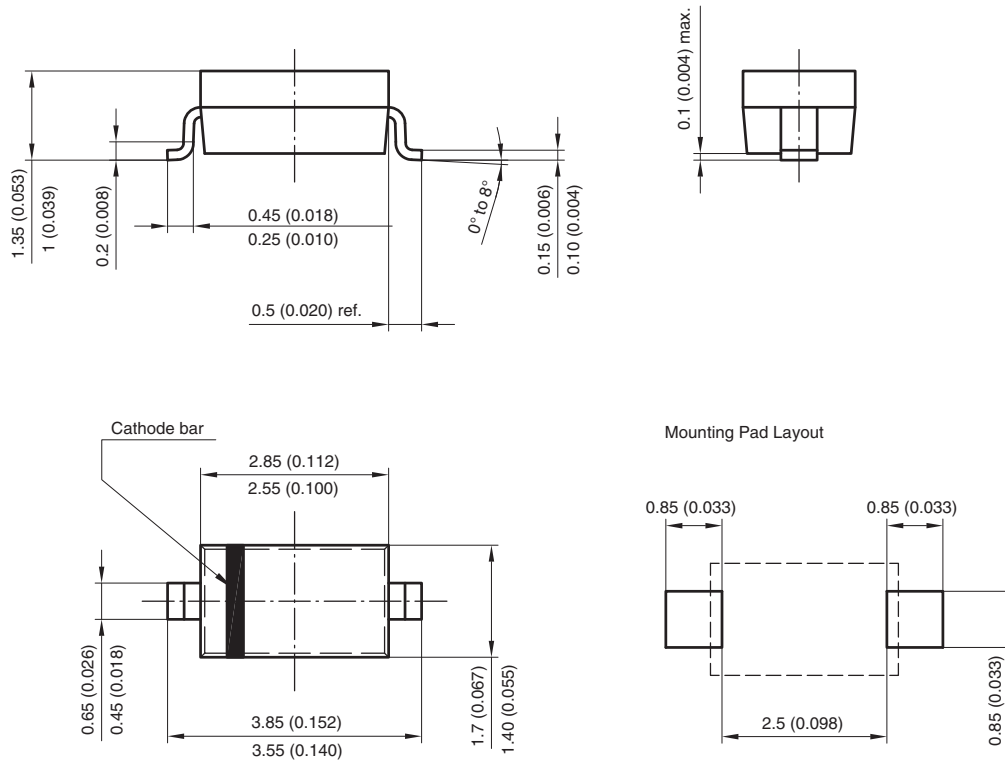


Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration



PACKAGE DIMENSIONS in millimeters (inches): **SOD-123**



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