



**THE DATASHEET OF
BAS316-AU_R1_000A1**





BAS316-AU

SURFACE MOUNT SWITCHING DIODES

Voltage 100 V **Power** 400 mW

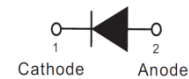
Features

- Fast switching speed.
- Very low leakage current
- Low capacitance
- Surface mount package Ideally Suited for Automatic insertion
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

Mechanical Data

- Case: SOD-323 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00014 ounces, 0.0041 grams

SOD-323



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|--|---------------------------------|---------------|-------|
| Reverse Voltage | V _R | 100 | V |
| Peak Reverse Voltage | V _{RM} | 100 | V |
| Maximum Average Forward Current | I _{F(AV)} | 250 | mA |
| Non-repetitive Peak forward current at T _J (init)=25°C | I _{FSM} | tp = 0.001 ms | 4 |
| | | tp = 1 ms | 1 |
| | | tp = 1 s | 0.5 |
| Repetitive peak forward current tp ≤ 0.5 ms ; D ≤ 0.25 | I _{FRM} | 500 | mA |
| Power Dissipation | P _D ⁽¹⁾ | 400 | mW |
| Maximum Junction Capacitance Measured at 1 MHz And Applied V _R = 0 V | C _J | 1.5 | pF |
| Typical Thermal Resistance | R _{θJA} ⁽²⁾ | 500 | °C/W |
| | R _{θJC} ⁽¹⁾ | 200 | |
| Operating Junction Temperature Range | T _J | -55~150 | °C |
| Storage Temperature Range | T _{STG} | -55~150 | °C |



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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS |
|-------------------------------|----------------|---|------|------|-------|-------|
| Forward Voltage | V_F | $I_F = 1\text{ mA}, T_J = 25^\circ\text{C}$ | - | - | 0.715 | V |
| | | $I_F = 10\text{ mA}, T_J = 25^\circ\text{C}$ | - | - | 0.855 | |
| | | $I_F = 50\text{ mA}, T_J = 25^\circ\text{C}$ | - | - | 1 | |
| | | $I_F = 150\text{ mA}, T_J = 25^\circ\text{C}$ | - | - | 1.25 | |
| Reverse Current | I_R | $V_R = 25\text{ V}, T_J = 25^\circ\text{C}$ | - | - | 0.03 | uA |
| | | $V_R = 100\text{ V}, T_J = 25^\circ\text{C}$ | - | - | 0.5 | |
| Maximum Reverse Recovery Time | $T_{RR}^{(3)}$ | --- | - | - | 4 | ns |

NOTES:

1. Mounted on aluminum plate.
2. Mounted on a FR4, single-sided copper, with 114 x 76mm PCB.
3. Test Condition : $I_F=10\text{mA}$ to $I_R=10\text{mA}$, Recovery to 1mA, $R_L=100\Omega$.



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TYPICAL CHARACTERISTIC CURVES

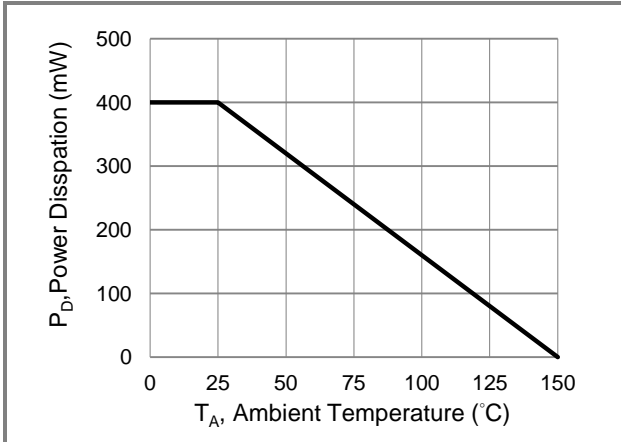


Fig.1 Power Derating Curve

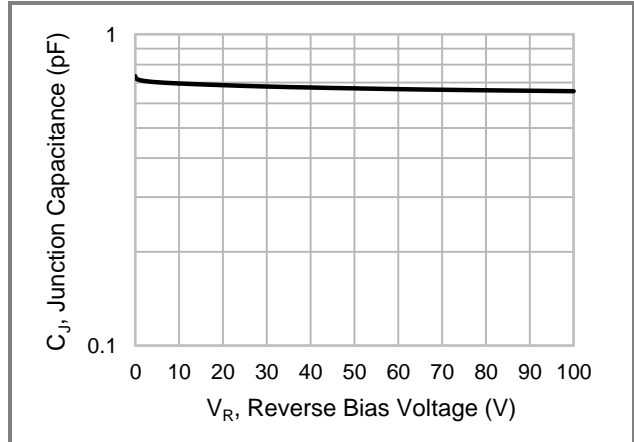


Fig.2 Typical Junction Capacitance

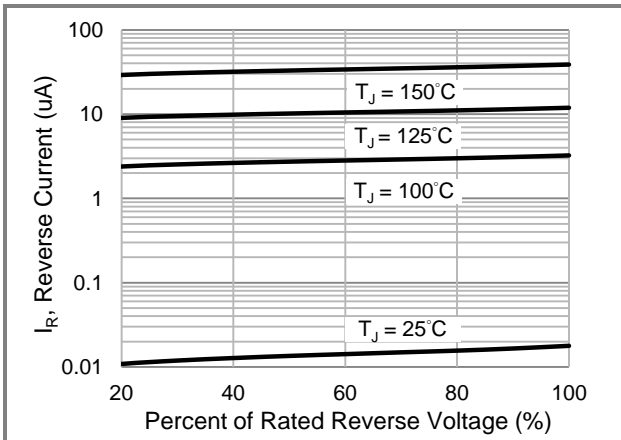


Fig.3 Typical Reverse Characteristics

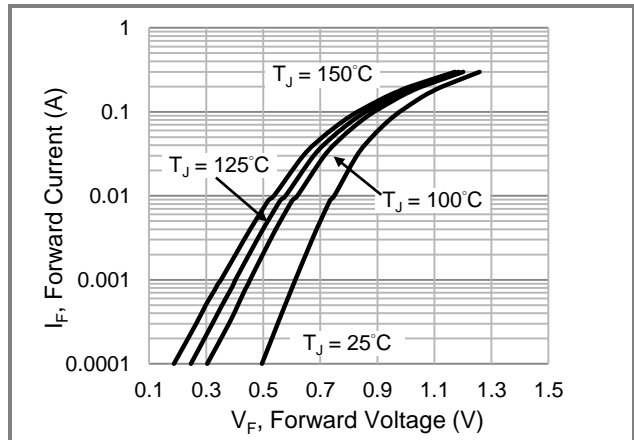


Fig.4 Typical Forward Characteristics

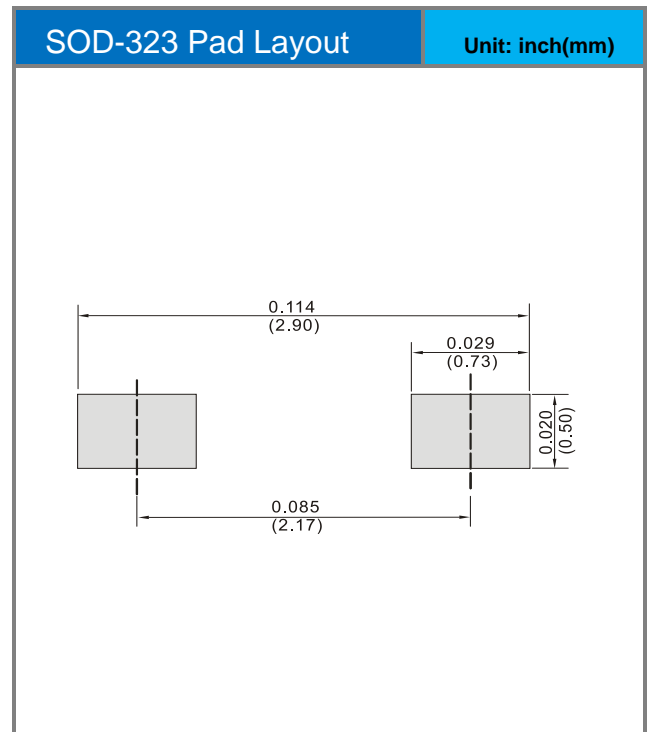
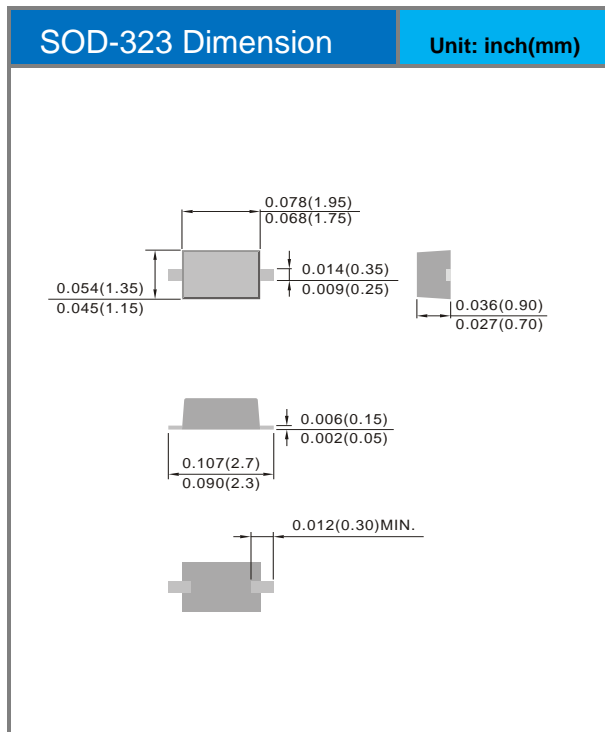


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Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version |
|----------------------|--------------|--------------|---------|--------------|
| BAS316-AU_R1_000A1 | SOD-323 | 5K / 7" Reel | A16 | Halogen free |

Packaging Information & Mounting Pad Layout






BAS316-AU

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