

BAS16

Voltage: 75 Volts

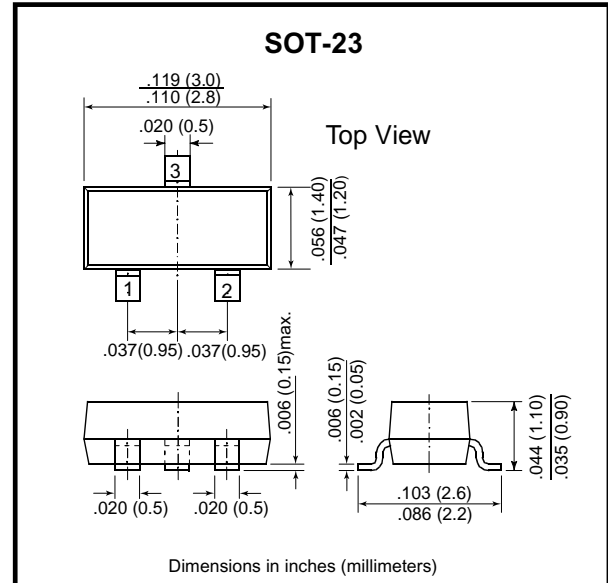
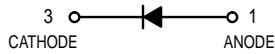
Current: 200mA

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

Mechanical data

- Case: SOT-23, Plastic
- Terminals : Solderable per NIL-STD -202, method 208
- Approx. Weight: 0.008 gram



MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|----------------------------|------------------------|-------|------|
| Continuous Reverse Voltage | V_R | 75 | Vdc |
| Peak Forward Current | I_F | 200 | mAdc |
| Peak Forward Surge Current | $I_{FM}(\text{surge})$ | 500 | mAdc |

THERMAL CHARACTERISTICS

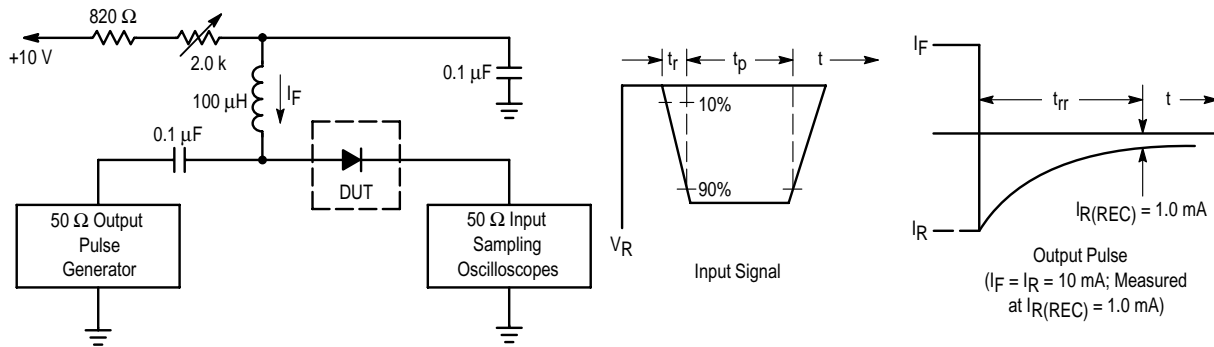
| Characteristic | Symbol | Max | Unit |
|---|-----------------|-------------|---------------------------|
| Total Device Dissipation FR-5 Board ⁽¹⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 225 | mW |
| | | 1.8 | mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 556 | $^\circ\text{C}/\text{W}$ |
| Total Device Dissipation Alumina Substrate, ⁽²⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 300 | mW |
| | | 2.4 | mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 417 | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature | T_J, T_{stg} | -55 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Max | Unit |
|--|--------|------------------|----------------------------|------|
| OFF CHARACTERISTICS | | | | |
| Reverse Voltage Leakage Current (VR = 75 Vdc) (VR = 75 Vdc, TJ = 150°C) (VR = 25 Vdc, TJ = 150°C) | IR | — — — | 1.0 50 30 | μAdc |
| Reverse Breakdown Voltage (IBR = 100 μAdc) | V(BR) | 75 | — | Vdc |
| Forward Voltage (IF = 1.0 mAdc) (IF = 10 mAdc) (IF = 50 mAdc) (IF = 150 mAdc) | VF | — — — — | 715 855 1000 1250 | mV |
| Diode Capacitance (VR = 0, f = 1.0 MHz) | CD | — | 2.0 | pF |
| Forward Recovery Voltage (IF = 10 mAdc, tr = 20 ns) | VFR | — | 1.75 | Vdc |
| Reverse Recovery Time (IF = IR = 10 mAdc, RL = 50 Ω) | trr | — | 6.0 | ns |
| Stored Charge (IF = 10 mAdc to VR = 5.0 Vdc, RL = 500 Ω) | QS | — | 45 | pC |

1.FR-5 = 1.0 X 0.75 X 0.062 in. 2.Alumina = 0.4 X 0.3 X 0.024 in. 99.5% alumina.

Rating and Characteristic Curves (BAS16)



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_R(\text{peak})$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

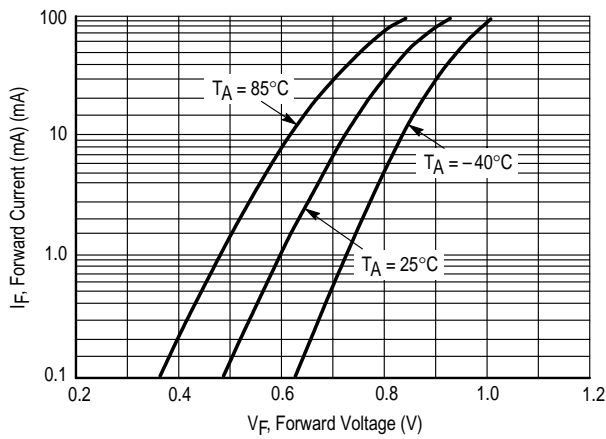


Figure 2. Forward Voltage

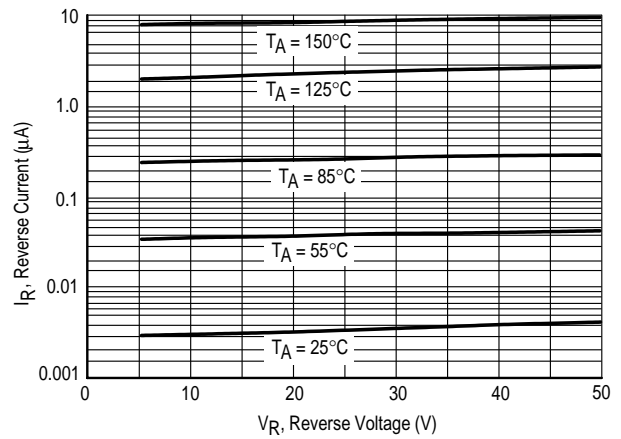


Figure 3. Leakage Current

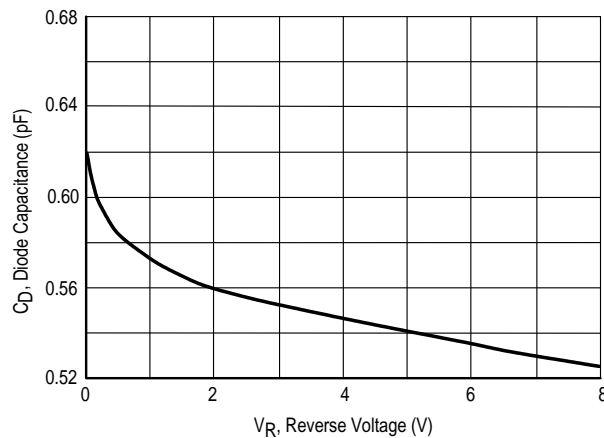


Figure 4. Capacitance