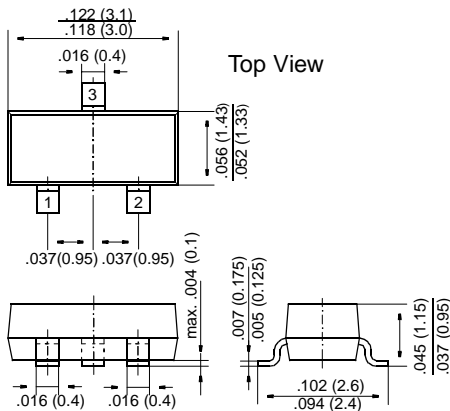


BAS40 THRU BAS40-06

Schottky Diodes

SOT-23

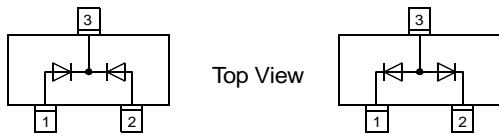


Dimensions in inches and (millimeters)



BAS40
Marking: 43

BAS40-04
Marking: 44



BAS40-05
Marking: 45

BAS40-06
Marking: 46

FEATURES

- ◆ These diodes feature very low turn-on voltage and fast switching.
- ◆ These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.



MECHANICAL DATA

Case: SOT-23 Plastic Package

Weight: approx. 0.008 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS FOR ONE DIODE

Ratings at 25 °C ambient temperature unless otherwise specified

| | Symbol | Value | Unit |
|------------------------------------------------------------------------|-----------|-------------------|------|
| Repetitive Peak Reverse Voltage | V_{RRM} | 40 | V |
| Forward Continuous Current at $T_{amb} = 25\text{ °C}$ | I_F | 200 ¹⁾ | mA |
| Surge Forward Current at $t_p < 1\text{ s}$, $T_{amb} = 25\text{ °C}$ | I_{FSM} | 600 ¹⁾ | mA |
| Power Dissipation ¹⁾ at $T_{amb} = 25\text{ °C}$ | P_{tot} | 200 ¹⁾ | mW |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature Range | T_S | -55 to +150 | °C |

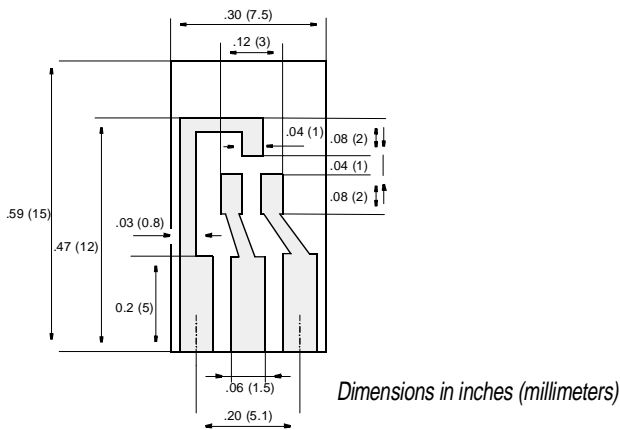
¹⁾ Device on fiberglass substrate, see layout

BAS40 THRU BAS40-06

ELECTRICAL CHARACTERISTICS

Ratings for one diode at 25 °C ambient temperature unless otherwise specified

| | Symbol | Min. | Typ. | Max. | Unit |
|----------------------------------------------------------------------------------------|----------------|--------|--------|-------------------|----------|
| Reverse Breakdown Voltage Tested with 10 μ A Pulses | $V_{(BR)R}$ | 40 | – | – | V |
| Leakage Current Pulse Test $t_p < 300 \mu s$ at $V_R = 30 V$ | I_R | – | 20 | 100 | nA |
| Forward Voltage Pulse Test $t_p < 300 \mu s$ at $I_F = 1 mA$ at $I_F = 40 mA$ | V_F V_F | – – | – – | 380 1000 | mV mV |
| Capacitance at $V_R = 0 V, f = 1 MHz$ | C_{tot} | – | 4.0 | 5 | pF |
| Reverse Recovery Time from $I_F = 10 mA$ through $I_R = 10 mA$ to $I_R = 1 mA$ | t_{rr} | – | – | 5 | ns |
| Thermal Resistance Junction to Ambient Air | R_{thJA} | – | – | 430 ¹⁾ | K/W |
| 1) Device on fiberglass substrate, see layout | | | | | |



Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)

Copper leads 0.012 in (0.3 mm)