# WEITRON

**BAS16BS**

## Surface Mount Switching Diodes

**Lead(Pb)-Free**

**SWITCHING DIODES**
**500m AMPERES**
**75 VOLTS**

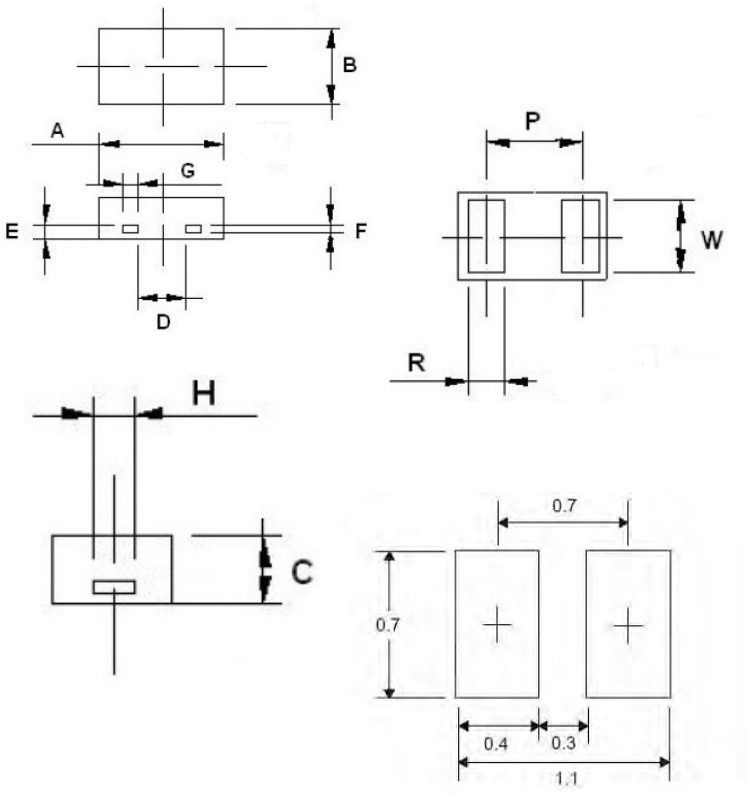
### Feature:

* Small plastic SMD package.
* Continuous reverse voltage: max. 75 V.
* High-speed switching in hybrid thick and thin-film circuits.

**SOD-882**

## SOD-882 Outline Dimensions

Unit:mm




| MILLIMETERS | | | |
|---|---|---|---|
| DIM | MIN | NOM | MAX |
| A | 0.95 | 1.00 | 1.05 |
| B | 0.55 | 0.60 | 0.65 |
| C | 0.465 | 0.4825 | 0.5 |
| D | | 0.39 | |
| E | | 0.127 | |
| F | | 0.0635 | |
| G | | 0.12 | |
| H | | 0.20 | |
| P | | 0.64 | |
| R | 0.2 | 0.25 | 0.3 |
| W | 0.44 | 0.49 | 0.54 |

**SOLDERING FOOTPRINT**

## Maximum Ratings ($T_A$=25˚C Unless otherwise noted)

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Continuous Reverse Voltage | $V_R$ | 75 | $V_{dc}$ |
| Peak Forward Current | $I_F$ | 200 | mAdc |
| Peak Forward Surge Current | $I_{FM}$ | 500 | mAdc |

## Thermal Characteristics

| Characteristic | Symbol | Max | Unit |
|---|---|---|---|
| Total Device Dissipation FR-5 Board,* T A = 25°C | PD | 200 | mW |
| Derate above 25°C | | 1.57 | mW/℃ |
| Thermal Resistance Junction to Ambient | R$\theta$JA | 635 | ℃/W |
| Junction and Storage Temperature | Tj,Tstg | -55to+150 | ℃ |

**FR-4 Minimum Pad

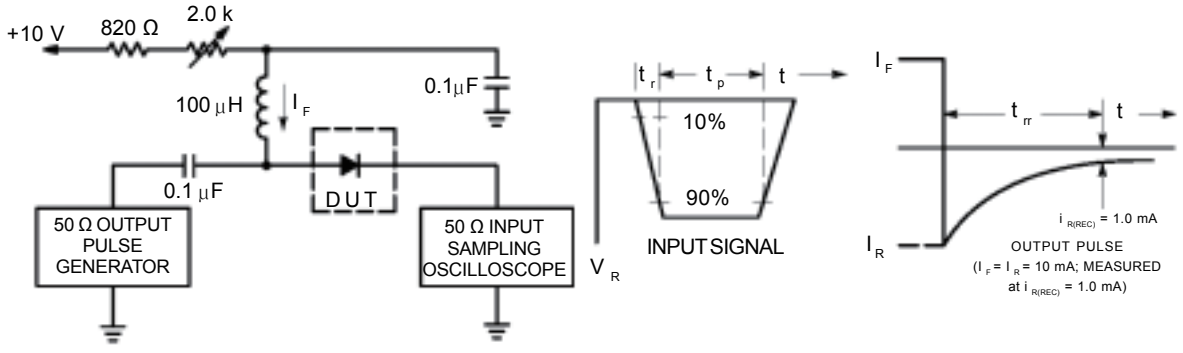
## Electrical Characteristics ($T_A$=25˚C Unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Reverse Voltage Leakage Current<br>(V R = 75 Vdc)<br>(V R = 75 Vdc, T J = 150°C)<br>(V R = 25 Vdc, T J = 150°C) | $I_R$ | - | - | 1.0<br>50<br>30 | µAdc |
| Reverse Breakdown Voltage<br>(I BR = 100 µAdc) | $V_{(BR)}$ | 75 | - | - | Vdc |
| Forward Voltage<br>(I F = 1.0 mAdc)<br>(I F = 10 mAdc)<br>(I F = 50 mAdc)<br>(I F = 150 mAdc) | VF | - | - | 715<br>855<br>1000<br>1250 | mV |
| Diode Capacitance<br>(V R = 0, f = 1.0 MHz) | CD | - | - | 2.0 | pF |
| Forward Recovery Voltage<br>(I F = 10 mAdc, t r = 20 ns) | V FR | - | - | 1.75 | Vdc |
| Reverse Recovery Time<br>(I F = I R = 10 mAdc, R L = 50 Ω) | $T_{rr}$ | - | - | 4.0 | ns |
| Stored Charge<br>(I F = 10 mAdc to V R = 5.0 Vdc, R L = 500 Ω) | Qs | - | - | 45 | pC |

## Device Marking

| Item | Marking | Eqivalent Circuit diagram |
|---|---|---|
| BAS16BS | 3* | 1 ○—▶|—○ 2<br>Cathode Anode |

*Rotated 90°




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

**Figure 1. Recovery Time Equivalent Test Circuit**

# TYPICAL CHARACTERISTICS

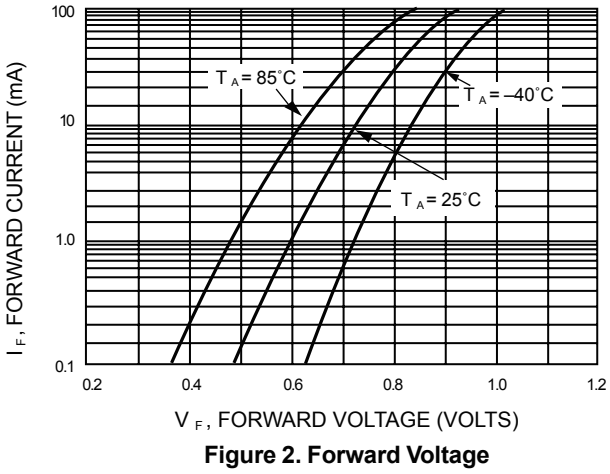



**Figure 2. Forward Voltage**

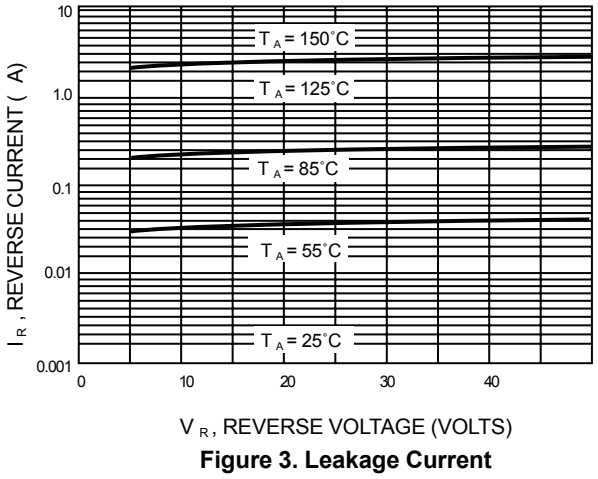



**Figure 3. Leakage Current**

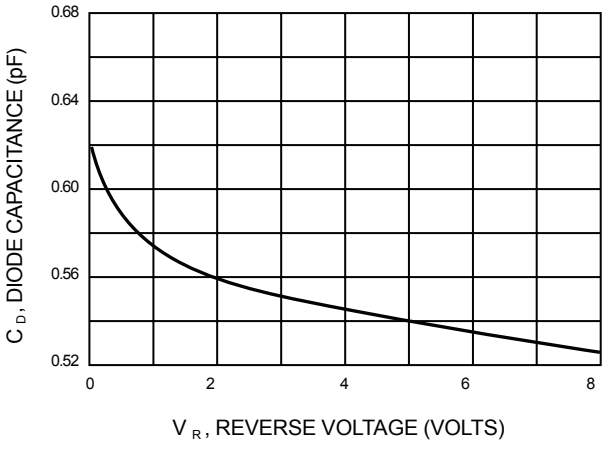



**Figure 4. Capacitance**