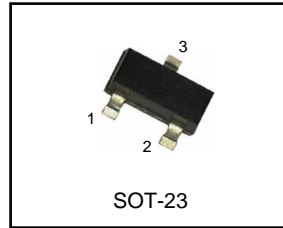


## Switching Diode

**BAS16**



### MAXIMUM RATINGS

| Rating                     | Symbol       | Value | Unit |
|----------------------------|--------------|-------|------|
| Continuous Reverse Voltage | VR           | 75    | Vdc  |
| Peak Forward Current       | IF           | 200   | mAdc |
| Peak Forward Surge Current | IFM( surge ) | 500   | mAdc |

### THERMAL CHARACTERISTICS

| Characteristic  | Symbol        | Max.        | Unit          |
|---|---------------|-------------|---------------|
| Total Device Dissipation FR-5 Board <sup>(1)</sup> TA=25°C<br>Derate above 25°C         | PD            | 225<br>1.8  | mW<br>mW / °C |
| Thermal Resistance, Junction to Ambient   | R $\theta$ JA | 556         | °C / W        |
| Total Device Dissipation Alumina Substrate, <sup>(2)</sup> TA=25°C<br>Derate above 25°C | PD            | 300<br>2.4  | mW<br>mW / °C |
| Thermal Resistance, Junction to Ambient   | R $\theta$ JA | 417         | °C / W        |
| Junction and Storage Temperature  | TJ,TSTG       | -55 to +150 | °C            |

### DEVICE MARKING

**BAS16=A6**

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

| Characteristic | Symbol | Min. | Max. | Unit |
|----------------|--------|------|------|------|
|----------------|--------|------|------|------|

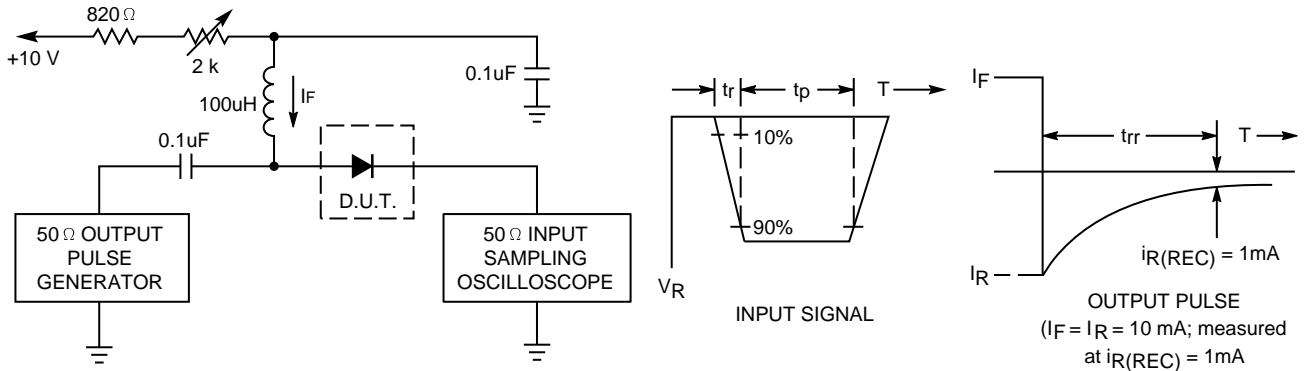
### OFF CHARACTERISTICS

|  |       |                  |                            |      |
|--|-------|------------------|----------------------------|------|
| Reverse Breakdown Voltage<br>( IBR=100uAdc )   | V(BR) | 75               | -                          | Vdc  |
| Forward Voltage<br>( IF=1.0 mAdc )<br>( IF=10 mAdc )<br>( IF=50 mAdc )<br>( IF=150 mAdc )              | VF    | -<br>-<br>-<br>- | 715<br>855<br>1000<br>1250 | mVdc |
| Reverse Voltage Leakage Current<br>( VR=75 Vdc )<br>( VR=25 Vdc, TJ=150°C )<br>( VR=75 Vdc, TJ=150°C ) | IR    | -<br>-<br>-      | 1.0<br>30<br>50            | uAdc |
| Recovery Current<br>( IF=10 mAdc, VR=5.0 Vdc, RL=500 $\Omega$ )  | Qs    | -                | 45                         | pC   |
| Diode Capacitance<br>( VR=0, f=1.0MHz )  | CJ    | -                | 2.0                        | pF   |
| Reverse Recovery Time<br>( IF=IR=10 mAdc, RL=50 $\Omega$ )   | trr   | -                | 6.0                        | nS   |
| Forward Recovery Voltage<br>( IF=10 mAdc, tr=20nS )  | VFR   | -                | 1.75                       | Vdc  |

(1) FR-5=1.0 x 0.75 x 0.062in.

(2) Alumina=0.4 x 0.3 x 0.024in. 99.5% alumina.

FIGURE 1. RECOVERY TIME EQUIVALENT TEST CIRCUIT



- Notes: 1. A 2.0kΩ 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 2. FORWARD VOLTAGE

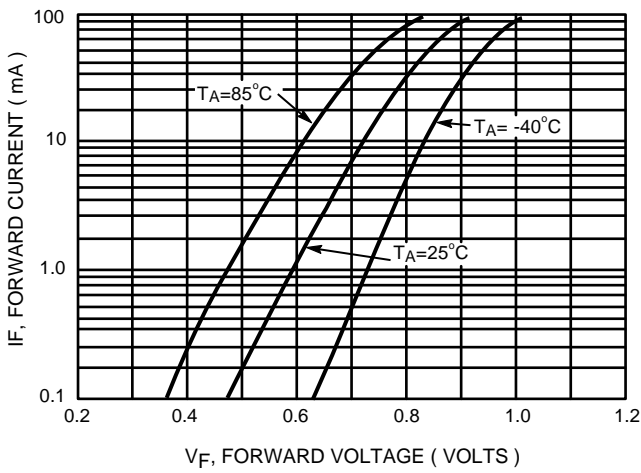


FIGURE 3. LEAKAGE CURRENT

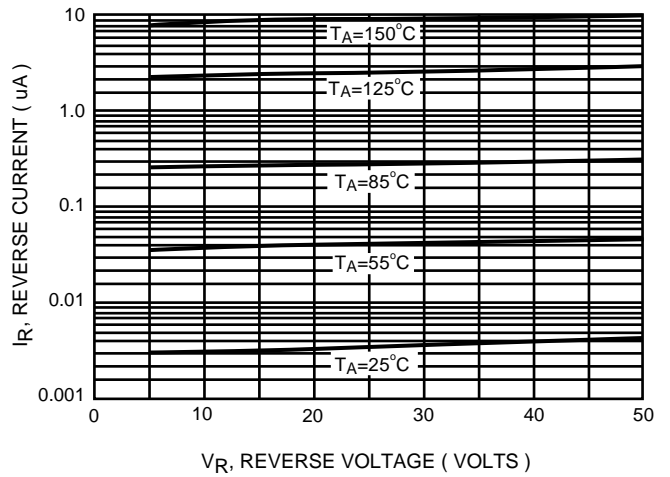


FIGURE 4. CAPACITANCE

