

# BAS16HT1

Preferred Device

## Switching Diode



ON Semiconductor®

<http://onsemi.com>

### MAXIMUM RATINGS

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

### THERMAL CHARACTERISTICS

| Characteristic  | Symbol          | Max         | Unit                       |
|---|-----------------|-------------|----------------------------|
| Total Device Dissipation FR-5 Board (Note 1)<br>$T_A = 25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$ | $P_D$           | 200<br>1.57 | mW<br>mW/ $^\circ\text{C}$ |
| Thermal Resistance Junction to Ambient  | $R_{\theta JA}$ | 635         | $^\circ\text{C/W}$         |
| Junction and Storage Temperature  | $T_J, T_{stg}$  | -55 to 150  | $^\circ\text{C}$           |

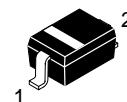
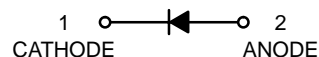
1. FR-4 Minimum Pad.

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

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

### OFF CHARACTERISTICS

|  |            |                  |                            |                 |
|--|------------|------------------|----------------------------|-----------------|
| Reverse Voltage Leakage Current<br>( $V_R = 75\text{ Vdc}$ )<br>( $V_R = 75\text{ Vdc}, T_J = 150^\circ\text{C}$ )<br>( $V_R = 25\text{ Vdc}, T_J = 150^\circ\text{C}$ ) | $I_R$      | –<br>–<br>–      | 1.0<br>50<br>30            | $\mu\text{Adc}$ |
| Reverse Breakdown Voltage<br>( $I_{BR} = 100\text{ }\mu\text{Adc}$ )   | $V_{(BR)}$ | 75               | –                          | Vdc             |
| Forward Voltage<br>( $I_F = 1.0\text{ mAdc}$ )<br>( $I_F = 10\text{ mAdc}$ )<br>( $I_F = 50\text{ mAdc}$ )<br>( $I_F = 150\text{ mAdc}$ )                                | $V_F$      | –<br>–<br>–<br>– | 715<br>855<br>1000<br>1250 | mV              |
| Diode Capacitance<br>( $V_R = 0, f = 1.0\text{ MHz}$ )   | $C_D$      | –                | 2.0                        | pF              |
| Forward Recovery Voltage<br>( $I_F = 10\text{ mAdc}, t_r = 20\text{ ns}$ )   | $V_{FR}$   | –                | 1.75                       | Vdc             |
| Reverse Recovery Time<br>( $I_F = I_R = 10\text{ mAdc}, R_L = 50\text{ }\Omega$ )  | $t_{rr}$   | –                | 6.0                        | ns              |
| Stored Charge<br>( $I_F = 10\text{ mAdc}$ to $V_R = 5.0\text{ Vdc}$ ,<br>$R_L = 500\text{ }\Omega$ )   | $Q_S$      | –                | 45                         | pC              |



SOD-323  
CASE 477  
STYLE 1

### MARKING DIAGRAM



A6 = Specific Device Code  
M = Date Code

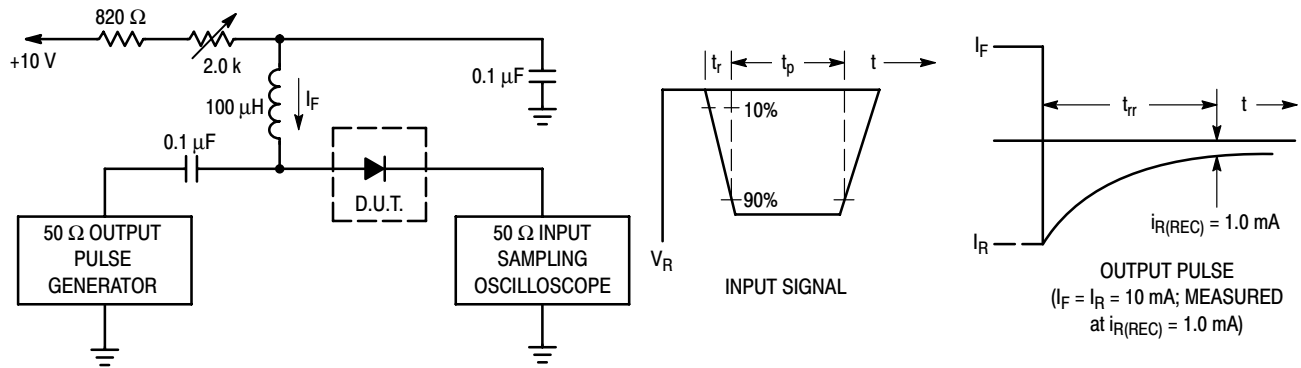
### ORDERING INFORMATION

| Device   | Package | Shipping†        |
|----------|---------|------------------|
| BAS16HT1 | SOD-323 | 3000/Tape & Reel |

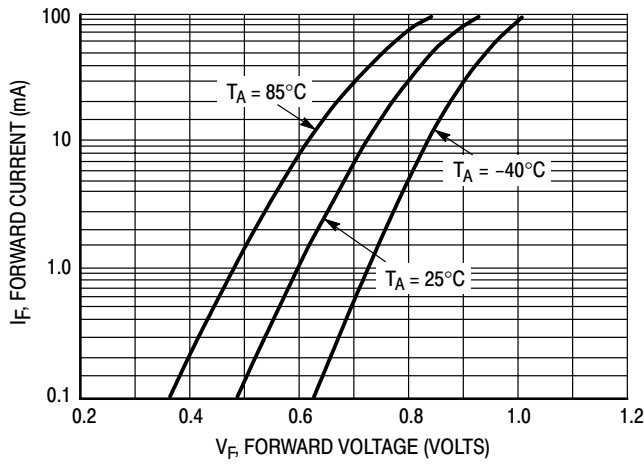
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

**Preferred** devices are recommended choices for future use and best overall value.

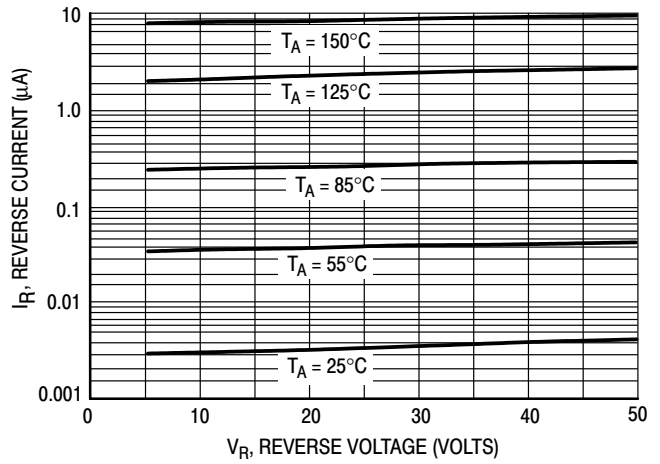
# BAS16HT1



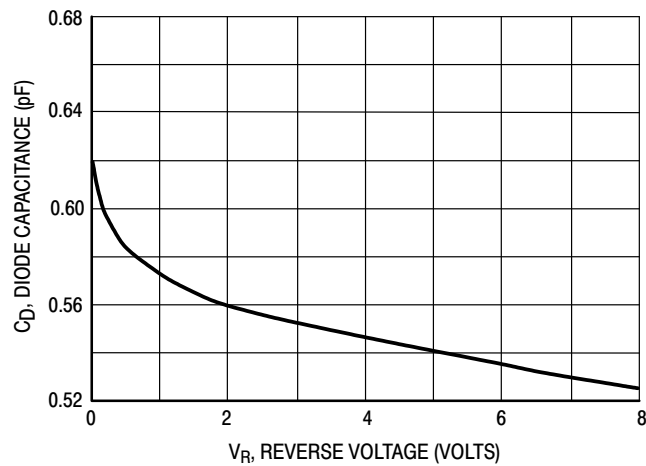
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**

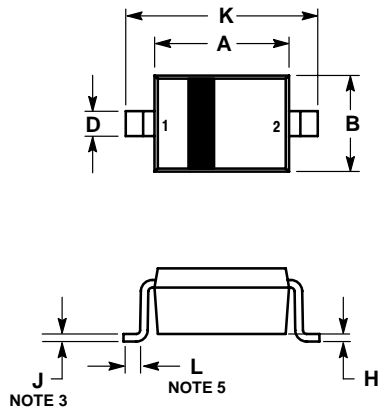


**Figure 4. Capacitance**

# BAS16HT1

## PACKAGE DIMENSIONS

**SOD-323**  
CASE 477-02  
ISSUE D



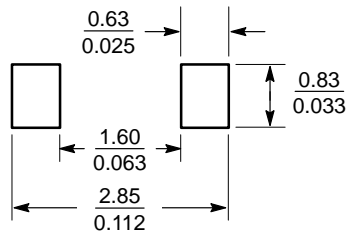
### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

| DIM | MILLIMETERS |       | INCHES    |        |
|-----|-------------|-------|-----------|--------|
|     | MIN         | MAX   | MIN       | MAX    |
| A   | 1.60        | 1.80  | 0.063     | 0.071  |
| B   | 1.15        | 1.35  | 0.045     | 0.053  |
| C   | 0.80        | 1.00  | 0.031     | 0.039  |
| D   | 0.25        | 0.40  | 0.010     | 0.016  |
| E   | 0.15 REF    |       | 0.006 REF |        |
| H   | 0.00        | 0.10  | 0.000     | 0.004  |
| J   | 0.089       | 0.177 | 0.0035    | 0.0070 |
| K   | 2.30        | 2.70  | 0.091     | 0.106  |
| L   | 0.075       | ---   | 0.003     | ---    |


STYLE 1:  
PIN 1. CATHODE  
2. ANODE

## SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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