

# BAS116TT1G

## Switching Diode

### Features

- Low Leakage Current Applications
- Medium Speed Switching Times
- Available in 8 mm Tape and Reel
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

Rating	Symbol	Max	Unit
Continuous Reverse Voltage	$V_R$	75	V
Peak Forward Current	$I_F$	200	mA
Peak Forward Surge Current	$I_{FM(surge)}$	500	mA

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR-4 Board (Note 1) $T_A = 25^\circ\text{C}$ Derated above $25^\circ\text{C}$	$P_D$	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{\theta JA}$	555	$^\circ\text{C/W}$
Total Device Dissipation, FR-4 Board (Note 2) $T_A = 25^\circ\text{C}$ Derated above $25^\circ\text{C}$	$P_D$	360 2.9	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{\theta JA}$	345	$^\circ\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

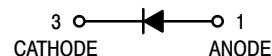
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-4 @ Minimum Pad
2. FR-4 @  $1.0 \times 1.0$  Inch Pad



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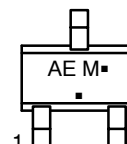
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### MARKING DIAGRAM



**CASE 463  
SOT-416  
STYLE 2**



AE = Specific Device Code  
M = Date Code  
■ = Pb-Free Package

### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
BAS116TT1G	SOT-416 (Pb-Free)	3000 / Tape & Reel

<sup>†</sup>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.

# BAS116TT1G

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage (I <sub>BR</sub> = 100 µAdc)	V <sub>(BR)</sub>	75	–	Vdc
Reverse Voltage Leakage Current (V <sub>R</sub> = 75 Vdc) (V <sub>R</sub> = 75 Vdc, T <sub>J</sub> = 150°C)	I <sub>R</sub>	–	5.0 80	nAdc
Forward Voltage (I <sub>F</sub> = 1.0 mAdc) (I <sub>F</sub> = 10 mAdc) (I <sub>F</sub> = 50 mAdc) (I <sub>F</sub> = 150 mAdc)	V <sub>F</sub>	–	900 1000 1100 1250	mV
Diode Capacitance (V <sub>R</sub> = 0 V, f = 1.0 MHz)	C <sub>D</sub>	–	2.0	pF
Reverse Recovery Time (I <sub>F</sub> = I <sub>R</sub> = 10 mAdc) (Figure 1)	t <sub>rr</sub>	–	3.0	µs

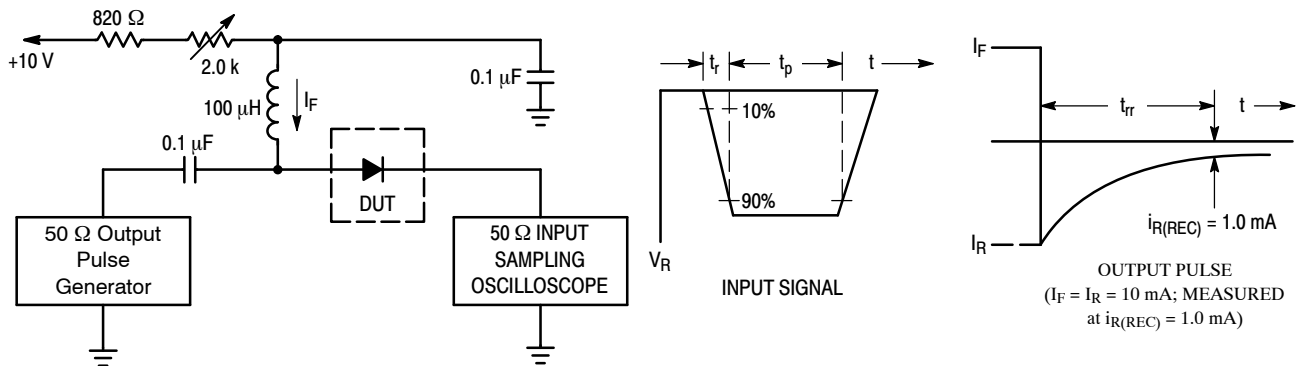


Figure 1. Recovery Time Equivalent Test Circuit

## TYPICAL CHARACTERISTICS

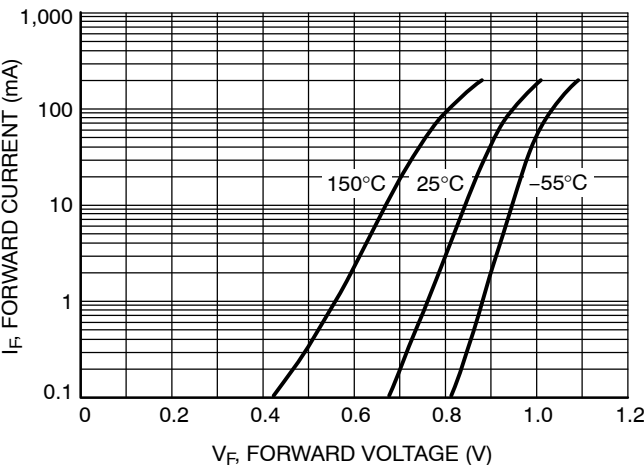


Figure 2. Forward Voltage

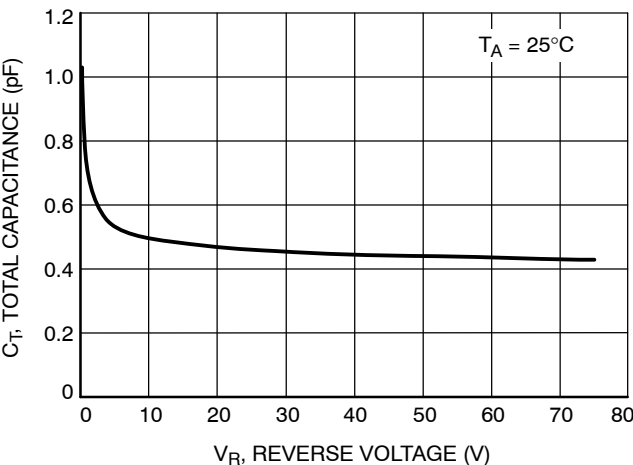
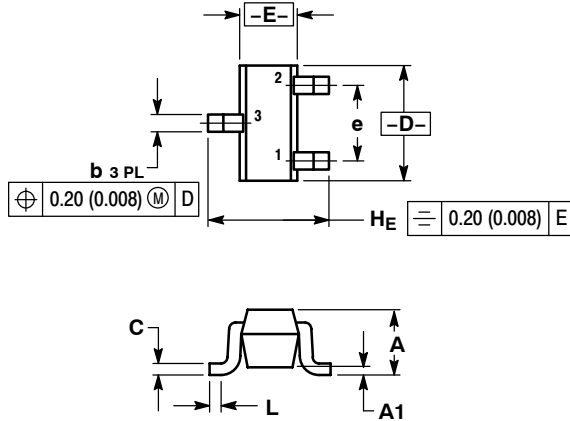


Figure 3. Capacitance

# BAS116TT1G

## PACKAGE DIMENSIONS

SC-75/SOT-416  
CASE 463-01  
ISSUE F

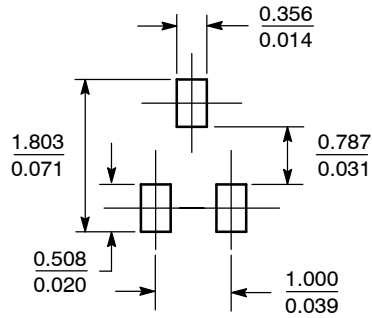


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: MILLIMETER.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.70	0.80	0.90	0.027	0.031	0.035
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.15	0.20	0.30	0.006	0.008	0.012
C	0.10	0.15	0.25	0.004	0.006	0.010
D	1.55	1.60	1.65	0.059	0.063	0.067
E	0.70	0.80	0.90	0.027	0.031	0.035
e	1.00 BSC			0.04 BSC		
L	0.10	0.15	0.20	0.004	0.006	0.008
H <sub>E</sub>	1.50	1.60	1.70	0.061	0.063	0.065


STYLE 2:  
PIN 1. ANODE  
2. N/C  
3. CATHODE

## SOLDERING FOOTPRINT\*



SCALE 10:1 ( $\frac{\text{mm}}{\text{inches}}$ )

\*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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