

# BAS16WT1

Preferred Device

## Silicon Switching Diode

### Features

- Pb-Free Package is Available



ON Semiconductor®

<http://onsemi.com>

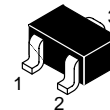
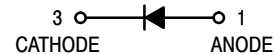
### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V <sub>R</sub>	75	V
Recurrent Peak Forward Current	I <sub>R</sub>	200	mA
Peak Forward Surge Current Pulse Width = 10 μs	I <sub>FM(surge)</sub>	500	mA
Total Power Dissipation, One Diode Loaded T <sub>A</sub> = 25°C Derate above 25°C Mounted on a Ceramic Substrate (10 x 8 x 0.6 mm)	P <sub>D</sub>	200 1.6	mW mW/°C
Operating and Storage Junction Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

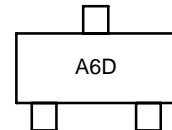
### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient One Diode Loaded Mounted on a Ceramic Substrate (10 x 8 x 0.6 mm)	R <sub>θJA</sub>	625	°C/W



SC-70  
CASE 419  
STYLE 2

### MARKING DIAGRAM



A6 = Specific Device Code  
D = Date Code

### ORDERING INFORMATION

Device	Package	Shipping†
BAS16WT1	SC-70	3000 / Tape & Reel
BAS16WT1G	SC-70 (Pb-Free)	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.

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

Characteristic	Symbol	Min	Max	Unit
Forward Voltage ( $I_F = 1.0\text{ mA}$ ) ( $I_F = 10\text{ mA}$ ) ( $I_F = 50\text{ mA}$ ) ( $I_F = 150\text{ mA}$ )	$V_F$	– – – –	715 866 1000 1250	mV
Reverse Current ( $V_R = 75\text{ V}$ ) ( $V_R = 75\text{ V}, T_J = 150^\circ\text{C}$ ) ( $V_R = 25\text{ V}, T_J = 150^\circ\text{C}$ )	$I_R$	– – –	1.0 50 30	$\mu\text{A}$
Capacitance ( $V_R = 0, f = 1.0\text{ MHz}$ )	$C_D$	–	2.0	pF
Reverse Recovery Time ( $I_F = I_R = 10\text{ mA}, R_L = 50\ \Omega$ ) (Figure 1)	$t_{rr}$	–	6.0	ns
Stored Charge ( $I_F = 10\text{ mA}$ to $V_R = 6.0\text{ V}, R_L = 500\ \Omega$ ) (Figure 2)	QS	–	45	PC
Forward Recovery Voltage ( $I_F = 10\text{ mA}, t_r = 20\text{ ns}$ ) (Figure 3)	$V_{FR}$	–	1.75	V

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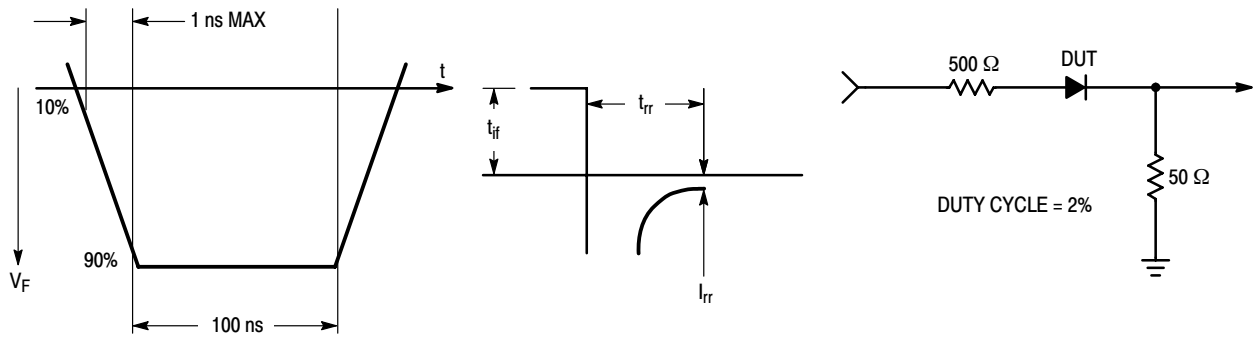


Figure 1. Reverse Recovery Time Equivalent Test Circuit

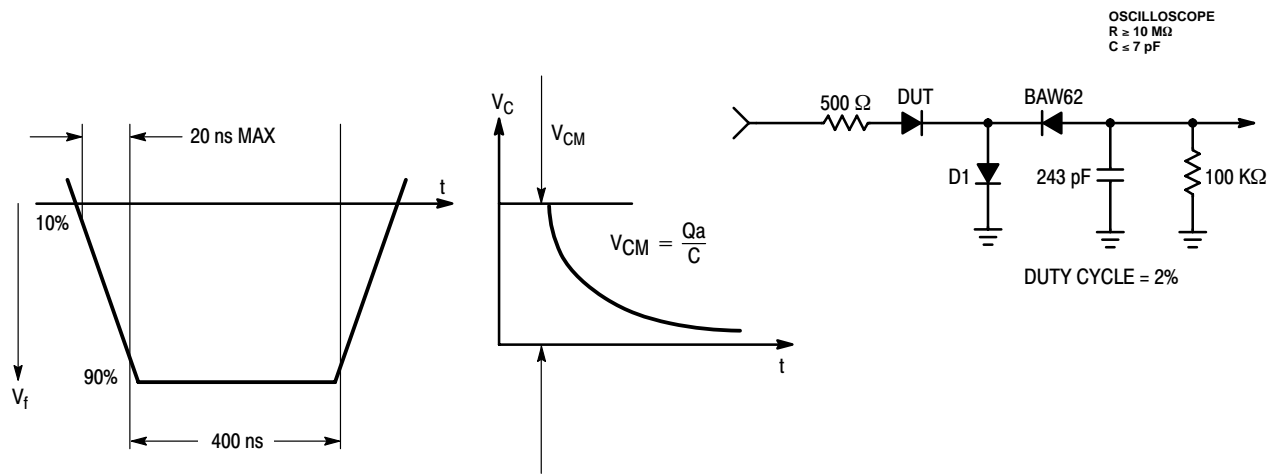


Figure 2. Stored Charge Equivalent Test Circuit

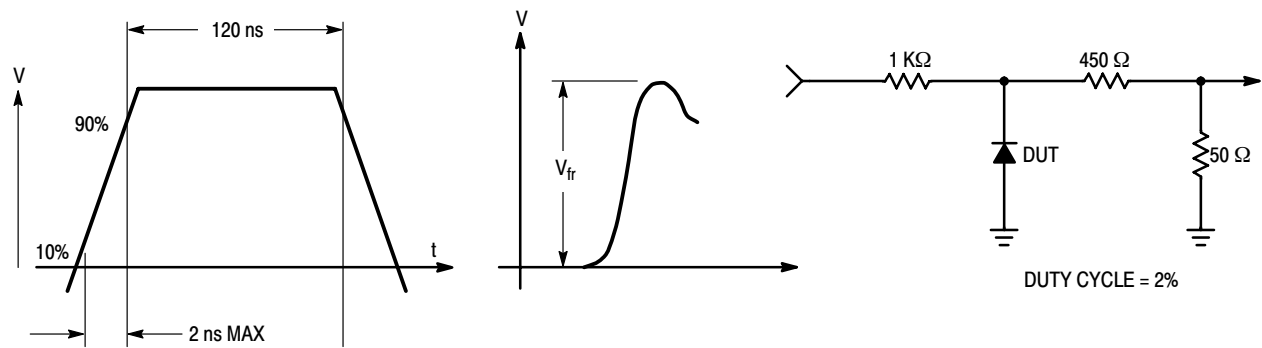


Figure 3. Forward Recovery Voltage Equivalent Test Circuit

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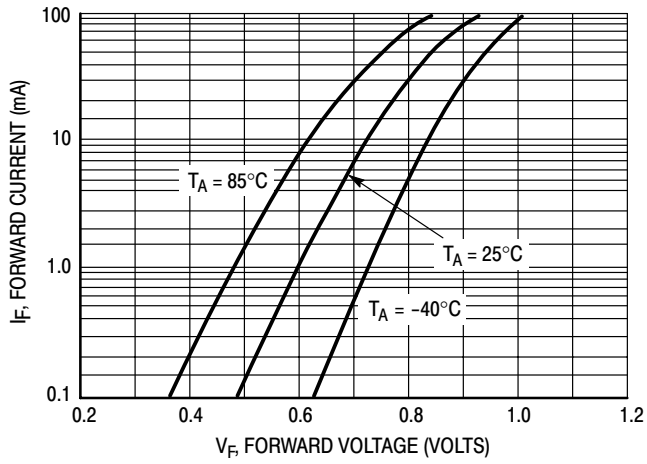


Figure 4. Forward Voltage

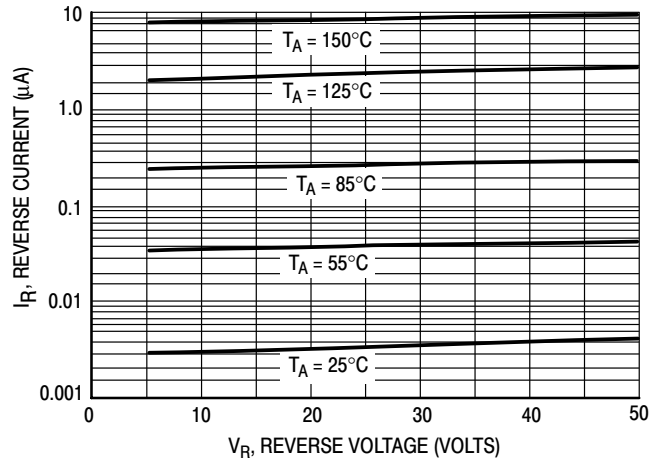


Figure 5. Leakage Current

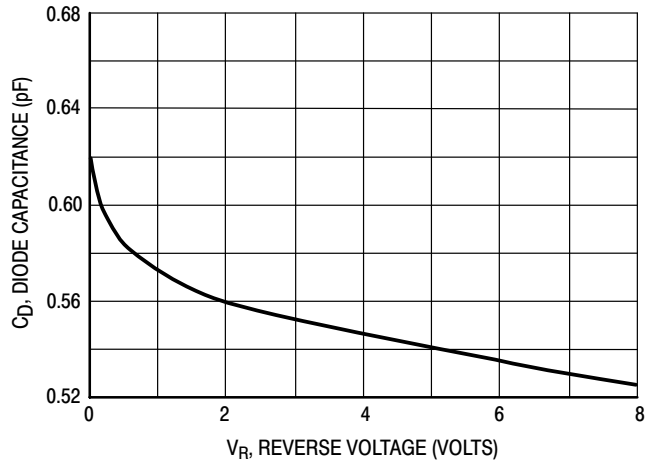
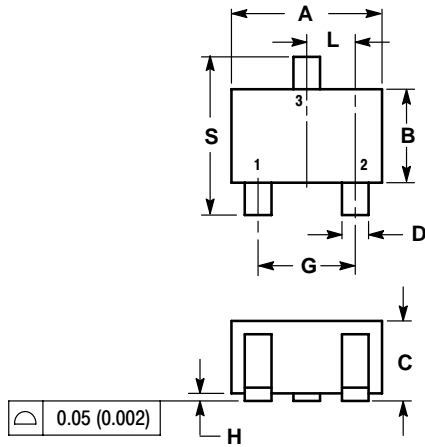


Figure 6. Capacitance

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## PACKAGE DIMENSIONS

SC-70 (SOT-323)  
CASE 419-04  
ISSUE L



NOTES:

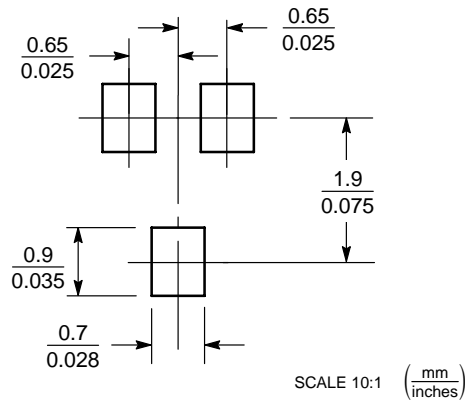
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40

STYLE 2:


- PIN 1. ANODE
- N.C.
- CATHODE

### 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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**BAS16WT1/D**