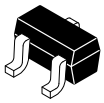
Silicon Switching Diode

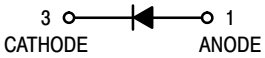
BAS16WT1G



SC−70
CASE 419
STYLE 2

Features

- S and NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant



MAXIMUM RATINGS (T_A = 25°C)

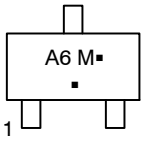
Symbol	Rating	Value	Unit
V_R	Continuous Reverse Voltage	100	V
I_R	Recurrent Peak Forward Current	200	mA
$I_{FM(surge)}$	Peak Forward Surge Current Pulse Width = 10 μs	500	mA
P_D	Total Power Dissipation, One Diode Loaded T_A = 25°C Derate above 25°C Mounted on a Ceramic Substrate (10 x 8 x 0.6 mm)	200 1.6	mW mW/°C
T_J, T_{stg}	Operating and Storage Junction Temperature Range	−55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

Symbol	Characteristic	Max	Unit
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient One Diode Loaded Mounted on a Ceramic Substrate (10 x 8 x 0.6 mm)	625	°C/W

MARKING DIAGRAM



A6 = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
BAS16WT1G	SC−70 (Pb−Free)	3,000 / Tape & Reel
SBAS16WT1G	SC−70 (Pb−Free)	3,000 / Tape & Reel

DISCONTINUED (Note 1)

NSVBAS16WT3G	SC−70 (Pb−Free)	10,000 / 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.

1. **DISCONTINUED:** This device is not recommended for new design. Please contact your **onsemi** representative for information. The most current information on this device may be available on www.onsemi.com.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Symbol	Characteristic	Min	Max	Unit
V_F	Forward Voltage			mV
	(I_F = 1.0 mA)	–	715	
	(I_F = 10 mA)	–	866	
	(I_F = 50 mA)	–	1000	
	(I_F = 150 mA)	–	1250	
I_R	Reverse Current			μA
	(V_R = 100 V)	–	1.0	
	(V_R = 75 V, T_J = 150°C)	–	50	
	(V_R = 25 V, T_J = 150°C)	–	30	
C_D	Capacitance (V_R = 0, f = 1.0 MHz)	–	2.0	pF
t_{rr}	Reverse Recovery Time (I_F = I_R = 10 mA, R_L = 50 Ω) (Figure 1)	–	6.0	ns
QS	Stored Charge (I_F = 10 mA to V_R = 6.0 V, R_L = 500 Ω) (Figure 2)	–	45	PC
V_{FR}	Forward Recovery Voltage (I_F = 10 mA, t_r = 20 ns) (Figure 3)	–	1.75	V

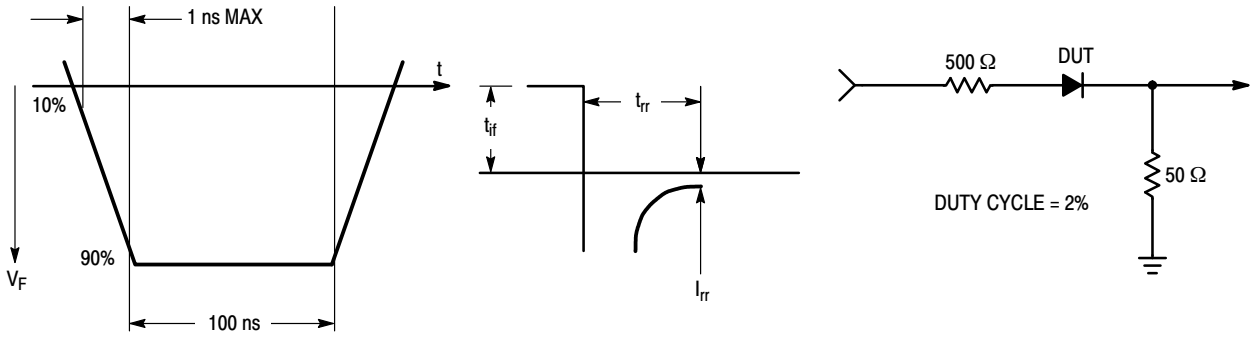


Figure 1. Reverse Recovery Time Equivalent Test Circuit

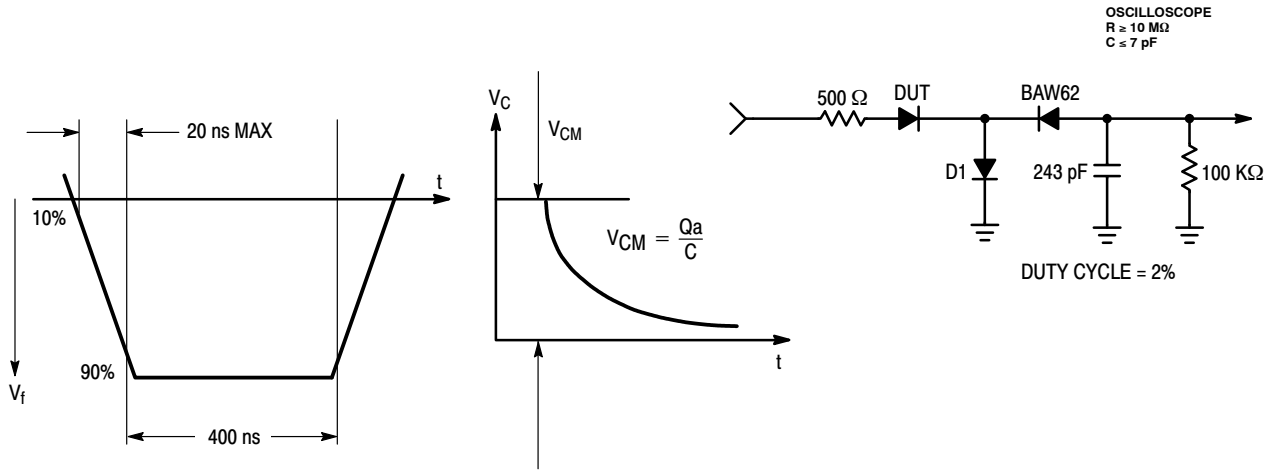


Figure 2. Stored Charge Equivalent Test Circuit

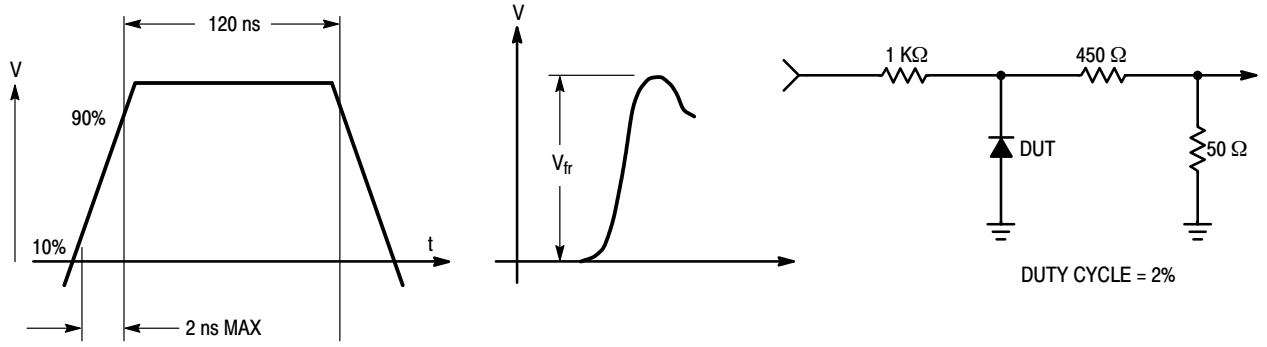


Figure 3. Forward Recovery Voltage Equivalent Test Circuit

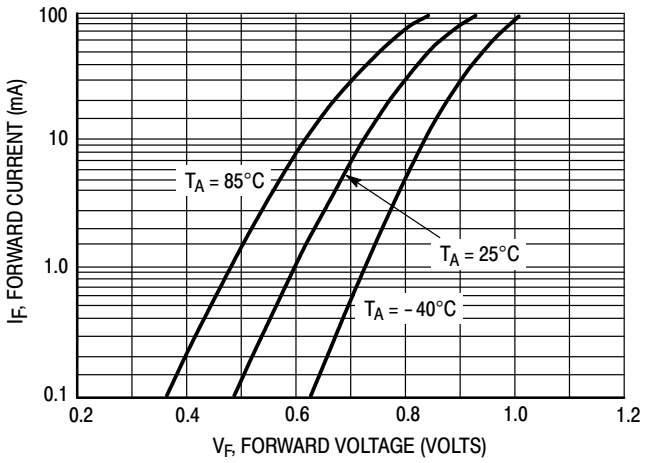


Figure 4. Forward Voltage

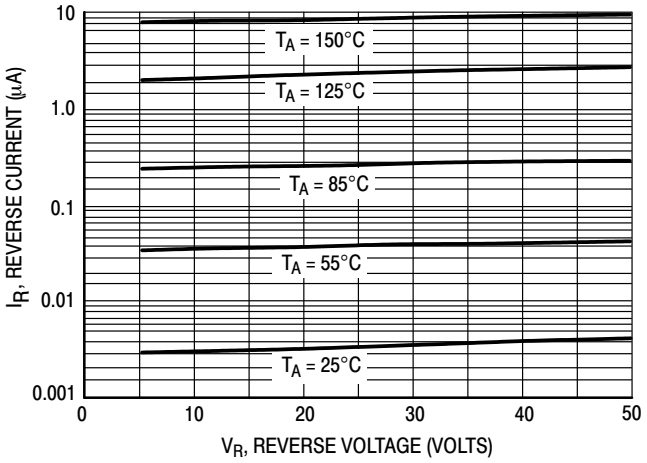


Figure 5. Leakage Current

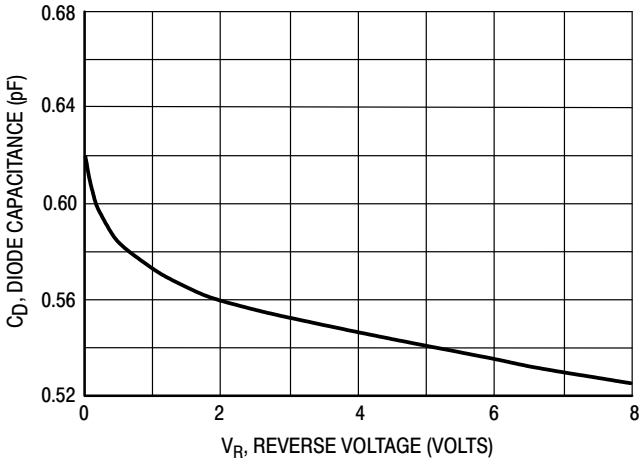
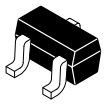


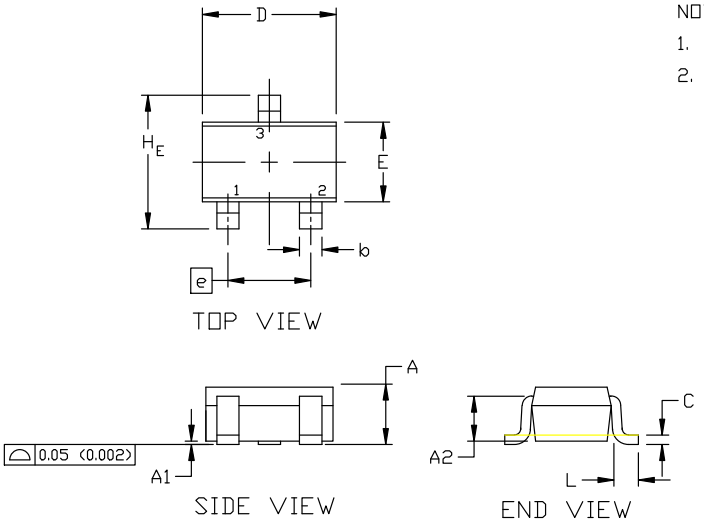
Figure 6. Capacitance



SCALE 4:1

SC−70 (SOT−323)
CASE 419
ISSUE R

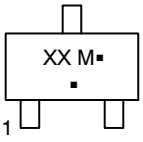
DATE 11 OCT 2022



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

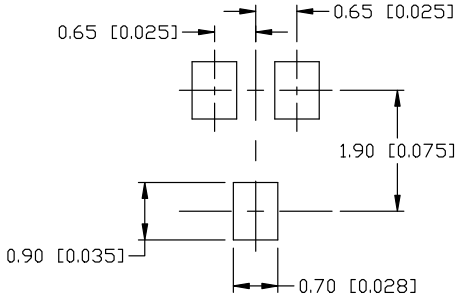
	MILLIMETERS			INCHES		
DIM	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 BSC		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.00	2.20	0.071	0.080	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.20	0.38	0.56	0.008	0.015	0.022
H_E	2.00	2.10	2.40	0.079	0.083	0.095

GENERIC MARKING DIAGRAM



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “▪”, may or may not be present. Some products may not follow the Generic Marking.



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

SOLDERING FOOTPRINT

STYLE 1:
CANCELLED

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

STYLE 3:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 5:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 6:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

STYLE 7:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 8:
PIN 1. GATE
2. SOURCE
3. DRAIN

STYLE 9:
PIN 1. ANODE
2. CATHODE
3. CATHODE−ANODE

STYLE 10:
PIN 1. CATHODE
2. ANODE
3. ANODE−CATHODE

STYLE 11:
PIN 1. CATHODE
2. CATHODE
3. CATHODE

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DESCRIPTION:	**SC−70 (SOT−323)**		**PAGE 1 OF 1**

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