

BAW56WT1

Preferred Device

Dual Switching Diode

Features

- Pb-Free Package is Available

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Max	Unit
Reverse Voltage	V _R	70	Vdc
Forward Current	I _F	200	mAdc
Peak Forward Surge Current	I _{FM(surge)}	500	mAdc

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 (T_A = 25°C)

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) T _A = 25°C Derate above 25°C	P _D	200	mW
Thermal Resistance, Junction-to-Ambient	R _{θJA}	0.625	°C/W
Total Device Dissipation Alumina Substrate (Note 2) T _A = 25°C Derate above 25°C	P _D	300	mW
Thermal Resistance, Junction-to-Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature	T _J , T _{stg}	-55 to +150	°C

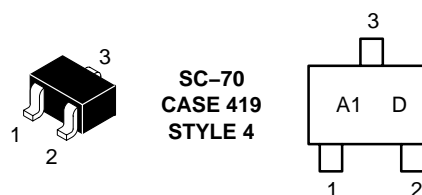
- FR-5 = 1.0 × 0.75 × 0.062 in.
- Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.



ON Semiconductor®

<http://onsemi.com>

MARKING DIAGRAM



A1 = Specific Device Code
D = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
BAW56WT1	SC-70	3000/Tape & Reel
BAW56WT1G	SC-70 (Pb-Free)	3000/Tape & Reel

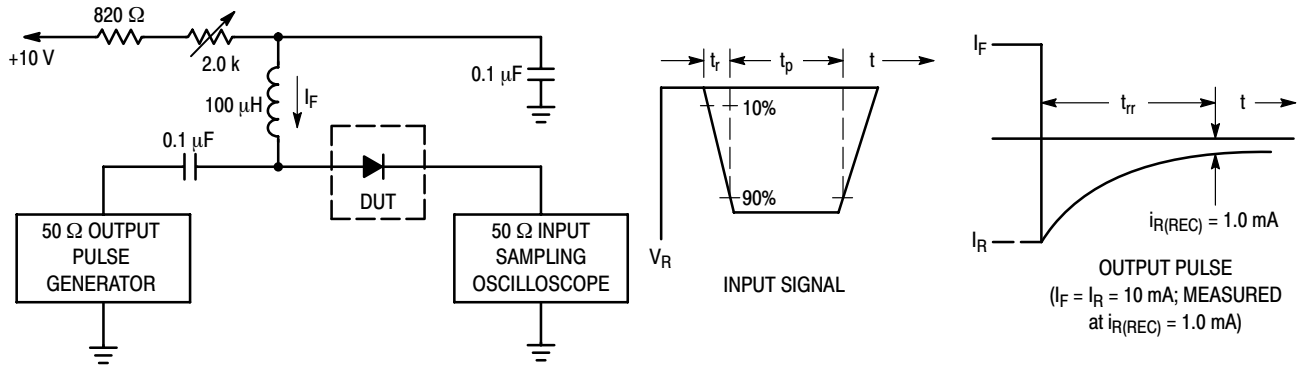
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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
OFF CHARACTERISTICS				
Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{A}$)	$V_{(BR)}$	70	–	Vdc
Reverse Voltage Leakage Current ($V_R = 25 \text{ Vdc}$, $T_J = 150^\circ\text{C}$) ($V_R = 70 \text{ Vdc}$) ($V_R = 70 \text{ Vdc}$, $T_J = 150^\circ\text{C}$)	I_R	– – –	30 2.5 50	μA
Diode Capacitance ($V_R = 0$, $f = 1.0 \text{ MHz}$)	C_D	–	2.0	pF
Forward Voltage ($I_F = 1.0 \text{ mA}$) ($I_F = 10 \text{ mA}$) ($I_F = 60 \text{ mA}$) ($I_F = 150 \text{ mA}$)	V_F	– – – –	715 855 1000 1250	mVdc
Reverse Recovery Time ($I_F = I_R = 10 \text{ mA}$, $R_L = 100 \Omega$, $I_{R(REC)} = 1.0 \text{ mA}$) (Figure 1)	t_{rr}	–	6.0	ns



- Notes: 1. A 2.0 k Ω variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

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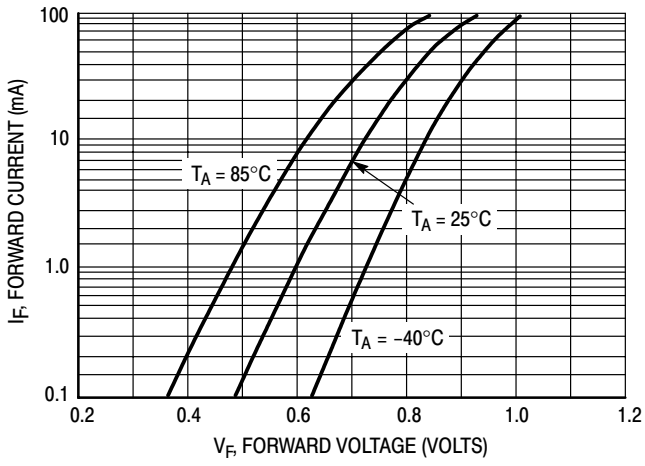


Figure 2. Forward Voltage

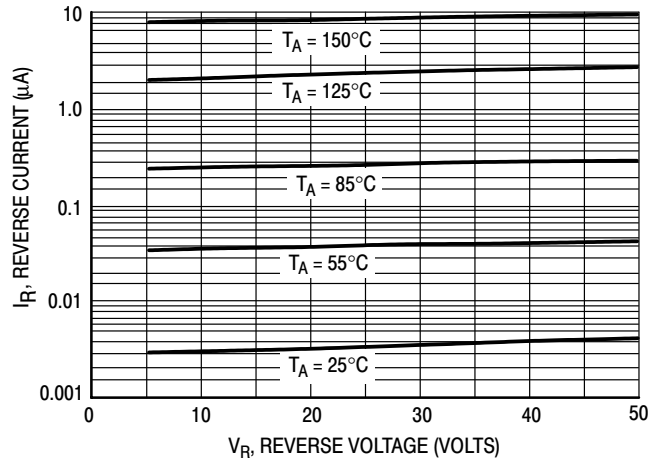


Figure 3. Leakage Current

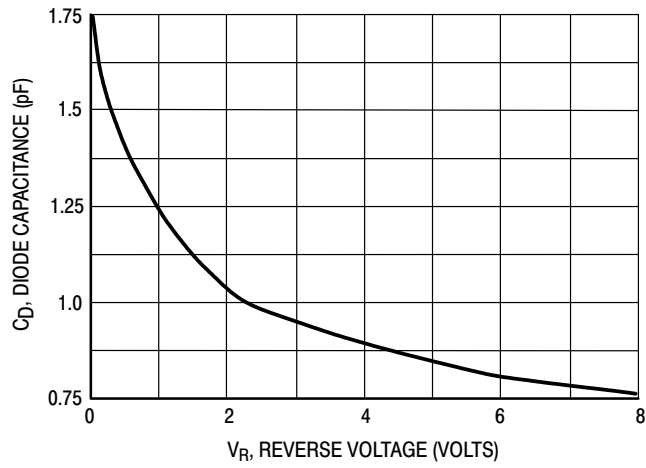
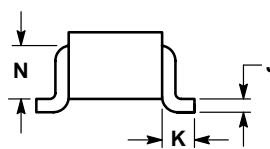
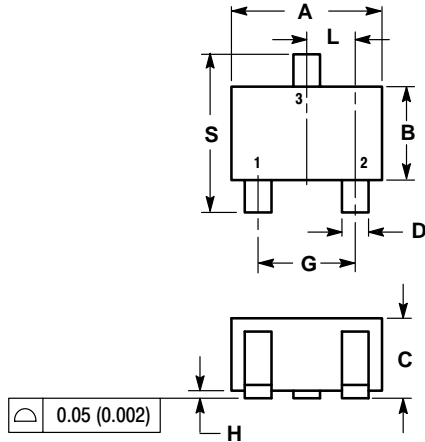


Figure 4. Capacitance

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PACKAGE DIMENSIONS

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



NOTES:

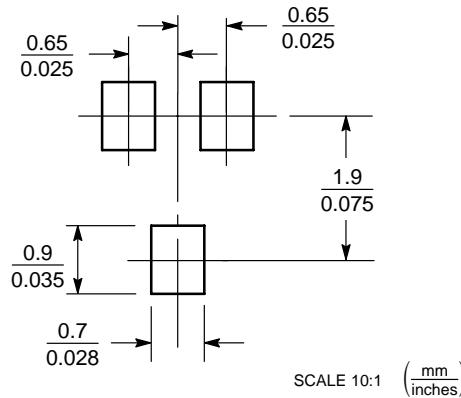
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

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 4:

- PIN 1. CATHODE
- CATHODE
- 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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