

BAW56TT1

Preferred Device

Dual Switching Diode

Features

- Pb-Free Package is Available

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

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

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR-4 Board (Note 1), $T_A = 25^\circ\text{C}$ Derated above 25°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°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	$^\circ\text{C}$

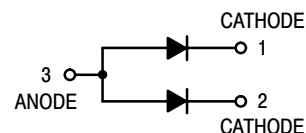
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

- FR-4 @ Minimum Pad
- FR-4 @ 1.0×1.0 Inch Pad



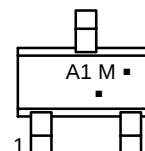
ON Semiconductor®

<http://onsemi.com>



CASE 463
SC-75/SOT-416
STYLE 4

MARKING DIAGRAM



A1 = Specific Device Code

M = Date Code*

■ = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping [†]
BAW56TT1	SC-75/SOT-416	3000/Tape & Reel
BAW56TT1G	SC-75/SOT-416 (Pb-Free)	3000/Tape & Reel

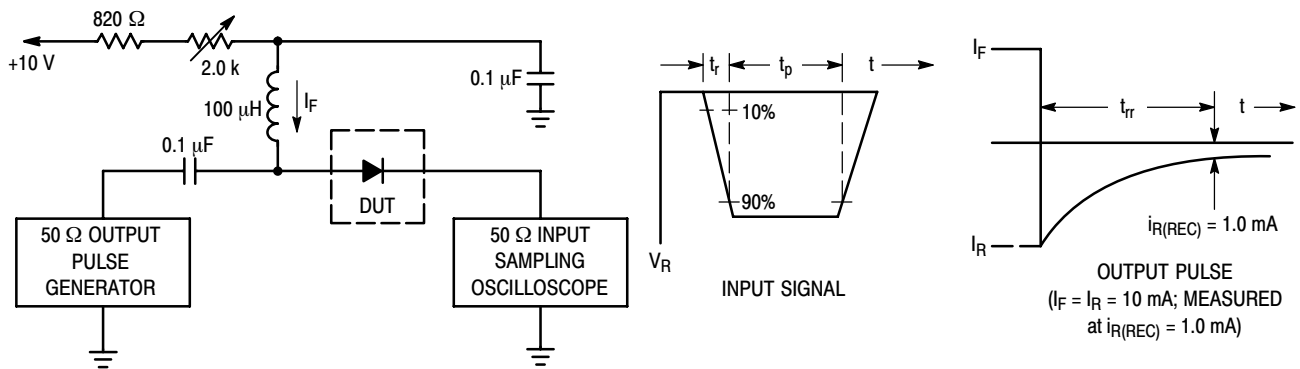
[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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 dc
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 kΩ 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

BAW56TT1

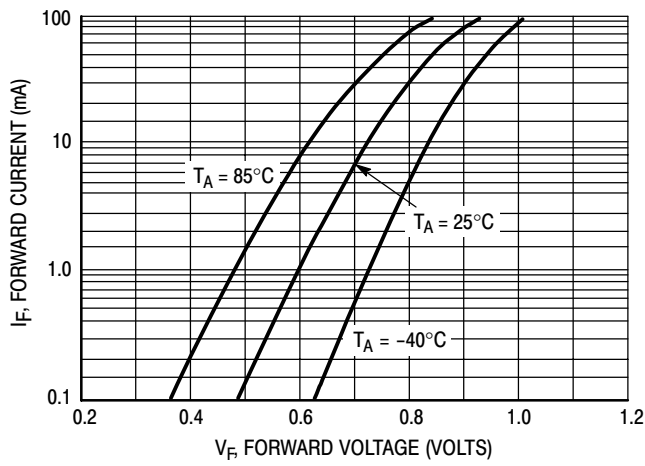


Figure 2. Forward Voltage

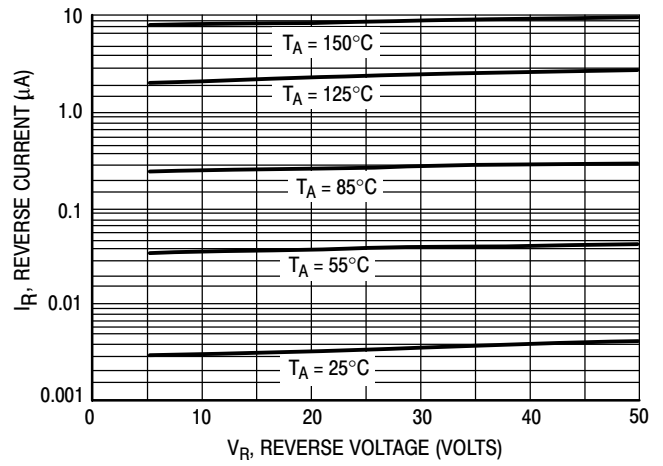


Figure 3. Leakage Current

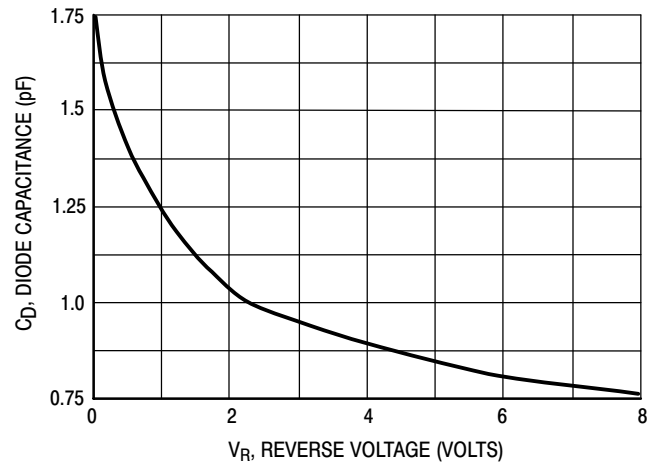


Figure 4. Capacitance

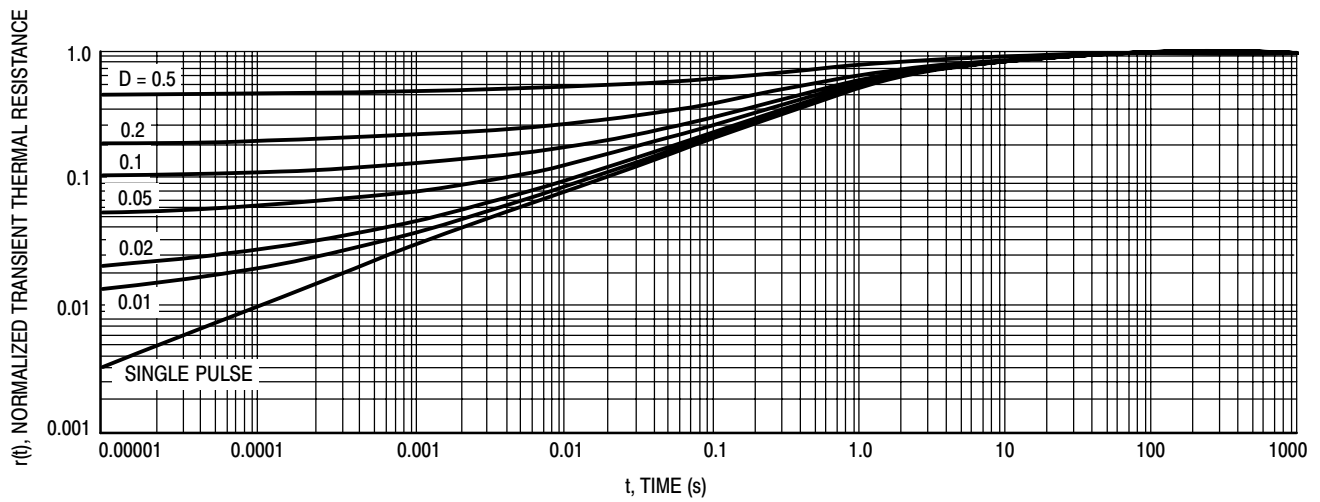
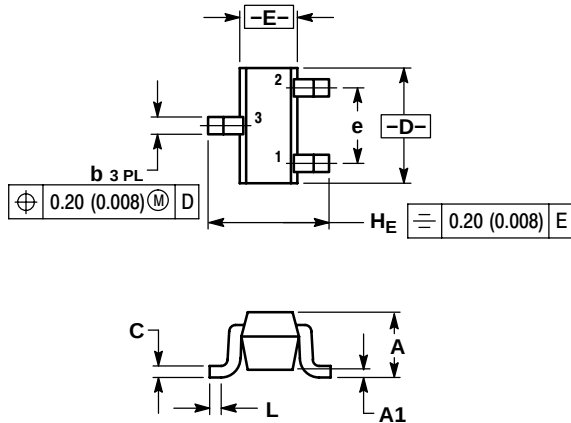


Figure 5. Normalized Thermal Response

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PACKAGE DIMENSIONS

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

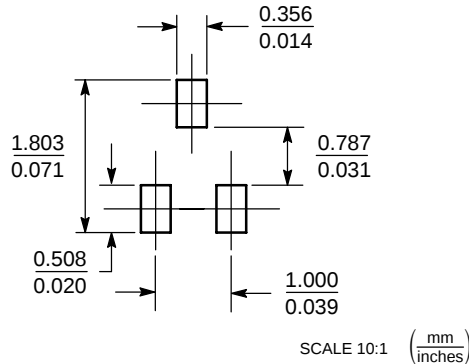


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.

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 _E	1.50	1.60	1.70	0.061	0.063	0.065

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