

BAW56M3T5G

Dual Switching Diode Common Anode

The BAW56M3T5G device is a spin-off of our popular SOT-23 three-leaded device. It is designed for switching applications and is housed in the SOT-723 surface mount package. This device is ideal for low-power surface mount applications where board space is at a premium.

Features

- Reduces Board Space
- This is a Halide-Free Device
- This is a Pb-Free Device

MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	75	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-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	265 2.1	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	470	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (Note 2) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	640 5.1	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	195	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	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-5 = $1.0 \times 0.75 \times 0.062$ in.

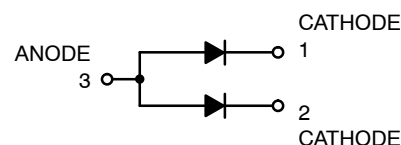
2. Alumina = $0.4 \times 0.3 \times 0.024$ in. 99.5% alumina.



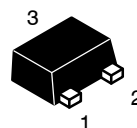
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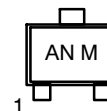
70 V DUAL COMMON ANODE SWITCHING DIODE



MARKING DIAGRAM



SOT-723
CASE 631AA
STYLE 4



AN = Specific Device Code
M = Date Code

ORDERING INFORMATION

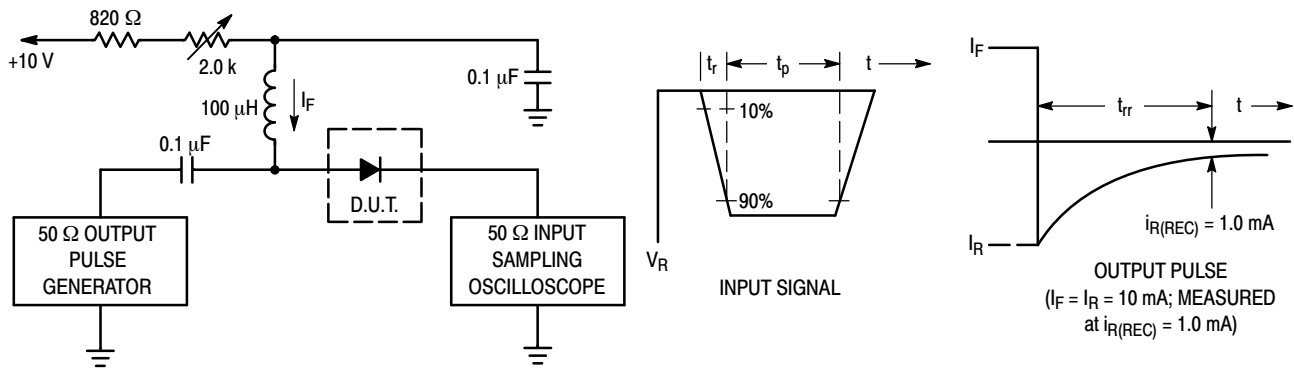
Device	Package	Shipping†
BAW56M3T5G	SOT-723 (Pb-Free)	8000/Tape & Reel

†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.

BAW56M3T5G

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

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage $(I_{(BR)} = 100 \mu\text{A})$	$V_{(BR)}$	70	-	V
Reverse Voltage Leakage Current $(V_R = 25 \text{ V}, T_J = 150^\circ\text{C})$ $(V_R = 70 \text{ V})$ $(V_R = 70 \text{ V}, T_J = 150^\circ\text{C})$	I_R	- - -	30 2.5 50	μA
Diode Capacitance $(V_R = 0 \text{ V}, f = 1.0 \text{ MHz})$	C_D	-	2.0	pF
Forward Voltage $(I_F = 1.0 \text{ mA})$ $(I_F = 10 \text{ mA})$ $(I_F = 50 \text{ mA})$ $(I_F = 150 \text{ mA})$	V_F	- - - -	715 855 1000 1250	mV
Reverse Recovery Time $(I_F = I_R = 10 \text{ mA}, I_{R(REC)} = 1.0 \text{ mA})$ (Figure 1) $R_L = 100 \Omega$	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

BAW56M3T5G

Curves Applicable to Each Cathode

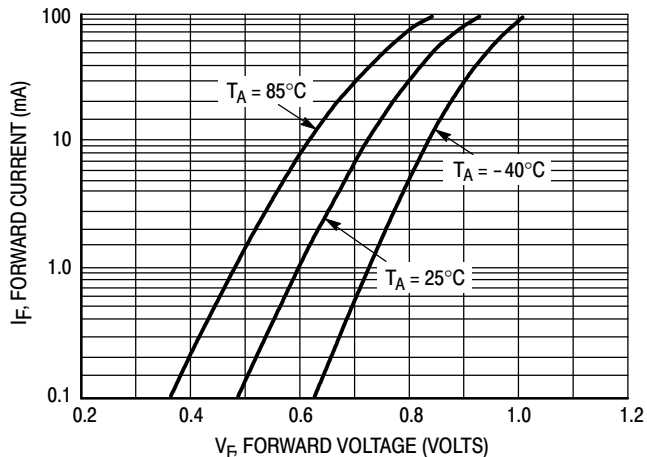


Figure 2. Forward Voltage

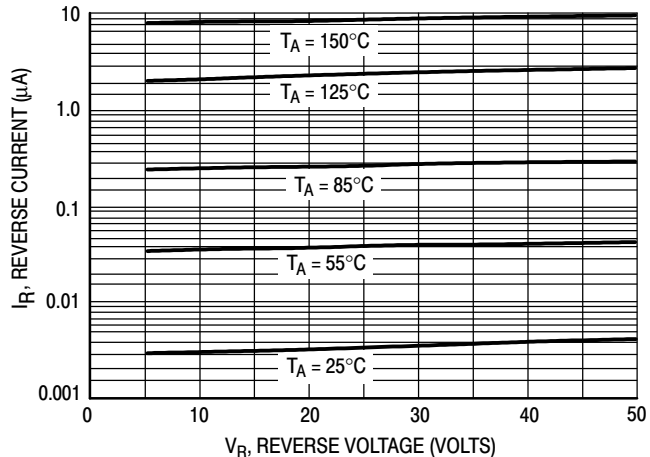


Figure 3. Leakage Current

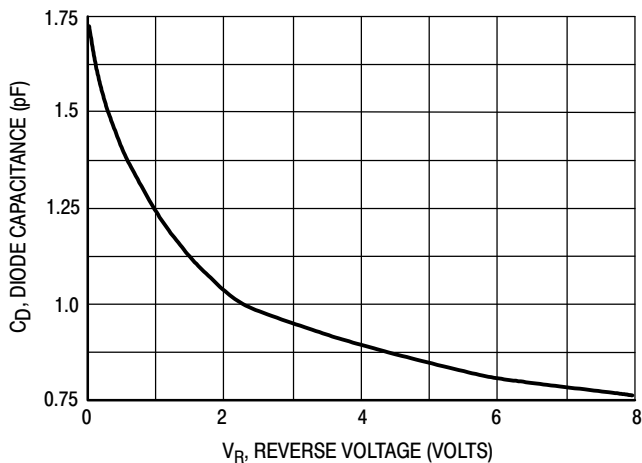


Figure 4. Capacitance

MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS

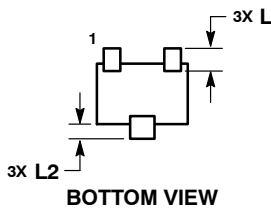
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SCALE 4:1

SOT-723
CASE 631AA-01
ISSUE D

DATE 10 AUG 2009

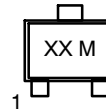


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

MILLIMETERS			
DIM	MIN	NOM	MAX
A	0.45	0.50	0.55
b	0.15	0.21	0.27
b1	0.25	0.31	0.37
C	0.07	0.12	0.17
D	1.15	1.20	1.25
E	0.75	0.80	0.85
e	0.40 BSC		
H E	1.15	1.20	1.25
L	0.29 REF		
L2	0.15	0.20	0.25

GENERIC MARKING DIAGRAM*



XX = Specific Device Code
M = Date Code

- | | | | | |
|---|--|--|--|--|
| STYLE 1:
PIN 1. BASE
2. EMITTER
3. COLLECTOR | STYLE 2:
PIN 1. ANODE
2. N/C
3. CATHODE | STYLE 3:
PIN 1. ANODE
2. ANODE
3. CATHODE | STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE | STYLE 5:
PIN 1. GATE
2. SOURCE
3. DRAIN |
|---|--|--|--|--|

RECOMMENDED SOLDERING FOOTPRINT*



*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G", may or not be present.

*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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