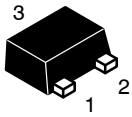
Switching Diode

BAS16M3T5G



SOT−723
CASE 631AA
STYLE 2

Features

- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS

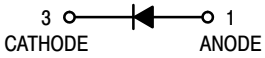
Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	100	Vdc
Peak Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

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

Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR−4 Board (Note 1) T_A = 25°C Derated above 25°C	P_D	260 2.0	mW mW/°C
Thermal Resistance, Junction−to−Ambient (Note 1)	$R_{\theta JA}$	490	°C/W
Total Device Dissipation, FR−4 Board (Note 2) T_A = 25°C Derated above 25°C	P_D	580 4.6	mW mW/°C
Thermal Resistance, Junction−to−Ambient (Note 2)	$R_{\theta JA}$	215	°C/W
Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	°C

1. FR−4 @ Minimum Pad
2. FR−4 @ 1.0 × 1.0 Inch Pad



MARKINGDIAGRAM



A6 = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
BAS16M3T5G	SOT−723 (Pb−Free)	8000 / Tape & Reel

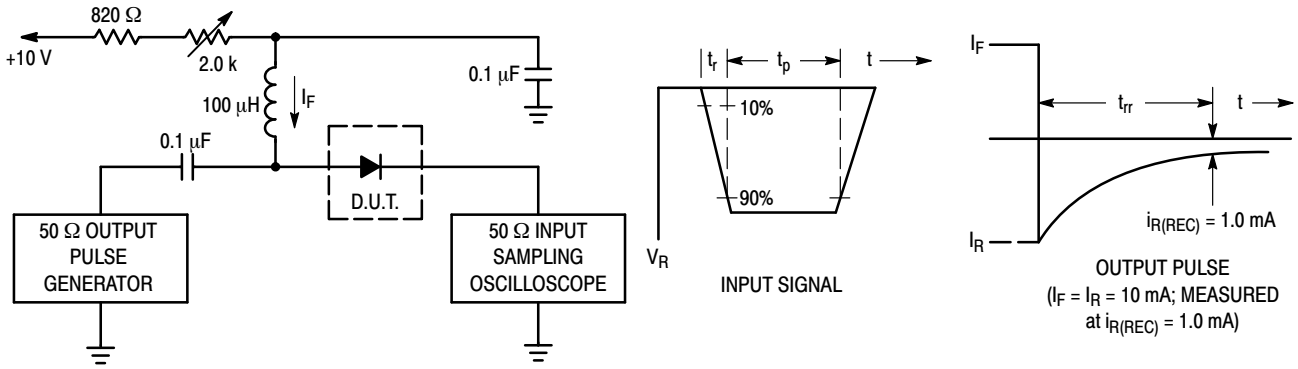
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Voltage Leakage Current	I_R			μAdc
(V_R = 100 Vdc)		–	1.0	
(V_R = 75 Vdc, T_J = 150°C)		–	50	
(V_R = 25 Vdc, T_J = 150°C)		–	30	
Reverse Breakdown Voltage (I_{BR} = 100 μAdc)	$V_{(BR)}$	100	–	Vdc
Forward Voltage	V_F			mV
(I_F = 1.0 mAdc)		–	715	
(I_F = 10 mAdc)		–	855	
(I_F = 50 mAdc)		–	1000	
(I_F = 150 mAdc)		–	1250	
Diode Capacitance (V_R = 0, f = 1.0 MHz)	C_D	–	2.0	pF
Forward Recovery Voltage (I_F = 10 mAdc, t_r = 20 ns)	V_{FR}	–	1.75	Vdc
Reverse Recovery Time (I_F = I_R = 10 mAdc, R_L = 50 Ω)	t_{rr}	–	6.0	ns
Stored Charge (I_F = 10 mAdc to V_R = 5.0 Vdc, R_L = 500 Ω)	Q_S	–	45	pC

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.



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

Figure 1. Recovery Time Equivalent Test Circuit

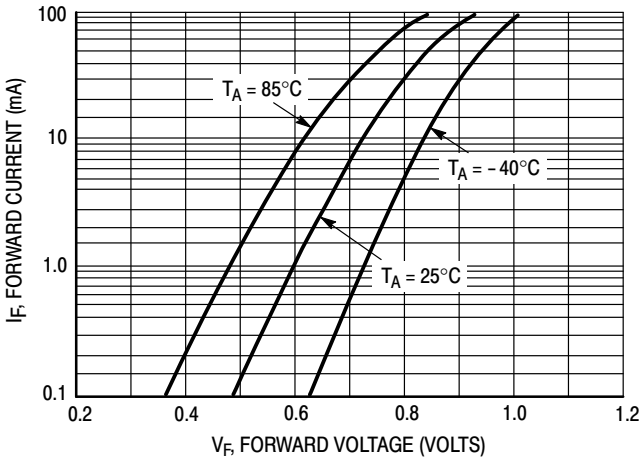


Figure 2. Forward Voltage

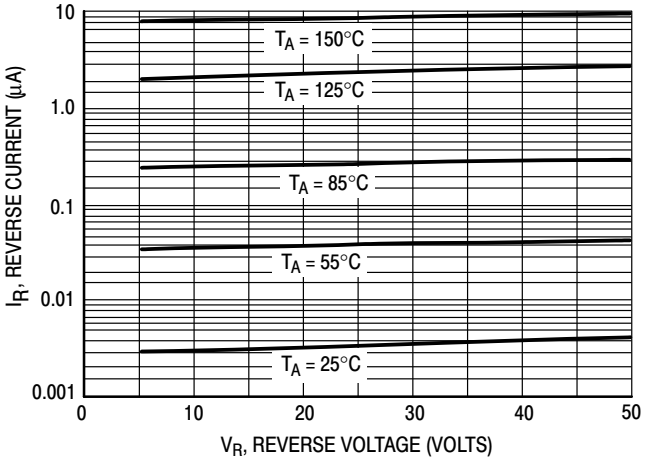


Figure 3. Leakage Current

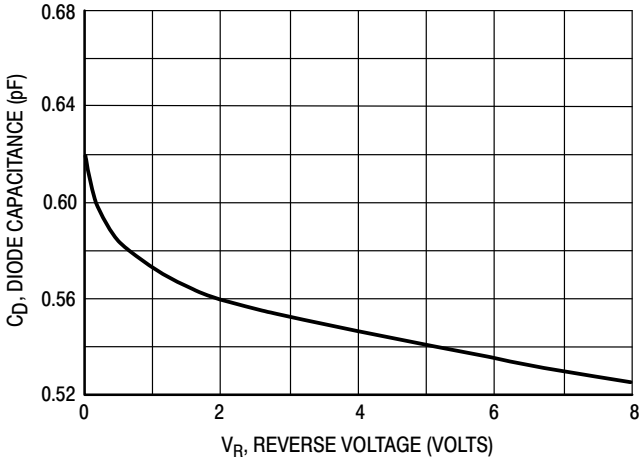
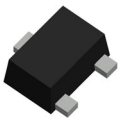


Figure 4. Capacitance

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

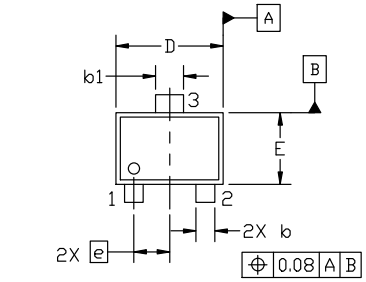


SOT−723 1.20x0.80x0.50, 0.40P
CASE 631AA
ISSUE E

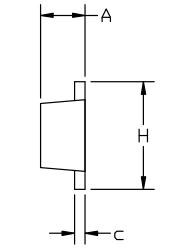
DATE 24 JAN 2024

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
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.

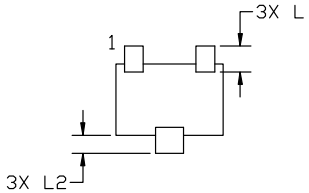
	MILLIMETERS		
DIM	MIN.	NOM.	MAX.
A	0.45	0.50	0.55
b	0.15	0.21	0.27
b1	0.25	0.31	0.37
c	0.07	0.12	0.17
D	1.15	1.20	1.25
E	0.75	0.80	0.85
e	0.40 BSC		
H	1.15	1.20	1.25
L	0.29 REF		
L2	0.15	0.20	0.25



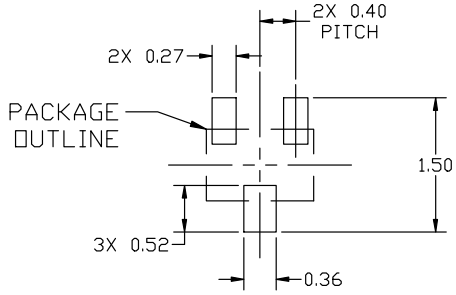
TOP VIEW



SIDE VIEW



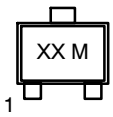
BOTTOM VIEW



RECOMMENDED MOUNTING
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.

GENERIC
MARKING DIAGRAM*



XX = Specific Device Code
M = Date Code

*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.

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

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DESCRIPTION:	**SOT−723 1.20x0.80x0.50, 0.40P**	**PAGE 1 OF 1**

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