DAN222M3T5G

Common Cathode Silicon Dual Switching Diode

This Common Cathode Silicon Epitaxial Planar Dual Diode is designed for use in ultra high speed switching applications. This device is housed in the SOT−723 package which is designed for low power surface mount applications, where board space is at a premium.

Features

- Fast t_{rr}
- Low C_D
- Available in 4 mm Tape and Reel
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	80	V
Peak Reverse Voltage	V_{RM}	80	V
Forward Current	I_F	100	mA

THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Power Dissipation	P_D	260	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°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. t = 1.0 μS.

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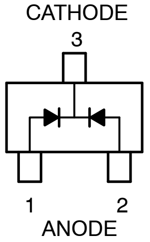
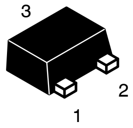
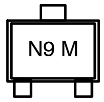


MARKING DIAGRAM



SOT−723
CASE 631AA
STYLE 3



N9 = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
DAN222M3T5G	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 Specification Brochure, BRD8011/D.

January, 2013 − Rev. 6

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current (Note 2)	I_R	V_R = 70 V	–	0.1	μA
Forward Voltage	V_F	I_F = 100 mA	–	1.2	V
Reverse Breakdown Voltage	V_R	I_R = 100 μA	80	–	V
Diode Capacitance	C_D	V_R = 6.0 V, f = 1.0 MHz	–	3.5	pF
Reverse Recovery Time (Note 3)	t_{rr}	I_F = 5.0 mA, V_R = 6.0 V, R_L = 100 Ω, I_{rr} = 0.1 I_R	–	4.0	ns

2. For each diode while other is not forward biased.
3. t_{rr} Test Circuit on following page.

TYPICAL ELECTRICAL CHARACTERISTICS

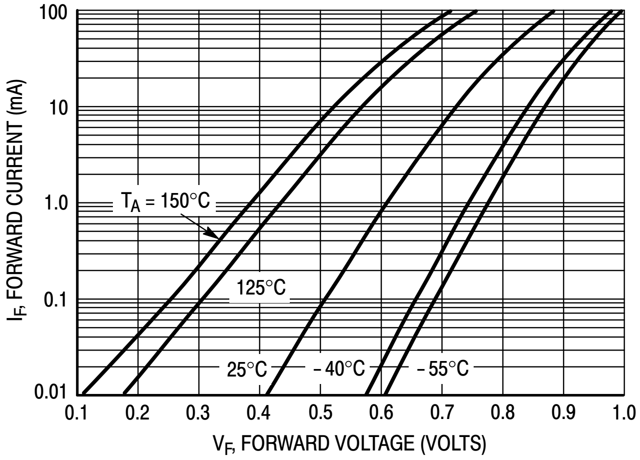


Figure 1. Forward Voltage

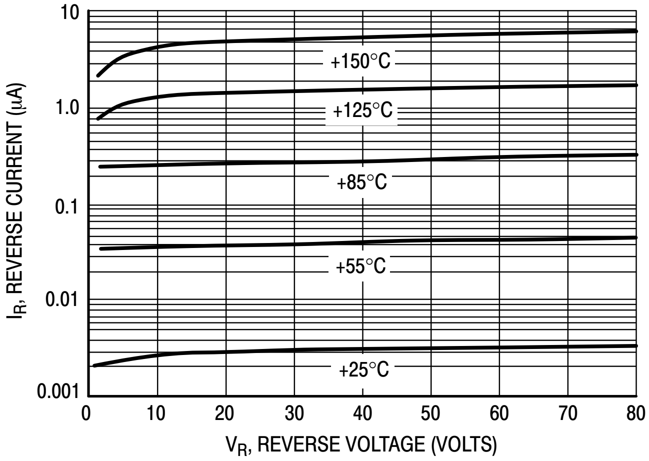


Figure 2. Reverse Current

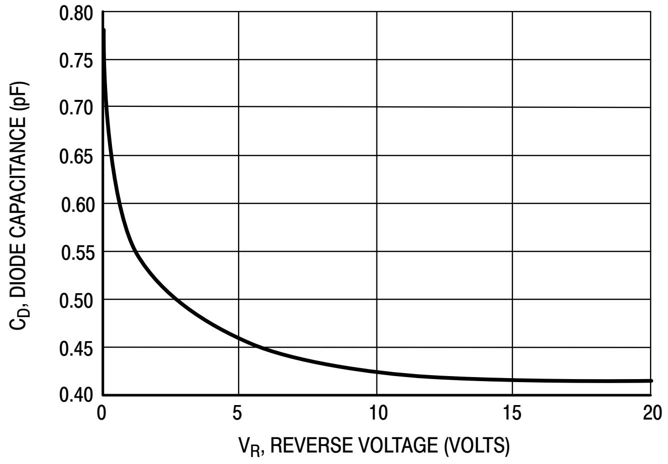
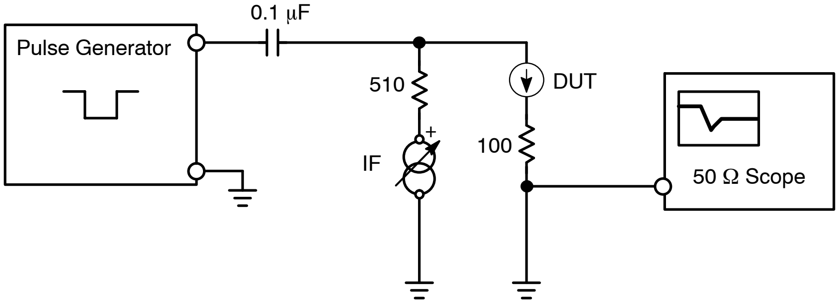


Figure 3. Diode Capacitance



RECOVERY TIME EQUIVALENT TEST CIRCUIT

$t_p = 100$ ns
$t_r = 0.4$ ns
f = 5 kHz
$V_R = 6$ V

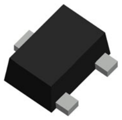
INPUT PULSE

$I_F = 5.0$ mA
$V_R = 6$ V
$R_L = 100\ \Omega$

OUTPUT PULSE

Figure 4. Reverse Recovery Time Test Circuit

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

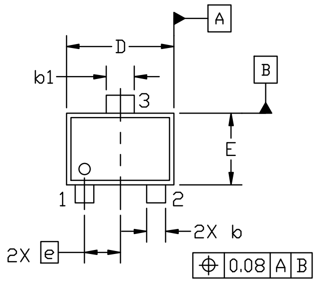


SOT−723 1.20x0.80x0.50, 0.40P
CASE 631AA
ISSUE E

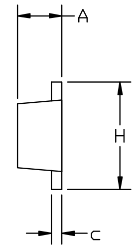
DATE 24 JAN 2024

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.

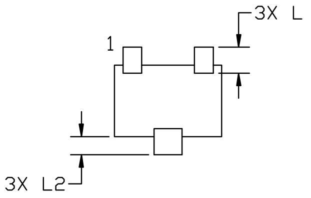
DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.45	0.50	0.55
b	0.15	0.21	0.27
b1	0.25	0.31	0.37
c	0.07	0.12	0.17
D	1.15	1.20	1.25
E	0.75	0.80	0.85
e	0.40 BSC		
H	1.15	1.20	1.25
L	0.29 REF		
L2	0.15	0.20	0.25



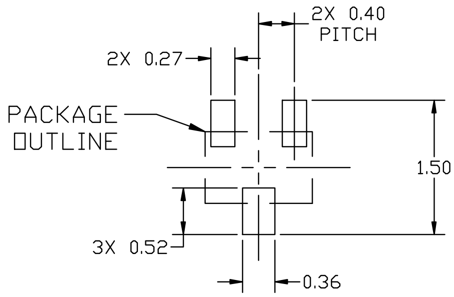
TOP VIEW



SIDE VIEW



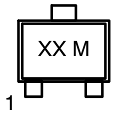
BOTTOM VIEW



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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