

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

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	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

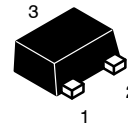
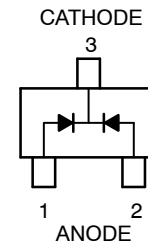
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1.  $t = 1.0 \mu\text{s}$ .



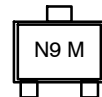
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SOT-723  
CASE 631AA  
STYLE 3

### MARKING DIAGRAM



N9 = Specific Device Code  
M = Date Code

### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
DAN222M3T5G	SOT-723 (Pb-Free)	8000/Tape & Reel

<sup>†</sup>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.

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## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current (Note 2)	I <sub>R</sub>	V <sub>R</sub> = 70 V	–	0.1	μA
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 100 mA	–	1.2	V
Reverse Breakdown Voltage	V <sub>R</sub>	I <sub>R</sub> = 100 μA	80	–	V
Diode Capacitance	C <sub>D</sub>	V <sub>R</sub> = 6.0 V, f = 1.0 MHz	–	3.5	pF
Reverse Recovery Time (Note 3)	t <sub>rr</sub>	I <sub>F</sub> = 5.0 mA, V <sub>R</sub> = 6.0 V, R <sub>L</sub> = 100 Ω, I <sub>rr</sub> = 0.1 I <sub>R</sub>	–	4.0	ns

2. For each diode while other is not forward biased.
3. t<sub>rr</sub> Test Circuit on following page.

## TYPICAL ELECTRICAL CHARACTERISTICS

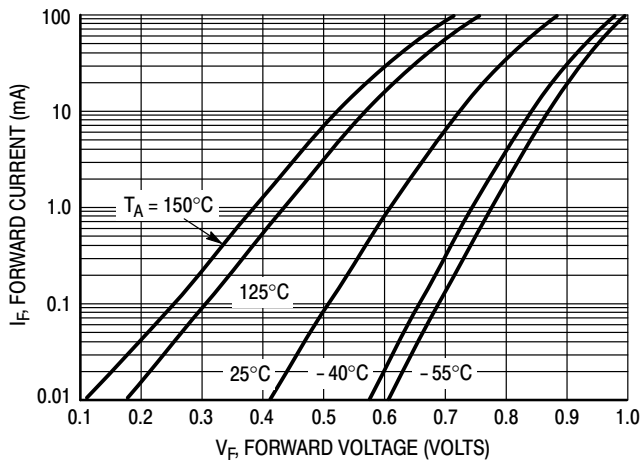


Figure 1. Forward Voltage

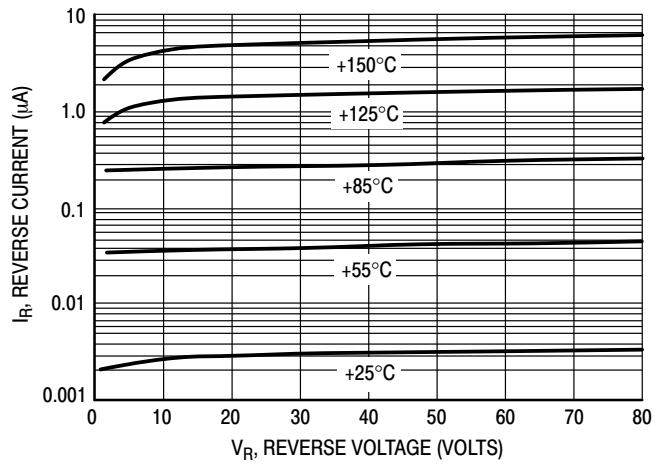


Figure 2. Reverse Current

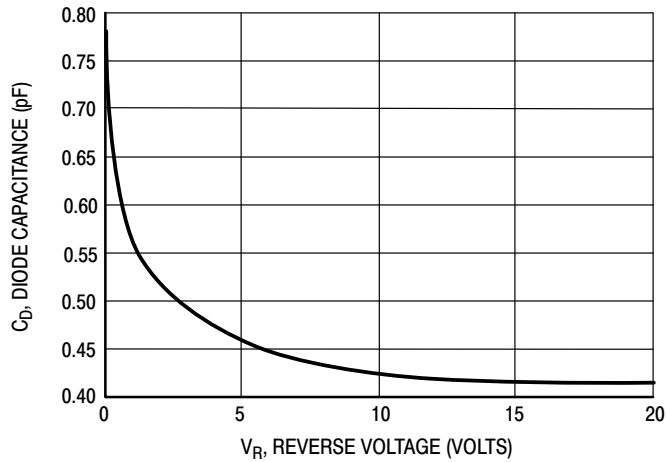
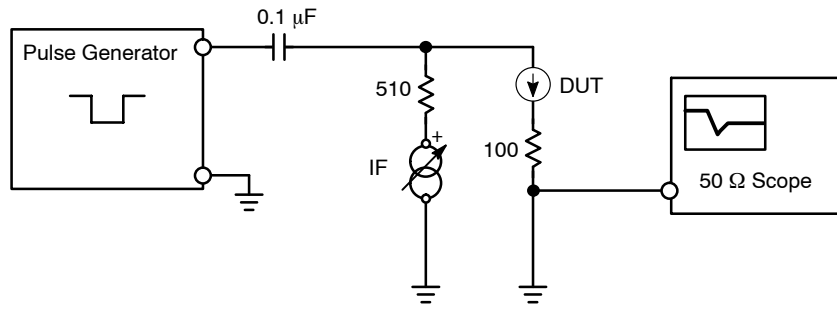
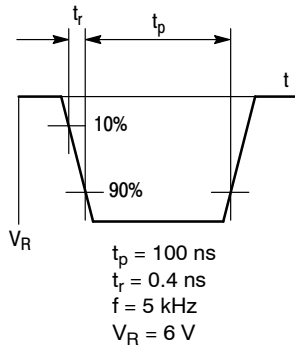


Figure 3. Diode Capacitance

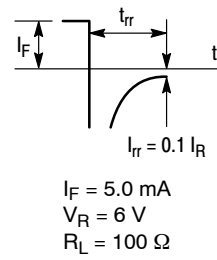
# DAN222M3T5G



**RECOVERY TIME EQUIVALENT TEST CIRCUIT**



**INPUT PULSE**



**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

**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.

\*For additional information on our Pb-Free strategy and soldering details, please download the DN Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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

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<b>DESCRIPTION:</b>	<b>SOT-723 1.20x0.80x0.50, 0.40P</b>	<b>PAGE 1 OF 1</b>

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