

Common Cathode Silicon Dual Switching Diode

DAN222M3T5G

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

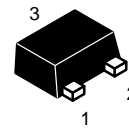
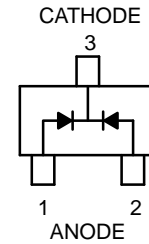
| Rating | Symbol | Value | Unit |
|----------------------|----------|-------|------|
| Reverse Voltage | V_R | 80 | V |
| Peak Reverse Voltage | V_{RM} | 80 | V |
| Forward Current | I_F | 100 | mA |

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 | $^\circ\text{C}$ |

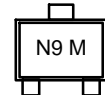
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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



SOT-723
CASE 631AA
STYLE 3

MARKING DIAGRAM



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.

DAN222M3T5G

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

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

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

TYPICAL ELECTRICAL CHARACTERISTICS

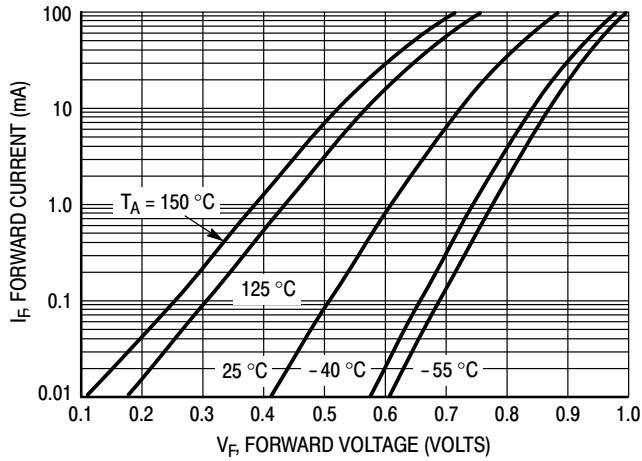


Figure 1. Forward Voltage

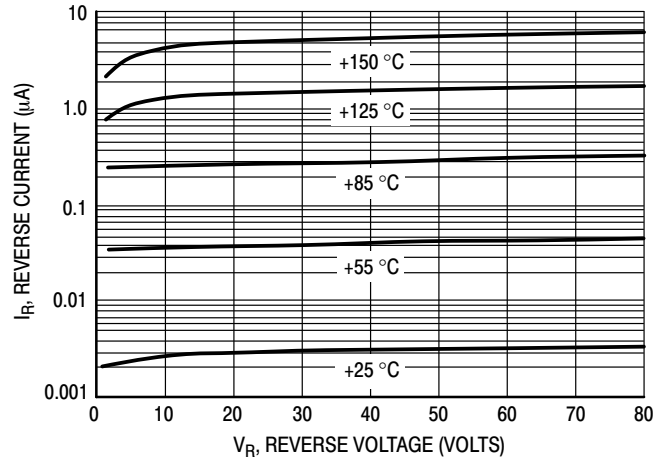


Figure 2. Reverse Current

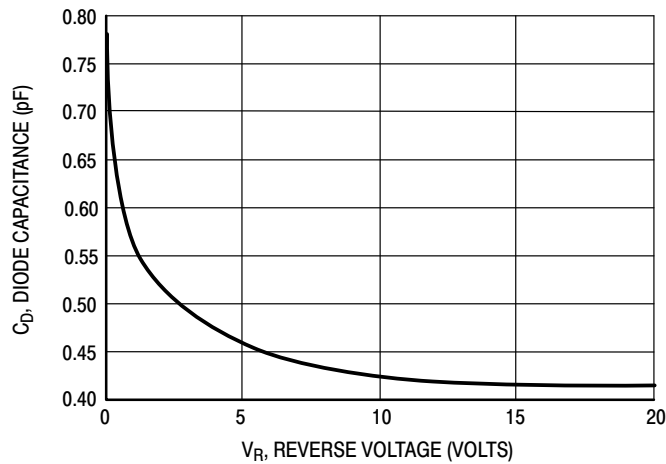
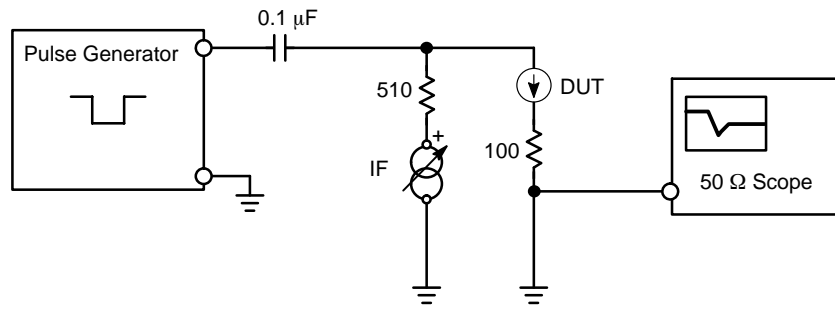
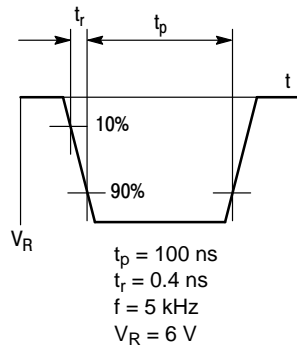


Figure 3. Diode Capacitance

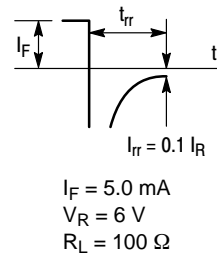
DAN222M3T5G



RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

Figure 4. Reverse Recovery Time Test Circuit



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

DATE 24 JAN 2024

NOTES:

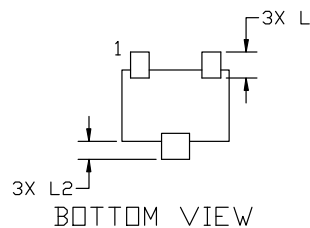
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



TOP VIEW



SIDE VIEW



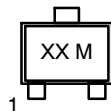
BOTTOM VIEW

| 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 |



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 ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

| | | | | |
|-------------------------------------------------------|--------------------------------------------------|----------------------------------------------------|------------------------------------------------------|--------------------------------------------------|
| 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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