

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

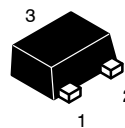
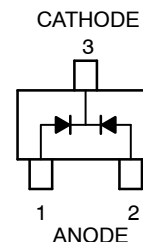
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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



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<http://onsemi.com>



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°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 |

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

TYPICAL ELECTRICAL CHARACTERISTICS

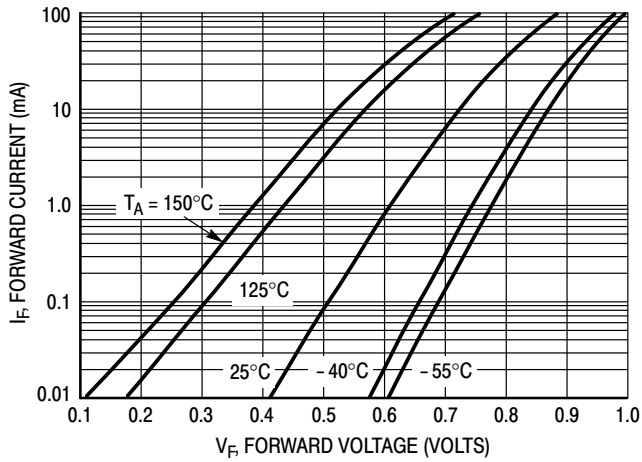


Figure 1. Forward Voltage

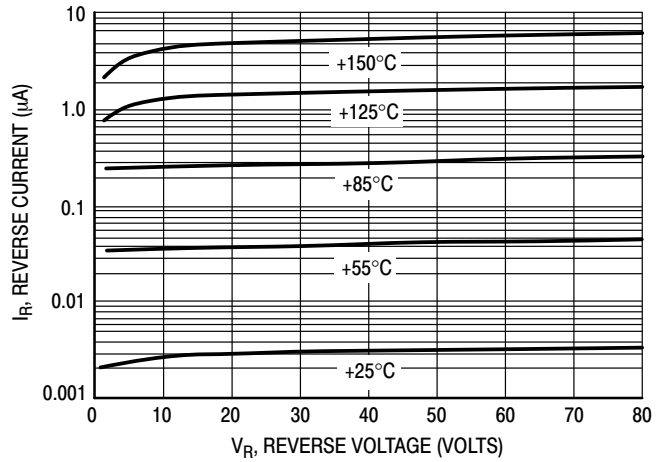


Figure 2. Reverse Current

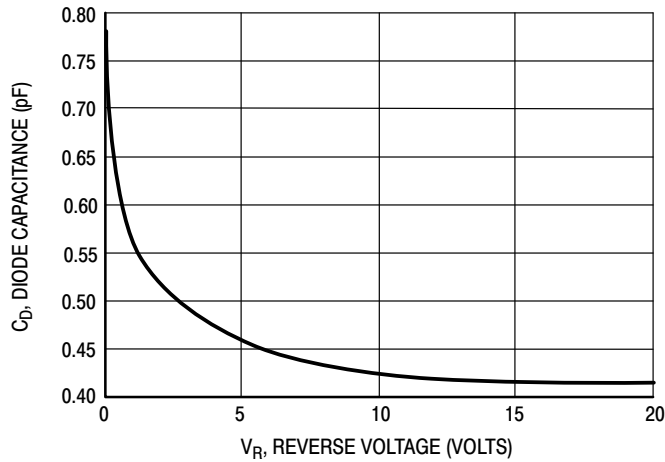
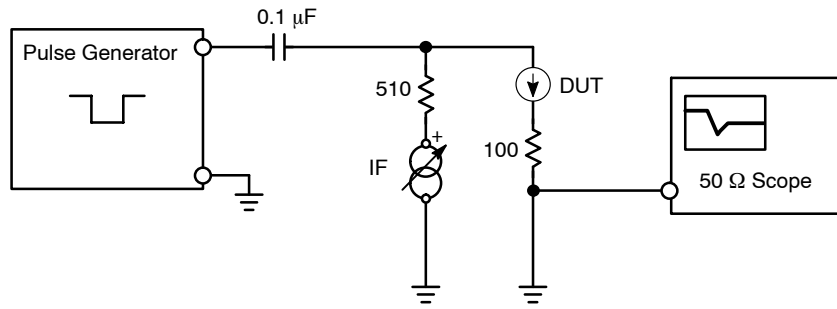
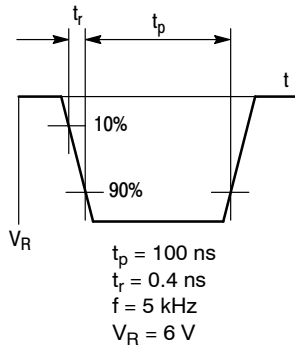


Figure 3. Diode Capacitance

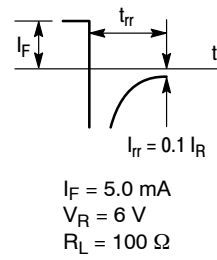
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RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

Figure 4. Reverse Recovery Time Test Circuit

MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS

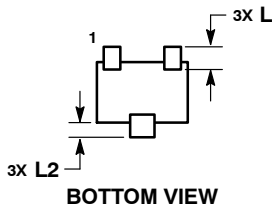
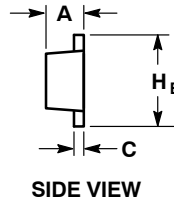
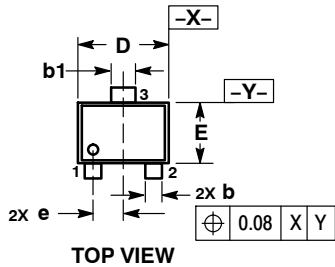
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SCALE 4:1

SOT-723
CASE 631AA-01
ISSUE D

DATE 10 AUG 2009

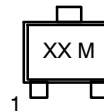


NOTES:

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 |

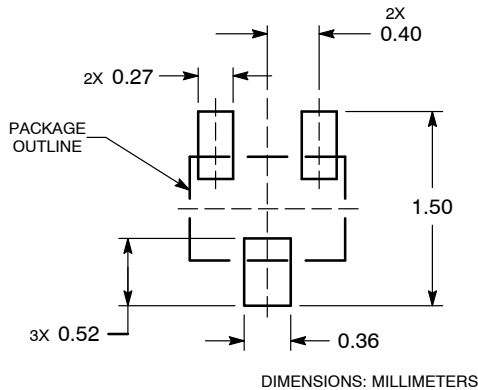
GENERIC MARKING DIAGRAM*



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*



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

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

| | | |
|-------------------------|--------------------|--|
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| DESCRIPTION: | SOT-723 | PAGE 1 OF 1 |

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