

DAP222, DAP202U

Preferred Device

Common Anode Silicon Dual Switching Diodes

These Common Anode Silicon Epitaxial Planar Dual Diodes are designed for use in ultra high speed switching applications. The DAP222 device is housed in the SC-75/SOT-416 package which is designed for low power surface mount applications, where board space is at a premium. The DAP202U device is housed in the SC-70/SOT-323 package.

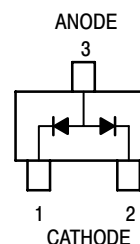
Features

- Fast t_{rr}
- Low C_D
- Available in 8 mm Tape and Reel
- Pb-Free Package is Available



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

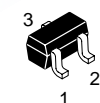
| Rating | Symbol | Value | Unit |
|----------------------------|--------------|-------|------|
| Reverse Voltage | V_R | 80 | Vdc |
| Peak Reverse Voltage | V_{RM} | 80 | Vdc |
| Forward Current | I_F | 100 | mAdc |
| Peak Forward Current | I_{FM} | 300 | mAdc |
| Peak Forward Surge Current | $I_{FSM(1)}$ | 2.0 | Adc |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

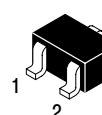
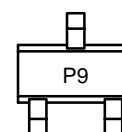
THERMAL CHARACTERISTICS

| Rating | Symbol | Max | Unit |
|----------------------|-----------|------------|------------------|
| Power Dissipation | P_D | 150 | mW |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55 ~ +150 | $^\circ\text{C}$ |

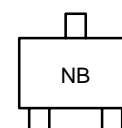
MARKING DIAGRAMS



SC-75
CASE 463
STYLE 3



SC-70
CASE 419



ORDERING INFORMATION

| Device | Package | Shipping† |
|-----------|--------------------|------------------|
| DAP222 | SC-75 | 3000/Tape & Reel |
| DAP202U | SC-70 | 3000/Tape & Reel |
| DAP222T1 | SC-75 | 3000/Tape & Reel |
| DAP222T1G | SC-75 (Pb-Free) | 3000/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.

Preferred devices are recommended choices for future use and best overall value.

DAP222, DAP202U

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

| Characteristic | Symbol | Condition | Min | Max | Unit | |
|---------------------------------|----------------|-------------------------------------|---|-----|------------------|----|
| Reverse Voltage Leakage Current | I _R | V _R = 70 V | — | 0.1 | μA _{dc} | |
| Forward Voltage | V _F | I _F = 100 mA | — | 1.2 | V _{dc} | |
| Reverse Breakdown Voltage | V _R | I _R = 100 μA | 80 | — | V _{dc} | |
| Diode Capacitance | C _D | V _R = 6.0 V, f = 1.0 MHz | — | 3.5 | pF | |
| Reverse Recovery Time | DAP222 | t _{rr} (2) | I _F = 5.0 mA, V _R = 6.0 V, R _L = 100 Ω, I _{rr} = 0.1 I _R | — | 4.0 | ns |
| | DAP202U | t _{rr} (3) | I _F = 5.0 mA, V _R = 6.0 V, R _L = 50 Ω, I _{rr} = 0.1 I _R | — | 10.0 | ns |

- t = 1 μS
- t_{rr} Test Circuit for DAP222 in Figure 4.
- t_{rr} Test Circuit for DAP202U in Figure 5.

TYPICAL ELECTRICAL CHARACTERISTICS

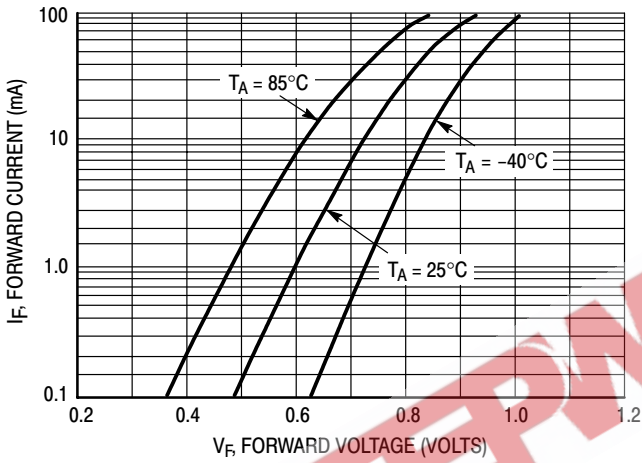


Figure 1. Forward Voltage

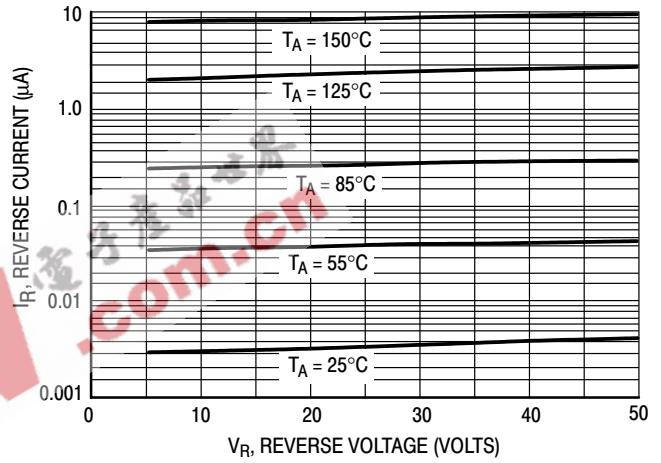


Figure 2. Reverse Current

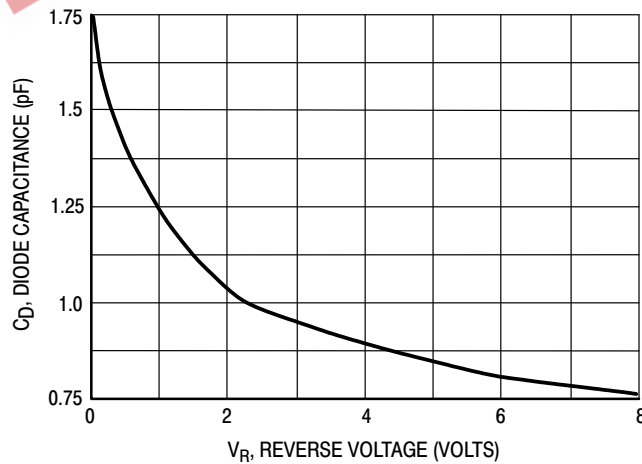
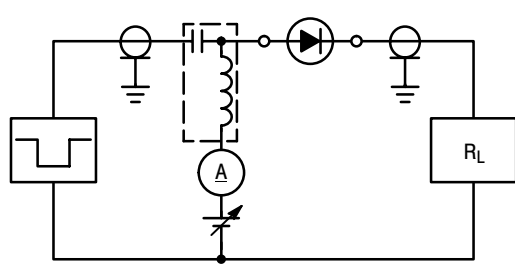
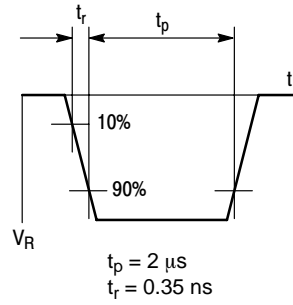


Figure 3. Diode Capacitance

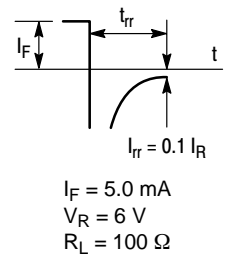
DAP222, DAP202U



RECOVERY TIME EQUIVALENT TEST CIRCUIT

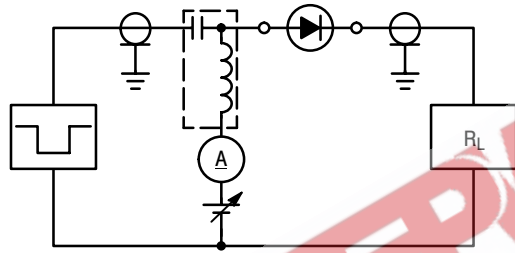


INPUT PULSE

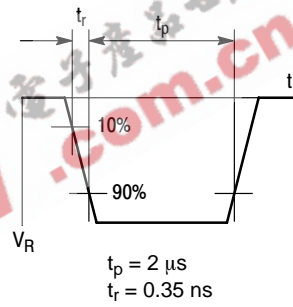


OUTPUT PULSE

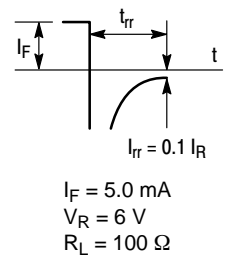
Figure 4. Reverse Recovery Time Test Circuit for the DAP222



RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

Figure 5. Reverse Recovery Time Test Circuit for the DAP202U

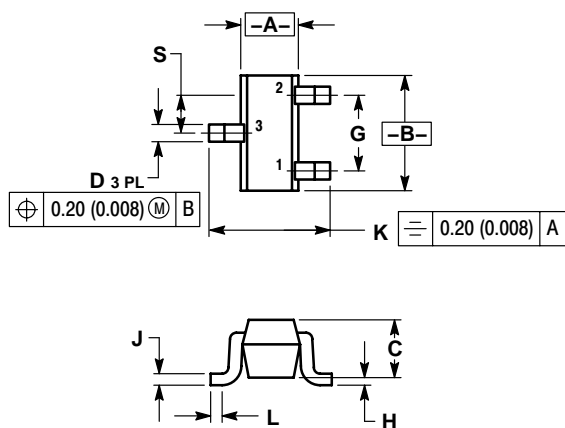
DAP222, DAP202U

PACKAGE DIMENSIONS

SC-75 (SOT-416)

CASE 463-01

ISSUE C



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.

| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|-----------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.70 | 0.90 | 0.028 | 0.035 |
| B | 1.40 | 1.80 | 0.055 | 0.071 |
| C | 0.60 | 0.90 | 0.024 | 0.035 |
| D | 0.15 | 0.30 | 0.006 | 0.012 |
| G | 1.00 BSC | | 0.039 BSC | |
| H | --- | 0.10 | --- | 0.004 |
| J | 0.10 | 0.25 | 0.004 | 0.010 |
| K | 1.45 | 1.75 | 0.057 | 0.069 |
| L | 0.10 | 0.20 | 0.004 | 0.008 |
| S | 0.50 BSC | | 0.020 BSC | |

STYLE 3:

- PIN 1. ANODE
- ANODE
- CATHODE

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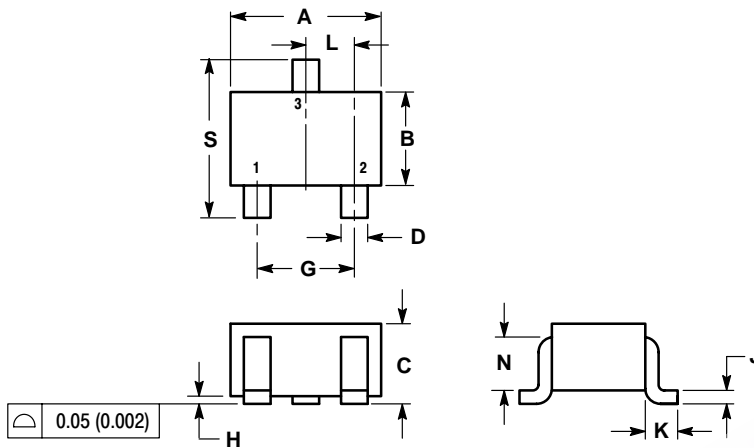
DAP222, DAP202U

PACKAGE DIMENSIONS

SC-70 (SOT-323)

CASE 419-04

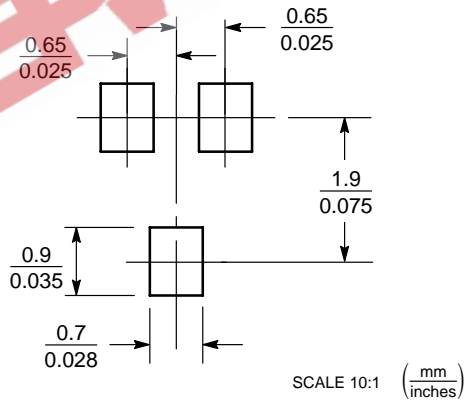
ISSUE L



- NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

| DIM | INCHES | | MILLIMETERS | |
|-----|-----------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.071 | 0.087 | 1.80 | 2.20 |
| B | 0.045 | 0.053 | 1.15 | 1.35 |
| C | 0.032 | 0.040 | 0.80 | 1.00 |
| D | 0.012 | 0.016 | 0.30 | 0.40 |
| G | 0.047 | 0.055 | 1.20 | 1.40 |
| H | 0.000 | 0.004 | 0.00 | 0.10 |
| J | 0.004 | 0.010 | 0.10 | 0.25 |
| K | 0.017 REF | | 0.425 REF | |
| L | 0.026 BSC | | 0.650 BSC | |
| N | 0.028 REF | | 0.700 REF | |
| S | 0.079 | 0.095 | 2.00 | 2.40 |


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.

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