DAP222, DAP202U

Preferred Device

Common Anode Silicon Dual Switching Diodes

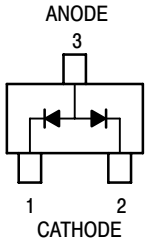
These Common Anode Silicon Epitaxial Planar Dual Diodes are designed for use in ultra high speed switching applications. The DAP222 device is housed in the SC−75/SOT−416 package which is designed for low power surface mount applications, where board space is at a premium. The DAP202U device is housed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

Features

- Fast t_{rr}
- Low C_D
- Pb−Free Packages are Available

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MAXIMUM RATINGS (T_A = 25°C)

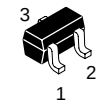
Rating	Symbol	Value	Unit
Reverse Voltage	V_R	80	Vdc
Peak Reverse Voltage	V_{RM}	80	Vdc
Forward Current	I_F	100	mAdc
Peak Forward Current	I_{FM}	300	mAdc
Peak Forward Surge Current	I_{FSM}(1)	2.0	Adc

THERMAL CHARACTERISTICS

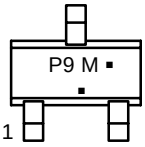
Rating	Symbol	Max	Unit
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	−55 ~ +150	°C

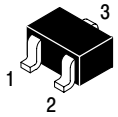
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur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

MARKING DIAGRAMS

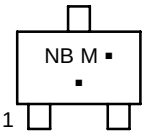


SC−75
CASE 463
STYLE 4





SC−70
CASE 419



P9, NB = Device Codes
M = Date Code*
▪ = Pb−Free Package
(Note: Microdot may be in either location)
*Date Code orientation and/or orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
DAP222	SC−75	3000 / Tape & Reel
DAP222G	SC−75 (Pb−Free)	3000 / Tape & Reel
DAP202U	SC−70	3000 / Tape & Reel
DAP202UG	SC−70 (Pb−Free)	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.

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ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	I_R	V_R = 70 V	–	0.1	μAdc
Forward Voltage	V_F	I_F = 100 mA	–	1.2	Vdc
Reverse Breakdown Voltage	V_R	I_R = 100 μA	80	–	Vdc
Diode Capacitance	C_D	V_R = 6.0 V, f = 1.0 MHz	–	3.5	pF
Reverse Recovery Time DAP222 DAP202U	t_{rr}(2) t_{tt}(3)	I_F = 5.0 mA, V_R = 6.0 V, R_L = 100 Ω, I_{rr} = 0.1 I_R I_F = 5.0 mA, V_R = 6.0 V, R_L = 50 Ω, I_{rr} = 0.1 I_R	– –	4.0 10.0	ns

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

TYPICAL ELECTRICAL CHARACTERISTICS

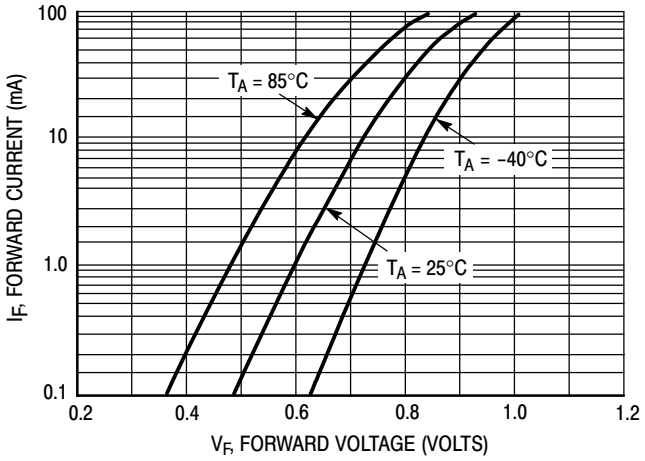


Figure 1. Forward Voltage

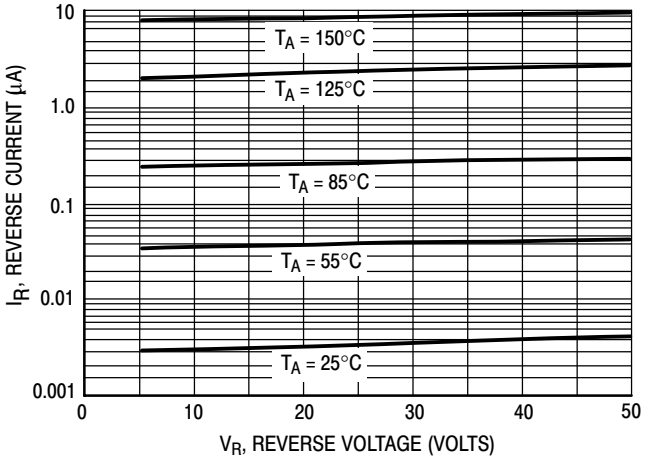


Figure 2. Reverse Current

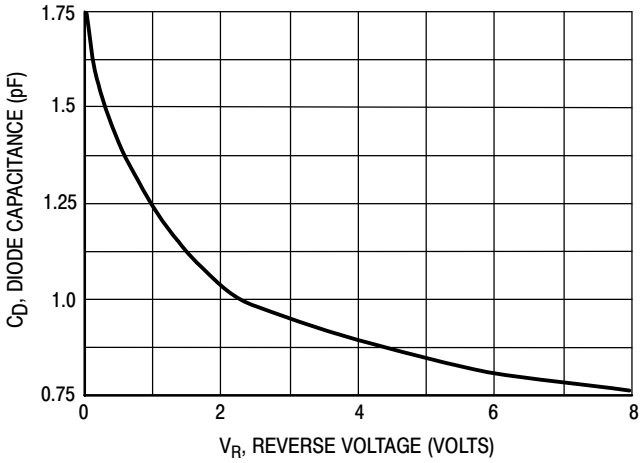
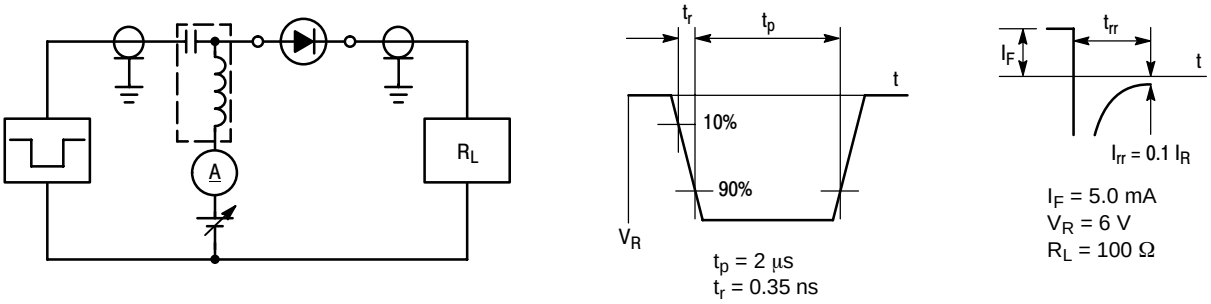
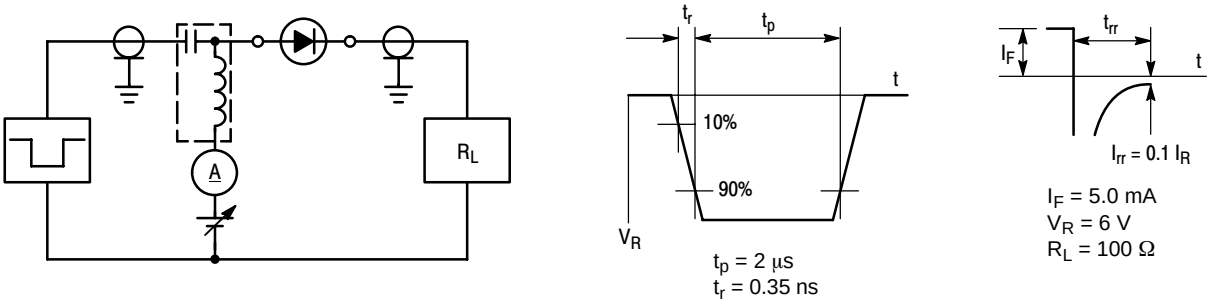


Figure 3. Diode Capacitance



RECOVERY TIME EQUIVALENT TEST CIRCUIT **INPUT PULSE** **OUTPUT PULSE**

Figure 4. Reverse Recovery Time Test Circuit for the DAP222

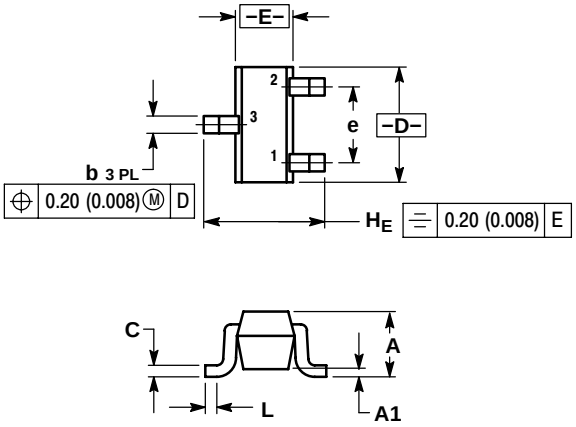


RECOVERY TIME EQUIVALENT TEST CIRCUIT **INPUT PULSE** **OUTPUT PULSE**

Figure 5. Reverse Recovery Time Test Circuit for the DAP202U

PACKAGE DIMENSIONS

SC−75 (SOT−416)
CASE 463−01
ISSUE F

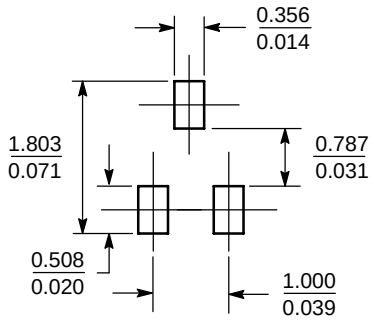


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.70	0.80	0.90	0.027	0.031	0.035
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.15	0.20	0.30	0.006	0.008	0.012
C	0.10	0.15	0.25	0.004	0.006	0.010
D	1.55	1.60	1.65	0.059	0.063	0.067
E	0.70	0.80	0.90	0.027	0.031	0.035
e	1.00 BSC			0.04 BSC		
L	0.10	0.15	0.20	0.004	0.006	0.008
H_E	1.50	1.60	1.70	0.061	0.063	0.065

STYLE 4:
PIN 1. CATHODE
2. CATHODE
3. ANODE

SOLDERING FOOTPRINT*

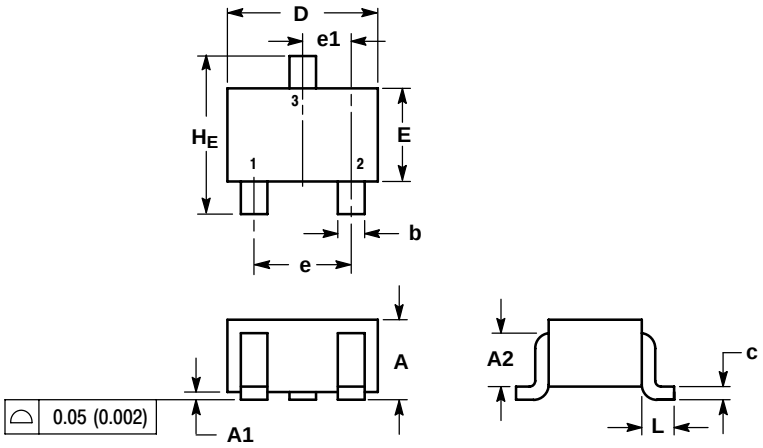


SCALE 10:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

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

PACKAGE DIMENSIONS

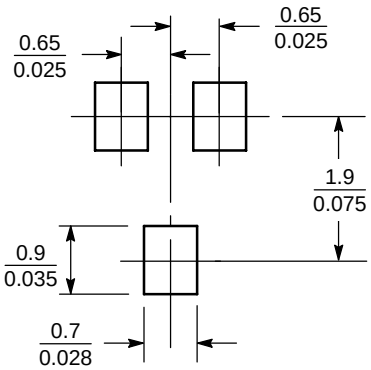
SC−70 (SOT−323)
CASE 419−04
ISSUE M



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

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2		0.7 REF			0.028 REF	
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1		0.65 BSC			0.026 BSC	
L		0.425 REF			0.017 REF	
H_E	2.00	2.10	2.40	0.079	0.083	0.095

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

*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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