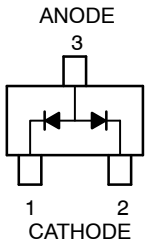
Common Anode Silicon Dual Switching Diodes

DAP222, DAP202U

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
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPA Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant



MAXIMUM RATINGS (T_A = 25 °C)

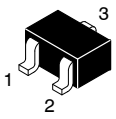
Rating	Symbol	Value	Unit
Reverse Voltage	V_R	80	Vdc
Peak Reverse Voltage	V_{RM}	80	Vdc
Forward Current	I_F	100	mAdc
Peak Forward Current	I_{FM}	300	mAdc
Peak Forward Surge Current	I_{FSM}(1)	2.0	Adc

THERMAL CHARACTERISTICS

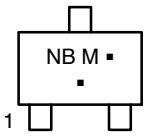
Rating	Symbol	Max	Unit
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	−55 ~ +150	°C

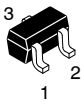
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

MARKING DIAGRAMS

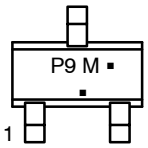


SC-70
CASE 419





SC-75
CASE 463
STYLE 4



NB, P9 = 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†
DAP222G	SC-75 (Pb-Free)	3000 / Tape & Reel
DAP222T1G	SC-75 (Pb-Free)	3000 / Tape & Reel
NSVDAP222T1G	SC-75 (Pb-Free)	3000 / Tape & Reel
DISCONTINUED (Note 1)		
DAP202UG	SC-70 (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 Specification Brochure, BRD8011/D.

1. **DISCONTINUED:** This device is not recommended for new design. Please contact your **onsemi** representative for information. The most current information on this device may be available on www.onsemi.com.

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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	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_{tt}(3)	I_F = 5.0 mA, V_R = 6.0 V, R_L = 50 Ω, I_{rr} = 0.1 I_R	–	10.0	

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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

TYPICAL ELECTRICAL CHARACTERISTICS

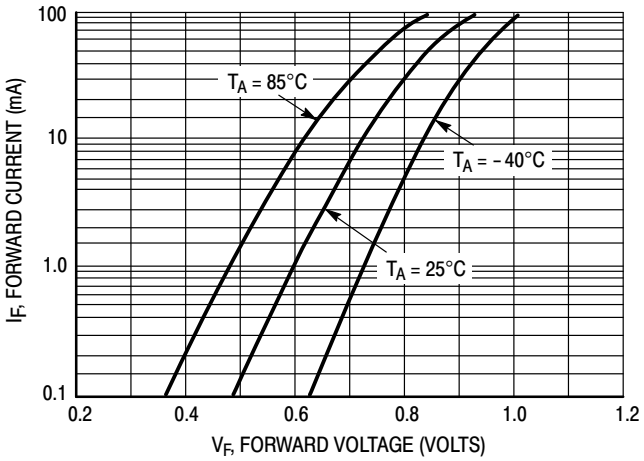


Figure 1. Forward Voltage

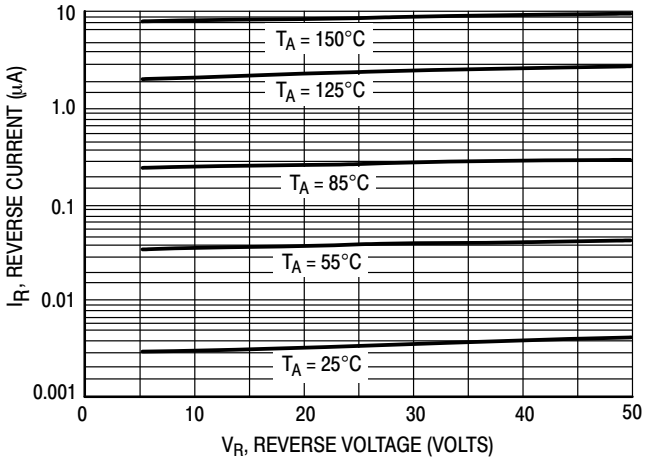


Figure 2. Reverse Current

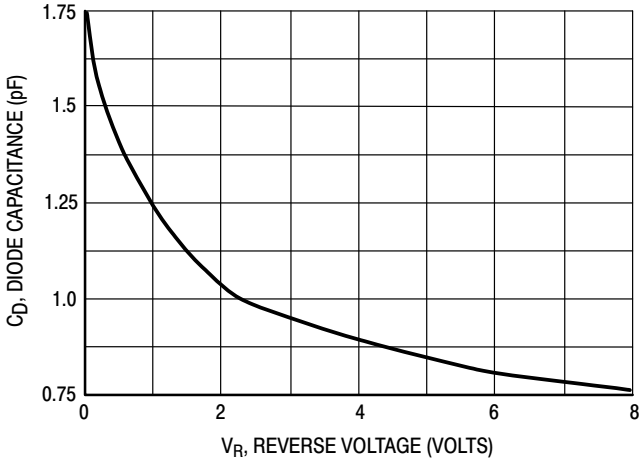
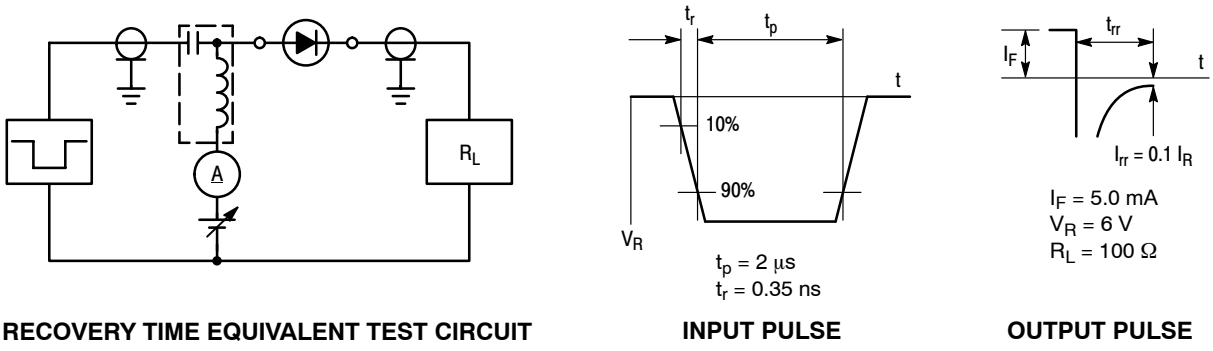


Figure 3. Diode Capacitance

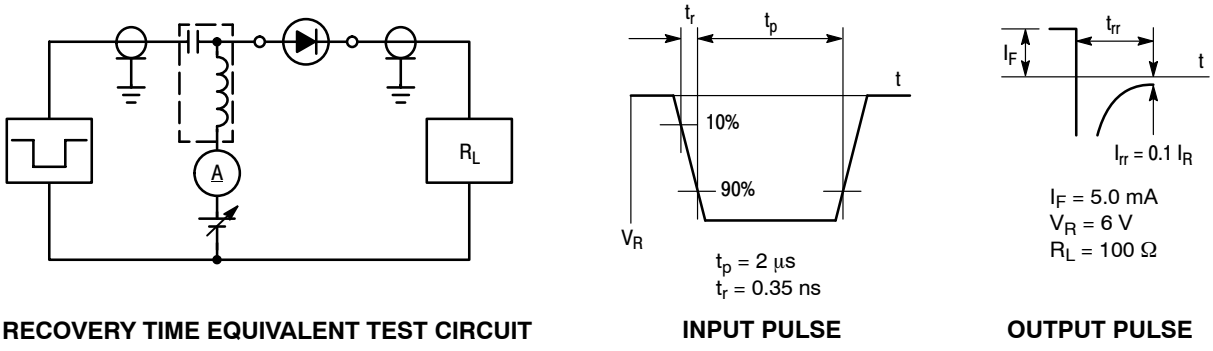
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Your Opinion Matters

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

Figure 4. Reverse Recovery Time Test Circuit for the DAP222

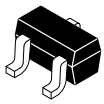


RECOVERY TIME EQUIVALENT TEST CIRCUIT **INPUT PULSE** **OUTPUT PULSE**

Figure 5. Reverse Recovery Time Test Circuit for the DAP202U

Share Feedback
Your Opinion Matters

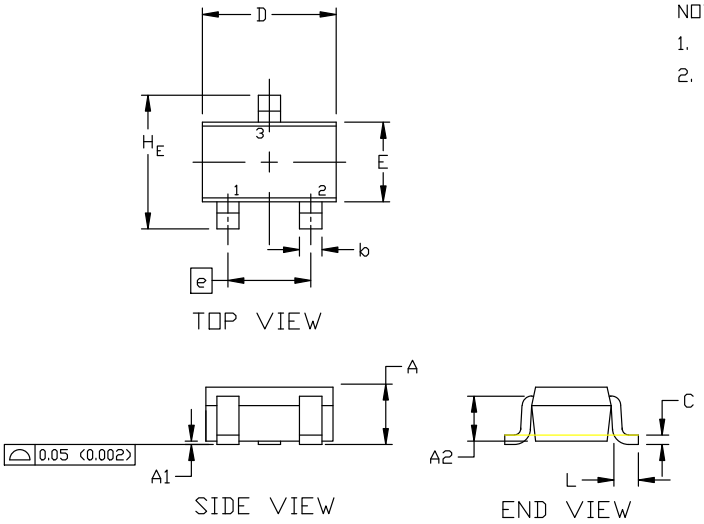
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SCALE 4:1

SC−70 (SOT−323)
CASE 419
ISSUE R

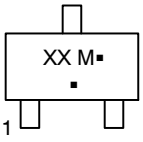
DATE 11 OCT 2022



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

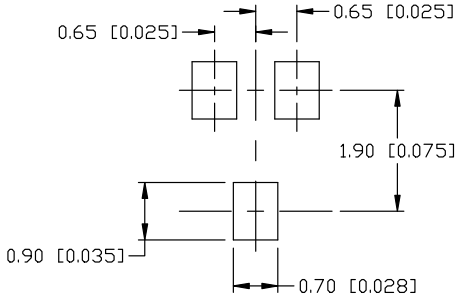
	MILLIMETERS			INCHES		
DIM	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 BSC		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.00	2.20	0.071	0.080	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.20	0.38	0.56	0.008	0.015	0.022
H_E	2.00	2.10	2.40	0.079	0.083	0.095

GENERIC MARKING DIAGRAM



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

*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.

SOLDERING FOOTPRINT

STYLE 1: CANCELLED

STYLE 2: PIN 1. ANODE 2. N.C. 3. CATHODE

STYLE 3: PIN 1. BASE 2. EMITTER 3. COLLECTOR

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

STYLE 5: PIN 1. ANODE 2. ANODE 3. CATHODE

STYLE 6: PIN 1. EMITTER 2. BASE 3. COLLECTOR

STYLE 7: PIN 1. BASE 2. EMITTER 3. COLLECTOR

STYLE 8: PIN 1. GATE 2. SOURCE 3. DRAIN

STYLE 9: PIN 1. ANODE 2. CATHODE 3. CATHODE−ANODE

STYLE 10: PIN 1. CATHODE 2. ANODE 3. ANODE−CATHODE

STYLE 11: PIN 1. CATHODE 2. CATHODE 3. CATHODE

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DESCRIPTION:	**SC−70 (SOT−323)**	**PAGE 1 OF 1**

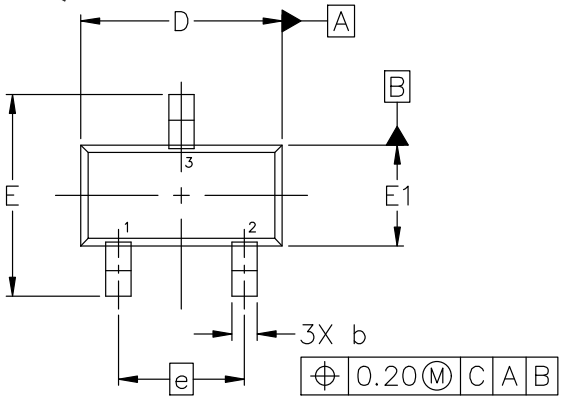
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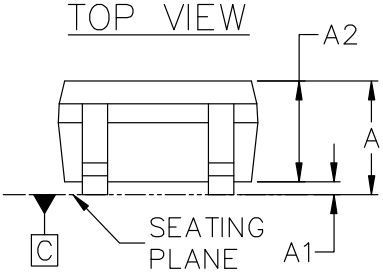


SC75−3 1.60x0.80x0.80, 1.00P
CASE 463
ISSUE H

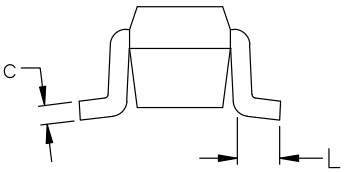
DATE 01 FEB 2024



TOP VIEW



SIDE VIEW



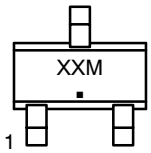
END VIEW

NOTES:

1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5−2018.
2. ALL DIMENSION ARE IN MILLIMETERS.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.70	0.80	0.90
A1	0.00	0.05	0.10
A2		0.80 REF.	
b	0.15	0.20	0.30
c	0.10	0.15	0.25
D	1.55	1.60	1.65
E	1.50	1.60	1.70
E1	0.70	0.80	0.90
e		1.00 BSC	
L	0.10	0.15	0.20

GENERIC
MARKING DIAGRAM*



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

*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.

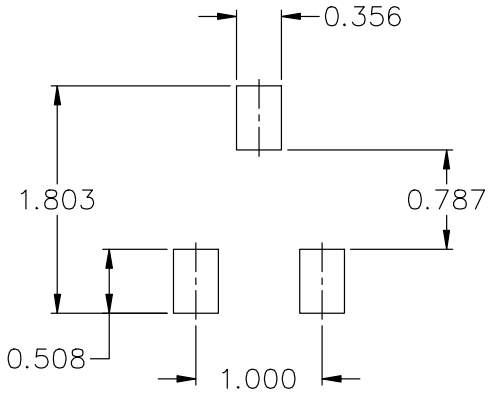
STYLE 1:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

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 MOUNTING 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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DESCRIPTION:	**SC75−3 1.60x0.80x0.80, 1.00P**		**PAGE 1 OF 1**

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