# **Common Anode Silicon Dual Switching Diodes**

# DAP222M3T5G

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 SOT-723 package which is designed for low power surface mount applications, where board space is at a premium.

#### **Features**

- Fast t<sub>rr</sub>
- Low C<sub>D</sub>
- Available in 4 mm Tape and Reel
- This is a Pb-Free Device

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

Rating	Symbol	Value	Unit	
Reverse Voltage	$V_R$	80	V	
Peak Reverse Voltage	$V_{RM}$	80	V	
Forward Current	I <sub>F</sub>	100	mA	

# THERMAL CHARACTERISTICS

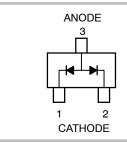
Rating	Symbol	mbol Max	
Power Dissipation	$P_{D}$	260	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

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. 1.  $t = 1.0 \ \mu S$ .



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# MARKING DIAGRAM



SOT-723 CASE 631AA STYLE 4



P9

= Specific Device Code

= Date Code

# **ORDERING INFORMATION**

Device	Package	Shipping <sup>†</sup>
DAP222M3T5G	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.

# DAP222M3T5G

# **ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 25°C)

Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 70 V	-	0.1	μΑ
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 100 mA	_	1.2	V
Reverse Breakdown Voltage	$V_R$	I <sub>R</sub> = 100 μA	80	-	V
Diode Capacitance	C <sub>D</sub>	$V_R = 6.0 \text{ V}, f = 1.0 \text{ MHz}$	_	3.5	pF
Reverse Recovery Time	t <sub>rr</sub> (Note 2)	$I_F$ = 5.0 mA, $V_R$ = 6.0 V, $R_L$ = 100 $\Omega$ , $I_{rr}$ = 0.1 $I_R$	-	4.0	ns

<sup>2.</sup>  $t_{rr}$  Test Circuit for DAP222 in Figure 4.

# TYPICAL ELECTRICAL CHARACTERISTICS

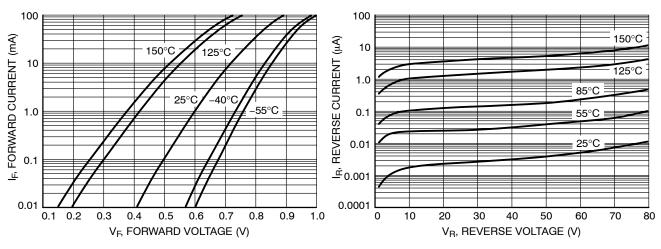


Figure 1. Forward Voltage

Figure 2. Reverse Current

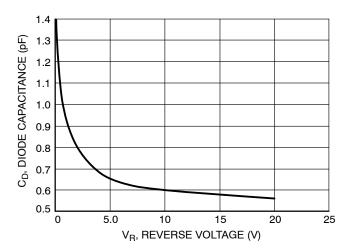
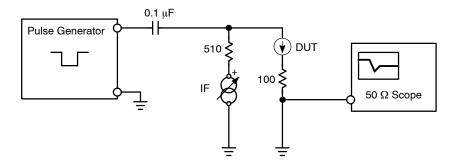


Figure 3. Diode Capacitance

# DAP222M3T5G



# RECOVERY TIME EQUIVALENT TEST CIRCUIT

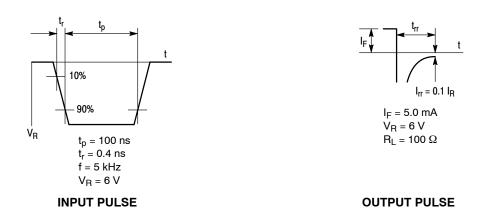
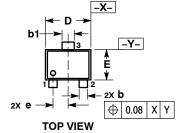


Figure 4. Reverse Recovery Time Test Circuit

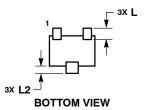


SOT-723 CASE 631AA-01 ISSUE D

**DATE 10 AUG 2009** 









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

#### NOTES:

- 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.
- DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

	MILLIMETERS			
DIM	MIN	NOM	MAX	
Α	0.45	0.50	0.55	
b	0.15	0.21	0.27	
b1	0.25	0.31	0.37	
С	0.07	0.12	0.17	
D	1.15	1.20	1.25	
E	0.75	0.80	0.85	
е	0.40 BSC			
ΗE	1.15	1.20	1.25	
L	0.29 REF			
L2	0.15	0.20	0.25	

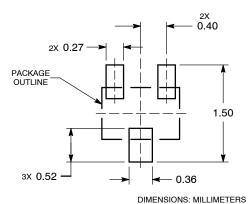
# **GENERIC MARKING DIAGRAM\***



= Specific Device Code XX Μ = Date Code

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

# **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.

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