

Common Anode Quad Array Switching Diode

NSDEMP11XV6T1, NSDEMP11XV6T5

These Common Anode Epitaxial Planar QUAD Diodes are designed for use in ultra high speed switching applications. The NSDEMP11XV6T1 device is housed in the SOT-563 package which is designed for low power surface mount applications, where board space is at a premium.

Features

- Fast t_{rr}
- Low C_D
- These are Pb-Free Devices

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

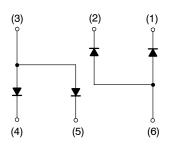
Rating	Symbol	Value	Unit
Reverse Voltage	V_R	80	Vdc
Peak Reverse Voltage	V_{RM}	80	Vdc
Forward Current	IF	100	mAdc
Peak Forward Current	I _{FM}	300	mAdc
Peak Forward Surge Current	I _{FSM} (Note 1)	2.0	Adc

THERMAL CHARACTERISTICS

Characteristic (One Junction Heated)	Symbol	Max	Unit
Total Device Dissipation $T_A = 25^{\circ}C$ Derate above 25°C	P _D	357 (Note 2) 2.9 (Note 2)	mW mW/°C
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	350 (Note 2)	°C/W
Characteristic			
(Both Junctions Heated)	Symbol	Max	Unit
(Both Junctions Heated) Total Device Dissipation T _A = 25°C Derate above 25°C	Symbol P _D	500 (Note 2) 4.0 (Note 2)	mW/°C
Total Device Dissipation T _A = 25°C	_	500 (Note 2) 4.0	mW

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





SOT-563 CASE 463A PLASTIC

MARKING DIAGRAM



P9 = Device Code
M = Date Code
• = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping [†]
NSDEMP11XV6T1	SOT-563*	4000/Tape & Reel
NSDEMP11XV6T1G	SOT-563*	4000/Tape & Reel
NSDEMP11XV6T5	SOT-563*	8000/Tape & Reel
NSDEMP11XV6T5G	SOT-563*	8000/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.

^{1.} $t = 1 \mu S$

^{2.} FR-4 @ Minimum Pad

^{*}This package is inherently Pb-Free.

NSDEMP11XV6T1, NSDEMP11XV6T5

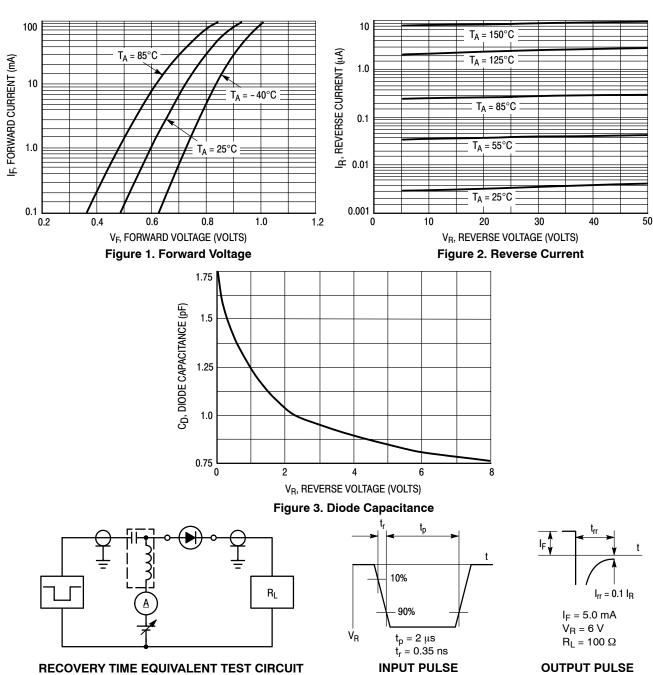
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

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	0	-	Vdc
Diode Capacitance	C _D	V _R = 6.0 V, f = 1.0 MHz	-	3.5	pF
Reverse Recovery Time	t _{rr} (Note 3)	I_F = 5.0 mA, V_R = 6.0 V, R_L = 100 Ω , I_{rr} = 0.1 I_R	-	4.0	ns

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.

3. t_{rr} Test Circuit for NSDEMP11XV6T1 in Figure 4.

TYPICAL ELECTRICAL CHARACTERISTICS





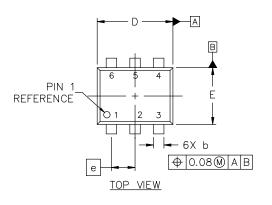


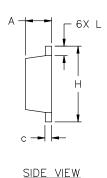
SOT-563-6 1.60x1.20x0.55, 0.50P CASE 463A ISSUE J

DATE 15 FEB 2024

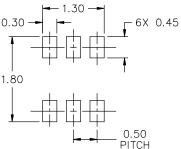
NOTES:

- DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
- 2. ALL DIMENSION ARE IN MILLIMETERS.
- 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.





DIM	M:	ILLIMETE	RS	
ויונע	MIN.	N□M.	MAX.	
А	0.50	0.55	0.60	
Ø	0.17	0.22	0.27	
U	0.08	0.13	0.18	
D	1.50	1.60	1.70	
E	1.10	1.20	1.30	
е	0.50 BSC			
Н	1.50	1.60	1.70	
L	0.10	0.20	0.30	



STYLE 1: PIN 1. EMITTER 1 2. BASE 1 3. COLLECTOR 2 4. EMITTER 2 5. BASE 2 6. COLLECTOR 1	STYLE 2: PIN 1. EMITTER 1 2. EMITTER 2 3. BASE 2 4. COLLECTOR 2 5. BASE 1	STYLE 3: PIN 1. CATHODE 1 2. CATHODE 1 3. ANODE/ANODE 2 4. CATHODE 2 5. CATHODE 2 6. ANODE/ANODE 1
6. COLLECTOR 1	6. COLLECTOR 1	6. ANDDE/ANDDE 1

STYLE 6: PIN 1. CATHODE 2. ANODE

CATHODE

4. CATHODE 5. CATHODE

6. CATHODE

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.

STYLE 7: PIN 1. CATHODE 2. ANODE 3. CATHODE 4. CATHODE 5. ANODE 6. CATHODE	STYLE 8: PIN 1. DRAIN 2. DRAIN 3. GATE 4. SDURCE 5. DRAIN 6. DRAIN	STYLE 9: PIN 1. SDURCE 1 2. GATE 1 3. DRAIN 2 4. SDURCE 2 5. GATE 2 6. DRAIN 1

PIN 1. EMITTER 2

2. BASE 2 3. COLLECTOR 1

5. BASE 1 6. COLLECTOR 2

4. EMITTER 1

STYLE 11:

3. ANDDE

4. ANDDE 5. CATHODE

6. CATHODE

STYLE 5: PIN 1. CATHODE 2. CATHODE

GENERIC MARKING DIAGRAM*



XX = Specific Device Code M = Month 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.

DOCUMENT NUMBER:	98AON11126D	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.	
DESCRIPTION:	SOT-563-6 1.60x1.20x0.55, 0.50P		PAGE 1 OF 1

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.

STYLE 4: PIN 1. COLLECTOR 2. COLLECTOR

3. BASE

STYLE 10:

PIN 1. CATHODE 1

2. N/C 3. CATHODE 2

4. ANDDE 2 5. N/C

6. AN□DE 1

4. EMITTER
5. COLLECTOR
6. COLLECTOR

onsemi, Onsemi, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "onsemi" or its affiliates and/or subsidiaries in the United States and/or other countries. onsemi owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of onsemi's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. Onsemi reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and onsemi makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using onsemi products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by onsemi. "Typical" parameters which may be provided in onsemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. onsemi does not convey any license under any of its intellectual property rights nor the rights of others. onsemi products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA class 3 medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:

 $\textbf{Technical Library:} \ \underline{www.onsemi.com/design/resources/technical-documentation}$

onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support

For additional information, please contact your local Sales Representative at

www.onsemi.com/support/sales