

HN2D02FUTW1T1

Ultra High Speed Switching Diodes

These Silicon Epitaxial Planar Diodes are designed for use in ultra high speed switching applications. These devices are housed in the SC-88 package which is designed for low power surface mount applications.

- Fast t_{rr} , < 3.0 ns
- Low C_D , < 2.0 pF
- Available in 8 mm Tape and Reel

Use HN2D02FUTW1T1 to order the 7 inch/3000 unit reel.

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

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	80	
Peak Reverse Voltage	V_{RM}	85	
Forward Current	I_F	100	mAdc
Peak Forward Current	I_{FM}	240	mAdc
Peak Forward Surge Current (10 ms)	I_{FSM} (Note 1)	1.0	mAdc

THERMAL CHARACTERISTICS

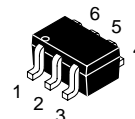
Rating	Symbol	Max	Unit
Power Dissipation	P_D	300	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

1. $t = 10$ ms
2. This is maximum rating for a single diode. Derate by 75 percent when using 2 or 3 diodes.

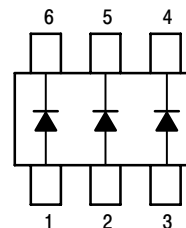


ON Semiconductor®

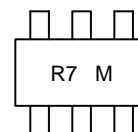
<http://onsemi.com>



SC-88
CASE 419B



MARKING DIAGRAM



R7 = for Specified
Device Code
M = Date Code

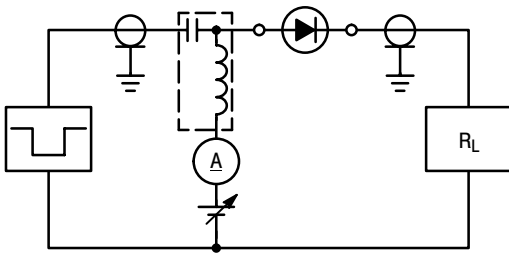
HN2D02FUTW1T1

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

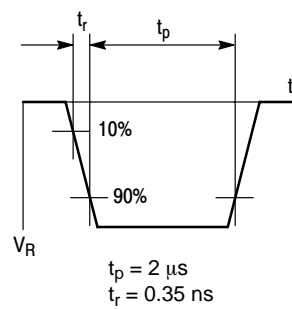
Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	I _R	V _R = 35 V	—	0.1	μAdc
		V _R = 75 V	—	0.1	
Forward Voltage	V _F	I _F = 100 mA	—	1.2	Vdc
Reverse Breakdown Voltage	V _R	I _R = 100 μA	80	—	Vdc
Diode Capacitance	C _D	V _R = 0, f = 1.0 MHz	—	2.0	pF
Reverse Recovery Time (Figure 1)	t _{rr} (Note 3)	I _F = 10 mA, V _R = 6.0 V, R _L = 100 Ω, I _{rr} = 0.1 I _R	—	3.0	ns

3. t_{rr} Test Circuit

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

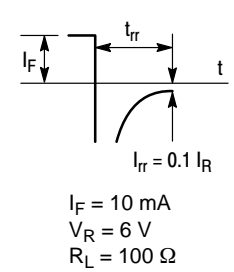


Figure 1. Reverse Recovery Time Equivalent Test Circuit

HN2D02FUTW1T1

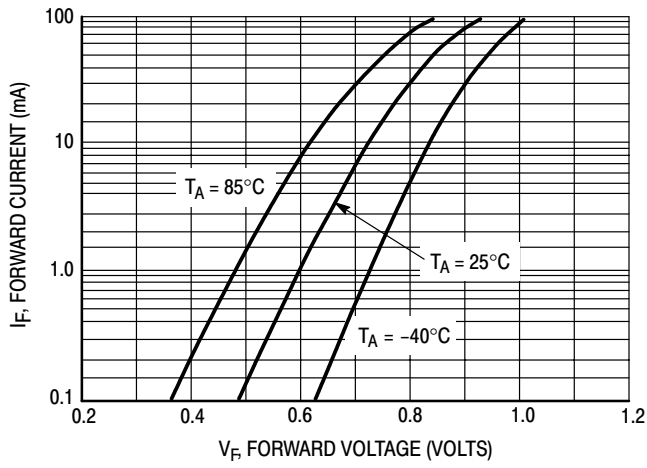


Figure 2. Forward Voltage

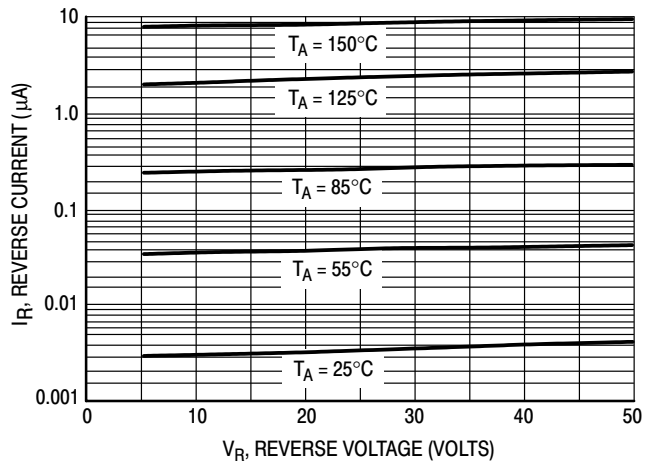


Figure 3. Leakage Current

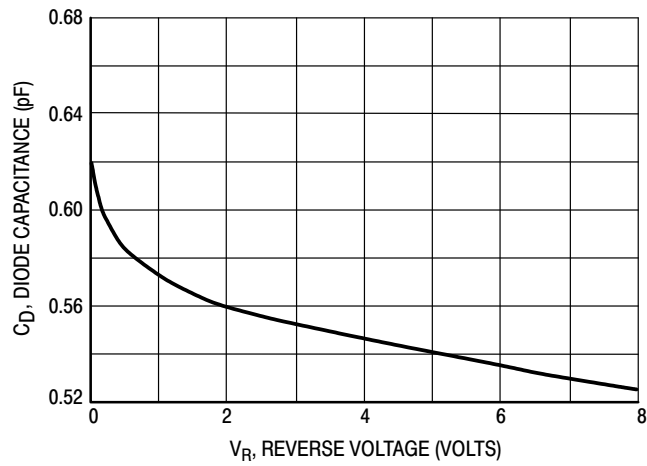
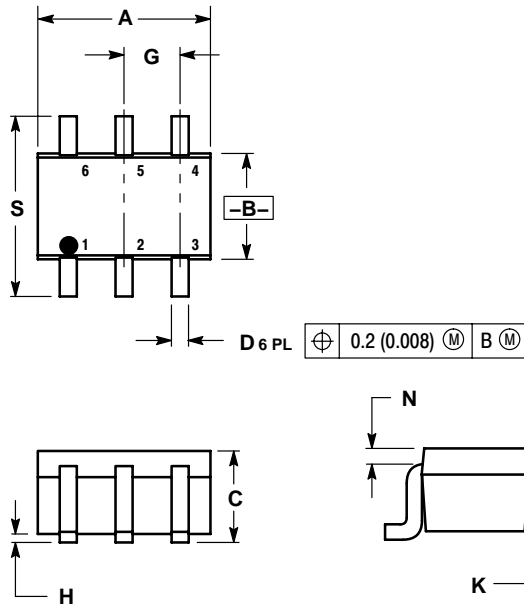


Figure 4. Capacitance

HN2D02FUTW1T1

PACKAGE DIMENSIONS

SC-88 (SOT-363)
CASE 419B-02
ISSUE N



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419B-01 OBSOLETE, NEW STANDARD 419B-02.

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	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

ON Semiconductor and are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC 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. "Typical" parameters which may be provided in SCILLC 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. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada

Japan: ON Semiconductor, Japan Customer Focus Center
2-9-1 Kamimeguro, Meguro-ku, Tokyo, Japan 153-0051
Phone: 81-3-5773-3850

ON Semiconductor Website: <http://onsemi.com>

Order Literature: <http://www.onsemi.com/litorder>

For additional information, please contact your local Sales Representative.