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.

Features

- Fast t_{rr}, < 3.0 ns
- Low C_D, < 2.0 pF
- Pb−Free Package is Available

MAXIMUM RATINGS (T_A = 25°C)

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

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.

1. This is maximum rating for a single diode. In the case of using 2 or 3 diodes, the maxium ratings per diodes is 75% of the single diode.

THERMAL CHARACTERISTICS

Rating	Symbol	Max	Unit
Power Dissipation	P_D	300	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	−55 to +150	°C

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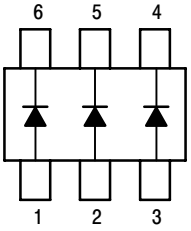
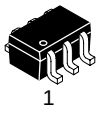
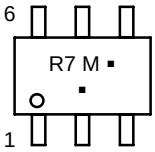




SC−88
CASE 419B

MARKING DIAGRAM



R7 = Specific Device Code
M = Date Code
▪ = Pb−Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
HN2D02FUTW1T1	SC−88	3000/Tape & Reel
HN2D02FUTW1T1G	SC−88 (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.

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	I_R	V_R = 30 V	–	0.1	μAdc
		V_R = 80 V	–	0.5	
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 2)	I_F = 10 mA, V_R = 6.0 V, R_L = 100 Ω, I_{rr} = 0.1 I_R	–	3.0	ns

2. t_{rr} Test Circuit

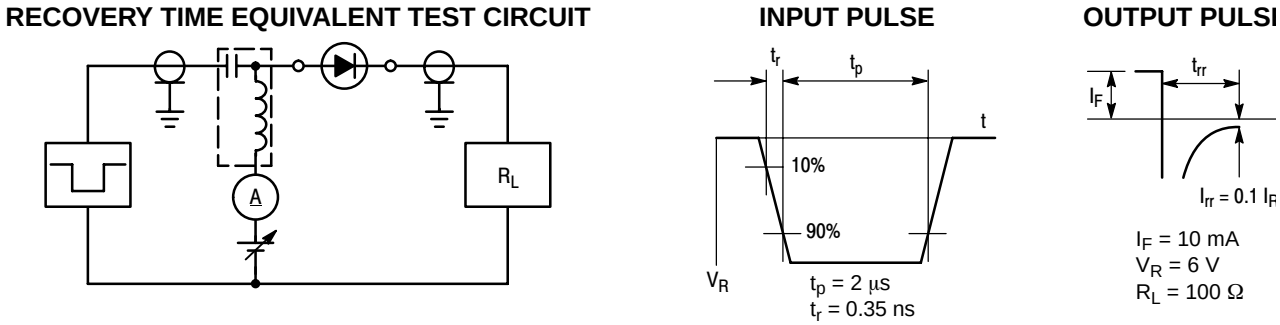


Figure 1. Reverse Recovery Time Equivalent Test Circuit

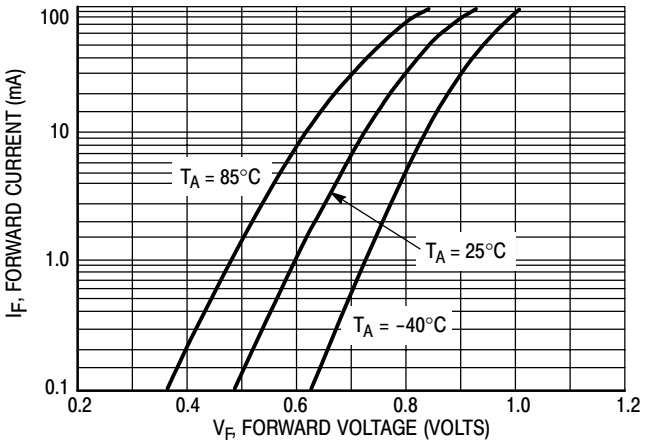


Figure 2. Forward Voltage

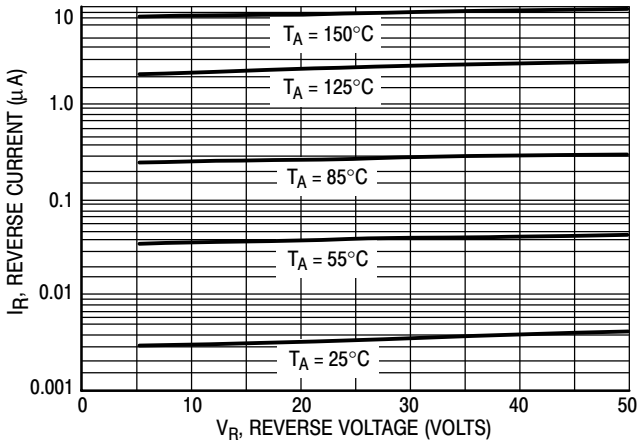


Figure 3. Leakage Current

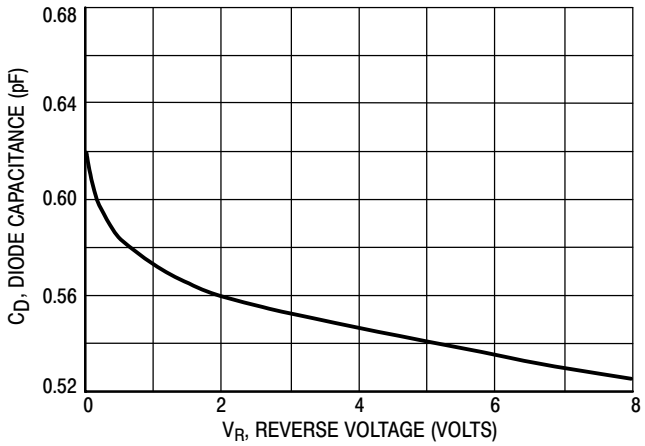
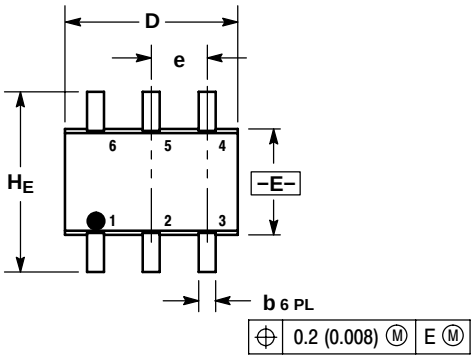
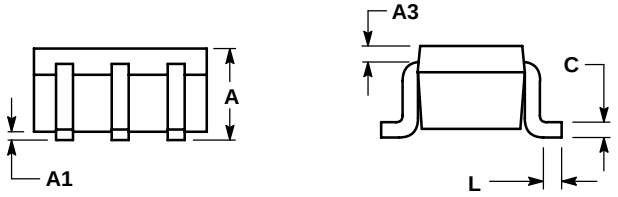


Figure 4. Capacitance

PACKAGE DIMENSIONS

SC−88 (SOT−363)
CASE 419B−02
ISSUE V

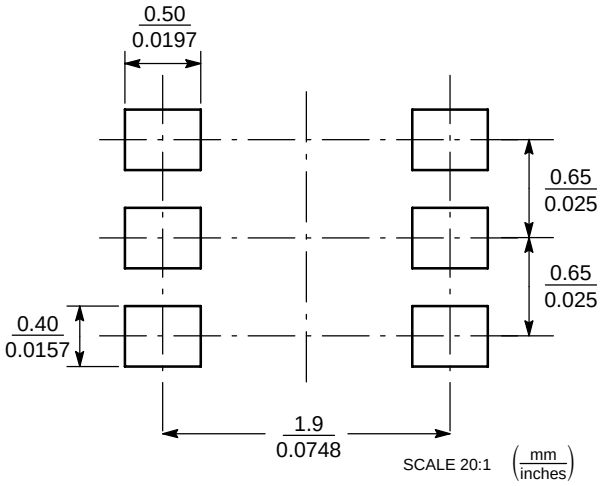




NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419B−01 OBSOLETE, NEW STANDARD 419B−02.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.95	1.10	0.031	0.037	0.043
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3		0.20 REF			0.008 REF	
b	0.10	0.21	0.30	0.004	0.008	0.012
C	0.10	0.14	0.25	0.004	0.005	0.010
D	1.80	2.00	2.20	0.070	0.078	0.086
E	1.15	1.25	1.35	0.045	0.049	0.053
e		0.65 BSC			0.026 BSC	
L	0.10	0.20	0.30	0.004	0.008	0.012
H_E	2.00	2.10	2.20	0.078	0.082	0.086

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.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
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Phone: 480−829−7710 or 800−344−3860 Toll Free USA/Canada
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ON Semiconductor Website: http://onsemi.com

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For additional information, please contact your local Sales Representative.