

# 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

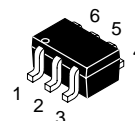
Rating	Symbol	Max	Unit
Power Dissipation	$P_D$	300	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

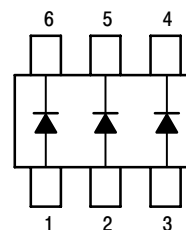


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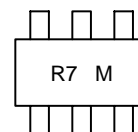
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SC-88  
CASE 419B



### MARKING DIAGRAM



R7 = for Specified  
Device Code  
M = Date Code

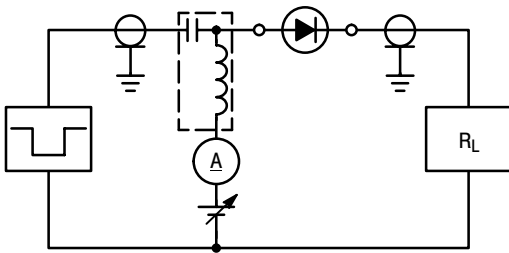
# HN2D02FUTW1T1

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

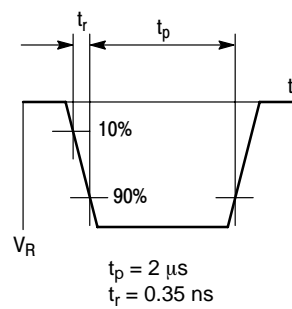
Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 35 V	—	0.1	μAdc
		V <sub>R</sub> = 75 V	—	0.1	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 100 mA	—	1.2	Vdc
Reverse Breakdown Voltage	V <sub>R</sub>	I <sub>R</sub> = 100 μA	80	—	Vdc
Diode Capacitance	C <sub>D</sub>	V <sub>R</sub> = 0, f = 1.0 MHz	—	2.0	pF
Reverse Recovery Time (Figure 1)	t <sub>rr</sub> (Note 3)	I <sub>F</sub> = 10 mA, V <sub>R</sub> = 6.0 V, R <sub>L</sub> = 100 Ω, I <sub>rr</sub> = 0.1 I <sub>R</sub>	—	3.0	ns

### 3. t<sub>rr</sub> Test Circuit

#### RECOVERY TIME EQUIVALENT TEST CIRCUIT



#### INPUT PULSE



#### OUTPUT PULSE

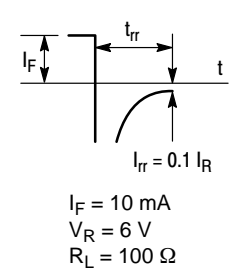


Figure 1. Reverse Recovery Time Equivalent Test Circuit

# HN2D02FUTW1T1

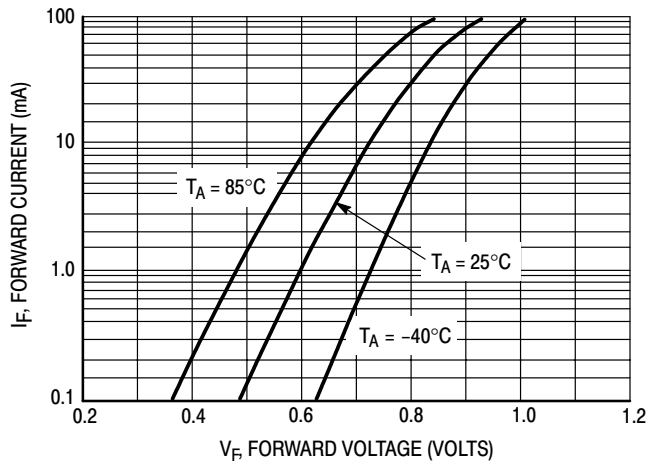


Figure 2. Forward Voltage

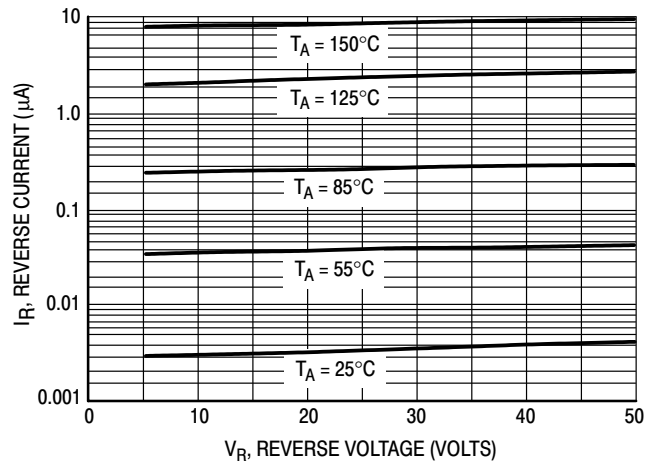


Figure 3. Leakage Current

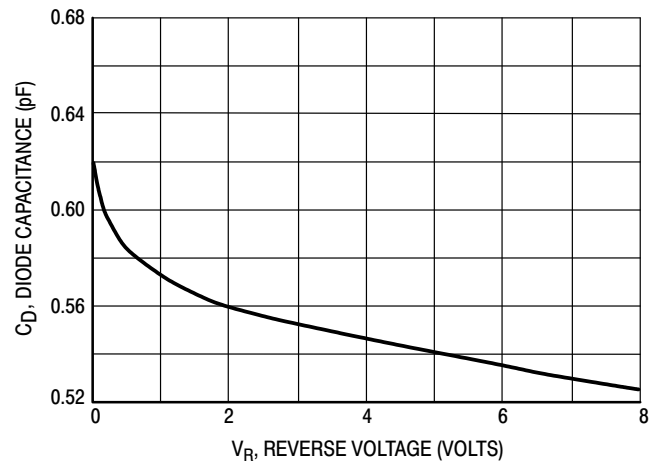
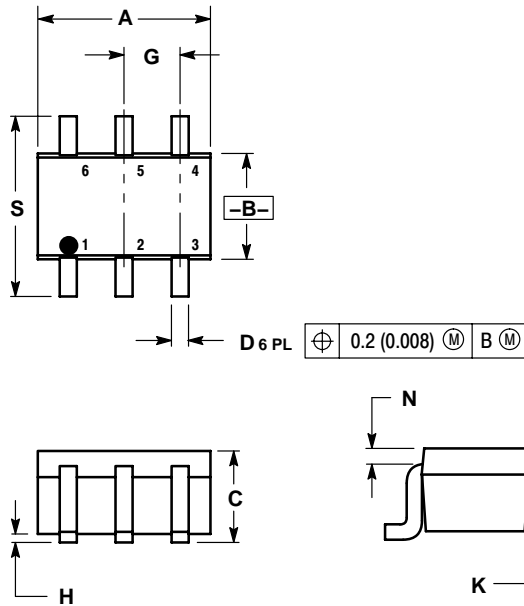


Figure 4. Capacitance

# 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

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