

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

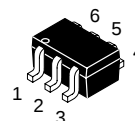
Rating	Symbol	Max	Unit
Power Dissipation	P_D	300	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

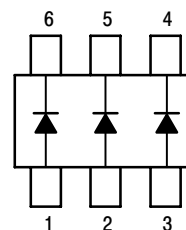


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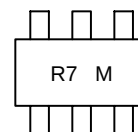
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SC-88
CASE 419B



MARKING DIAGRAM



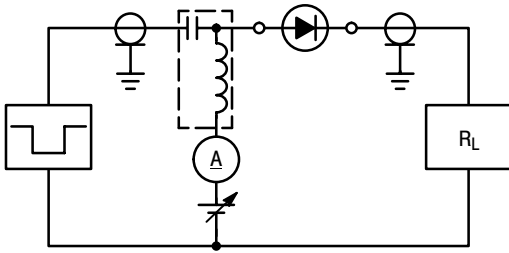
R7 = for Specified
Device Code
M = Date Code

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

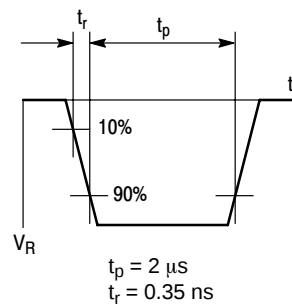
Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Voltage Leakage Current	I_R	$V_R = 35\text{ V}$	—	0.1	$\mu\text{A dc}$
		$V_R = 75\text{ V}$	—	0.1	
Forward Voltage	V_F	$I_F = 100\text{ mA}$	—	1.2	V dc
Reverse Breakdown Voltage	V_R	$I_R = 100\text{ }\mu\text{A}$	80	—	V dc
Diode Capacitance	C_D	$V_R = 0, f = 1.0\text{ MHz}$	—	2.0	pF
Reverse Recovery Time (Figure 1)	t_{rr} (Note 3)	$I_F = 10\text{ mA}, V_R = 6.0\text{ V}, R_L = 100\text{ }\Omega, I_{rr} = 0.1\text{ }I_R$	—	3.0	ns

3. t_{rr} Test Circuit

RECOVERY TIME EQUIVALENT TEST CIRCUIT



INPUT PULSE



OUTPUT PULSE

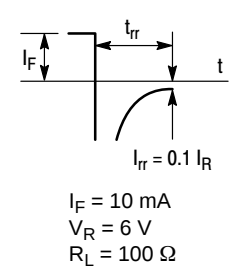


Figure 1. Reverse Recovery Time Equivalent Test Circuit

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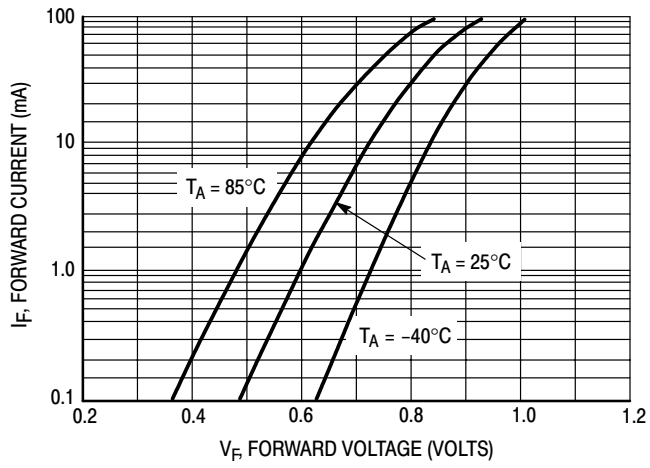


Figure 2. Forward Voltage

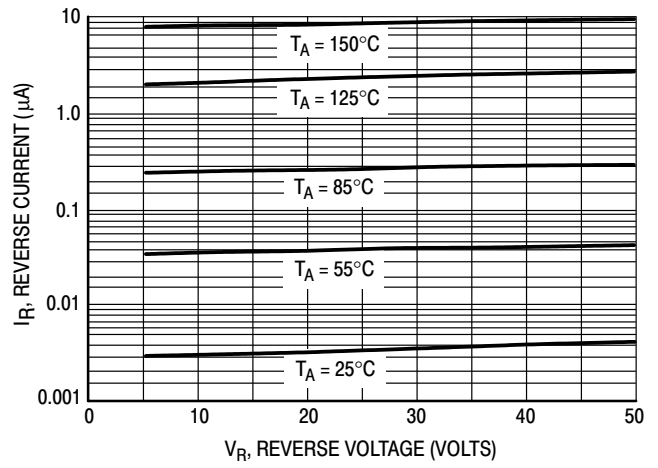


Figure 3. Leakage Current

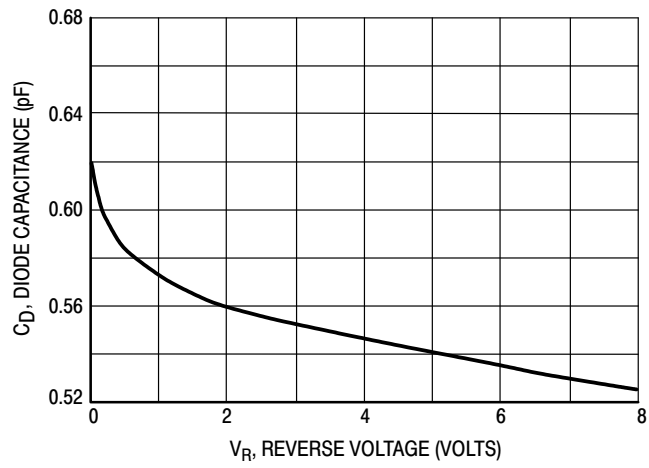
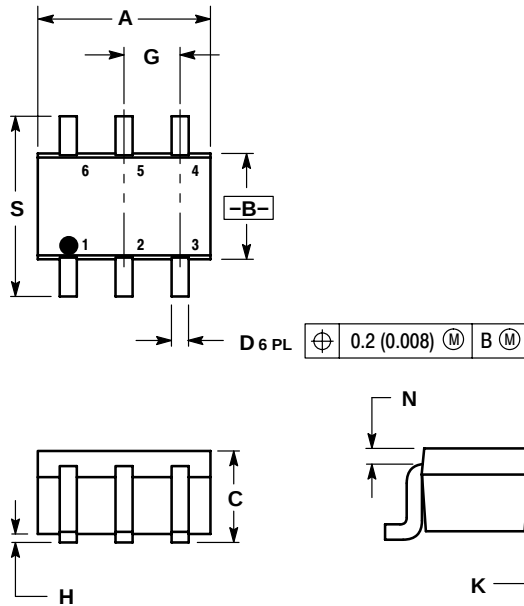


Figure 4. Capacitance

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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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