



**THE DATASHEET OF
HN2D02FUTW1T1G**



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

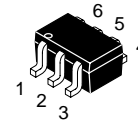
| Rating | Symbol | Max | Unit |
|----------------------|-----------|-------------|------------------|
| Power Dissipation | P_D | 300 | mW |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

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

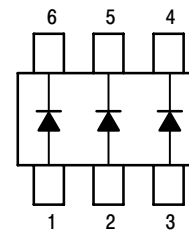


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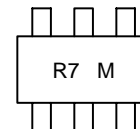
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SC-88
CASE 419B



MARKING DIAGRAM



R7 = for Specified
Device Code
M = Date Code

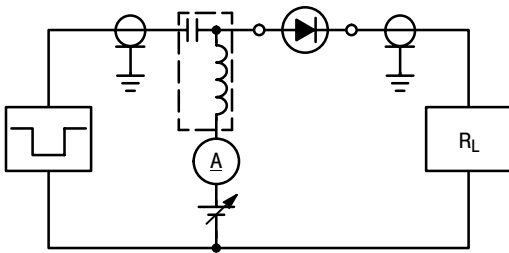
HN2D02FUTW1T1

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

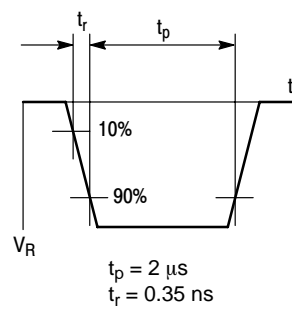
| Characteristic | Symbol | Condition | Min | Max | Unit |
|----------------------------------|--------------------------|--|-----|-----|------|
| Reverse Voltage Leakage Current | I _R | V _R = 35 V | — | 0.1 | μAdc |
| | | V _R = 75 V | — | 0.1 | |
| Forward Voltage | V _F | I _F = 100 mA | — | 1.2 | 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

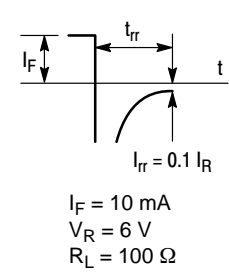


Figure 1. Reverse Recovery Time Equivalent Test Circuit

HN2D02FUTW1T1

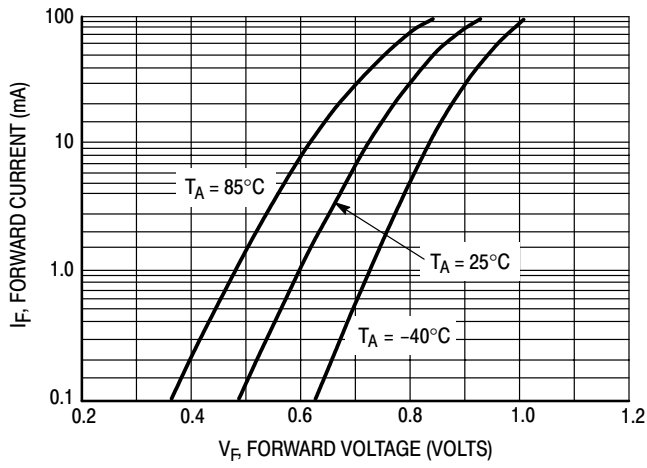


Figure 2. Forward Voltage

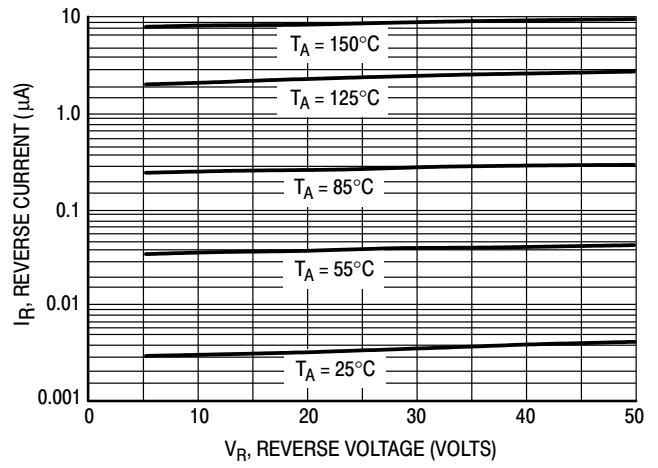


Figure 3. Leakage Current

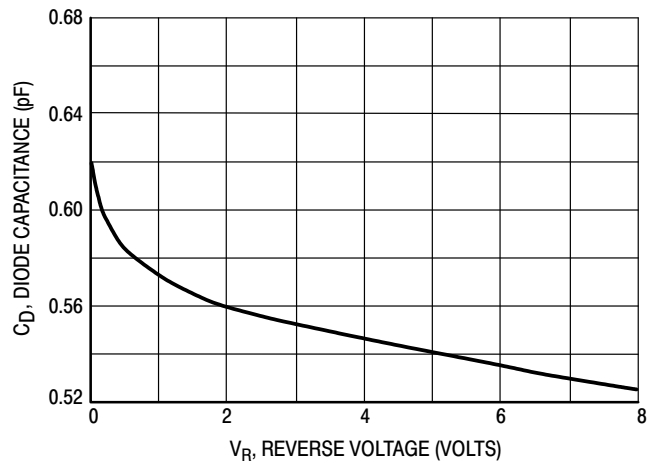
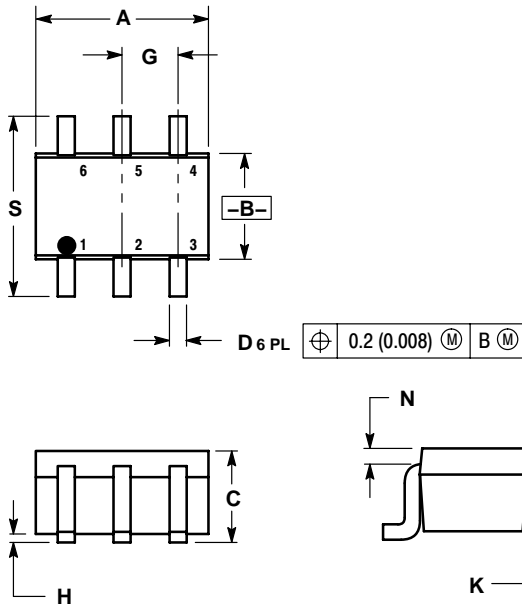


Figure 4. Capacitance

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 |

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