

# Frequency Doubler

## Available as:

- FD9xxN-1, Connectorized Housing (ND)
- FD9xMN-1, Without Connectors
- FD9xPN-1, With Removable Connectors

## Features

- Input Power: +11 dBm
- Operating Temperature: -55 °C to +85°C
- RF Input: 1.5 to 10.0 GHz
- RF Output: 3.0 to 20.0 GHz

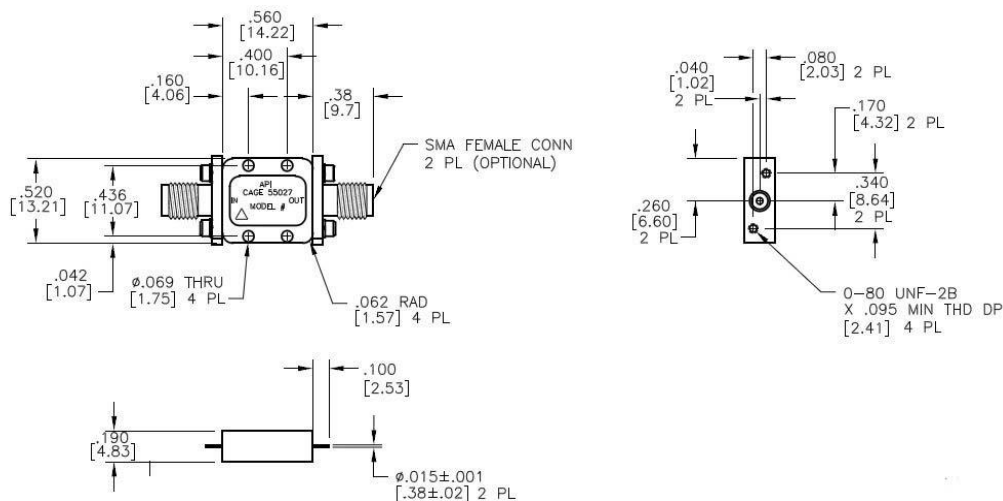
## Electrical Specifications <sup>(1)</sup>:

| Parameter                                  | Conditions  |              | Specifications |         |         |
|--|-------------|--------------|----------------|---------|---------|
|  | Input (GHz) | Output (GHz) | Min            | Typical | Max     |
| Insertion Loss: <sup>(2)</sup>             | 2.5 - 9.0   | 5.0 - 18.0   | —              | 11.0 dB | 12.5 dB |
|  | 1.5 - 10.0  | 3.0 - 20.0   | —              | 12.0 dB | 14.0 dB |
| Fundamental Isolation: <sup>(3)</sup>      | 1.5 - 7.0   | 1.5 - 7.0    | 22 dB          | 30 dB   | —       |
| Third Harmonic Suppression: <sup>(4)</sup> | 7.0 - 10.0  | 7.0 - 10.0   | 19 dB          | 25 dB   | —       |
|  | 1.5 - 10.0  | 3.0 - 20.0   | 20 dBc         | 33 dBc  | —       |
| Input VSWR:                                | 1.5 - 5.0   | 3.0 - 10.0   | —              | 2.0:1   | —       |
|  | 5.0 - 10.0  | 10.0 - 20.0  | —              | 1.5:1   | —       |
| Input Power Range:                         | 1.5 - 10.0  | 3.0 - 10.0   | —              | +11 dBm | FD96    |
|  | —           | —            | —              | +17 dBm | FD97    |

### Notes:

1. Specifications are guaranteed when tested as a doubler in a 50 Ohm system at +25°C with the nominal input power. Specifications indicated as typical are not guaranteed.
2. Insertion loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
3. Fundamental isolation is referenced to the fundamental input.
4. Third Harmonic Suppression is referenced to the second harmonic output.

## Package Outline Drawing



"MN" WITHOUT CONNECTORS.  
"PN" WITH REMOVABLE CONNECTORS.

## Typical Performance at 25°C

