

Applications

- Repeaters
- Mobile Infrastructure
- LTE / WCDMA / CDMA / GSM
- General Purpose Wireless
- TDD or FDD systems

Product Features

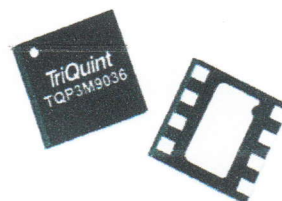
- 400–2000 MHz Operational Bandwidth
- Ultra low noise figure, 0.45 dB NF at 900 MHz
- High gain, 19.8 dB Gain at 900 MHz
- High linearity, +36 dBm Output IP3
- High input power ruggedness, >22 dBm P_{IN, MAX}
- Unconditionally stable
- Integrated on-chip matching, 50 ohm in/out
- Integrated active bias
- Integrated shutdown control pin
- 3-5 V positive supply voltage: -V_{gg} not required
- Pin compatible with high-band TQP3M9037

General Description

The TQP3M9036 is a high linearity, ultra low noise gain block amplifier in a small 2x2 mm surface-mount package. At 900 MHz, the amplifier typically provides high 19.8 dB gain, +36 dBm OIP3, and 0.45 dB Noise Figure while drawing 68 mA current from a 5V supply. The amplifier does not require any negative supplies for operation and can be biased from positive supply rails from 3.3 to 5 V. The device is housed in a lead-free/green/RoHS-compliant industry-standard 2x2 mm package.

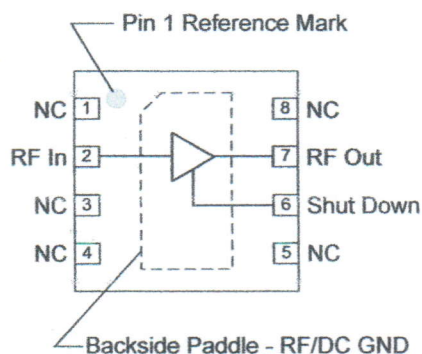
The TQP3M9036 is internally matched using a high performance E-pHEMT process and only requires 4 external components for operation from a single positive supply: an external RF choke and blocking/bypass capacitors. The low noise amplifier contains an internal active bias to maintain high performance over temperature and integrates a shut-down biasing capability for TDD applications.

The TQP3M9036 covers the 400–2000 MHz frequency band and is targeted for wireless infrastructure. The LNA is pin compatible with the high-band, 1500–2700 MHz TQP3M9037.



8-Pin 2x2 mm DFN Package

Functional Block Diagram



Pin Configuration

Pin No.	Label
1, 3, 4, 5, 8	No Connect or GND
2	RF In
6	Shut Down
7	RF Out
Backside Paddle	RF/DC GND

Ordering Information

Part No.	Description
TQP3M9036	Ultra low noise, High IP3 LNA
TQP3M9036-PCB	400–2000 MHz Evaluation Board

Standard T/R size = 2500 pieces on a 7" reel