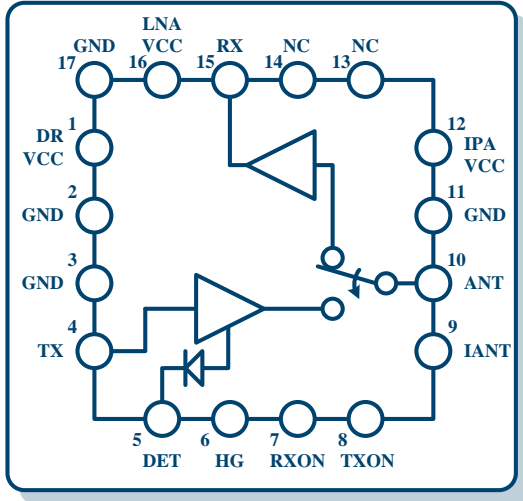


700/800/900MHZ 1 WATT BROADBAND RFEIC



Description

The RFX1009H is a broadband, high power RFEIC (RF Front-end Integrated Circuit) solution which provides all the key RF functionality needed for a TDD-mode RF front-end for 700/800/900MHz band operation in an ultra-small 3x3mm QFN package. The RFX1009H architecture integrates the PA, LNA, Transmit and Receive switching circuitry, associated matching networks, and harmonic filters all in a single-chip, single-die BiCMOS device. This RFEIC is designed for high output power up to 1W, and consumes very low current in receive mode. The combination of superior output power, high sensitivity and efficiency, low noise, small form factor and low cost makes RFX1009H the ideal solution for multiple applications including IEEE 802.15.4, ZigBee, AMR, smart grid, and other ISM applications in the sub-GHz bands from 780 to 930MHz. The RFX1009H requires minimal external components including two tuning inductors and the external power supply bypass.

Applications

- ▶ ZigBee 800/900MHz Applications
- ▶ Europe 870MHz SRD Systems
- ▶ China 780MHz WPAN Systems
- ▶ Smart Grid/AMR Applications
- ▶ Remote Sensor Networks
- ▶ 700/800/900MHz ISM Radios

Parameters	Value	Conditions
TX		
Small-Signal Gain	32dB	In Band, Typical, TX Enabled
TX Saturated Output Power	+30dBm	In Band, Typical, TX Enabled (VCC = 5V)
Large-signal Gain	25dB	+27dBm Output Power, TX Enabled
Large Signal Current	400mA	+27dBm Output Power, TX Enabled
Quiescent Current	55mA	TX Enabled
2 nd Harmonic	-30dBc	+27dBm Output Power, TX Enabled
3 rd Harmonic	-32dBc	+27dBm Output Power, TX Enabled
RX		
Small-Signal Gain	10dB	In Band, Typical, RX Enabled, High Gain Mode
Noise Figure	3.5dB	In Band, Typical, RX Enabled, High Gain Mode
Quiescent Current	8mA	RX Enabled, High Gain Mode
CHIP		
Operating Frequency	780MHz – 930MHz	TX or RX Enabled
Supply VCC	3.6 – 5.0VDC	5.5V Max
Shut-down Current	5uA	Standby
Input Output Matching Return Loss	11dB	Typical, In Band
RF Port Impedance	50-Ohm	Single-ended
Package	16-QFN	3.0mm x 3.0mm x 0.5mm

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This product brief is a general list of parameters to provide information on the capabilities of this device and is subject to change without notice.