

RFMD®

RF205x Product Family

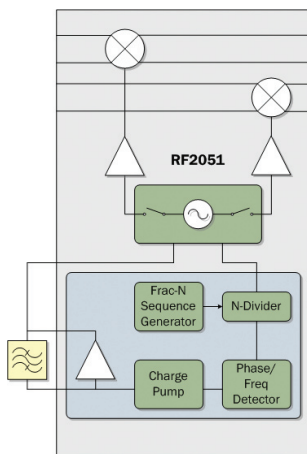
Integrated RF Synthesizer and VCO with Mixers



Designed to reduce development time, risk, and size of RF front end circuits in modern radios, the RF205x family of products from RFMD® provides engineers with a highly integrated, yet flexible solution. These devices use a unique system partitioning—a vertical slice through an RF section—that combines a high-performance fractional-N PLL, low phase noise VCOs, LO buffers, and high-linearity RF mixers. The components generate a low noise LO signal of between 300 MHz to 2400 MHz, and have built-in wideband RF mixers that operate from 50 MHz up to 2500 MHz. All RF205x devices are contained in a standard plastic 32 pin, 5 x 5 mm package.

RF205x SERIES SPECIFICATIONS

	Units	RF2051	RF2052	RF2053	RF2057	RF2059
Fractional-N PLL		Yes	Yes	Yes	Yes	Yes
On-chip VCOs		Yes	Yes	No	Yes	Yes
RF mixers		2	1	1	2	2
DC Parameters						
Supply voltage	V	3.0	3.0	3.0	3.0	3.0
Supply current (low-current setting, mixer active)	mA	55	55	45	55	55
VCO and Synthesizer						
Input reference frequency	MHz	10 to 104				
LO frequency	MHz	300 to 2400	300 to 2400	—	1900 to 2400	1550 to 2050
Open loop VCO phase noise at 500 MHz LO frequency	dBc/Hz	-140	-140	—	-140	-140
RF Mixer						
RF and IF port frequency range	MHz	50 to 2500				
Noise figure (low-current setting)	dB	9.5	9.5	—	9.5	9.5
Input IP3 (high-linearity setting)	dBm	20	20	—	20	20



APPLICATIONS

- CATV headends
- TV up/downconverters
- Cellular repeaters
- TV repeaters
- Frequency band shifters
- UHF/VHF radios
- Diversity receivers
- Software defined radio
- Super-heterodyne radio

FEATURES

- 2.7 V to 3.6 V operation
- Low power consumption 165 mW
- Fractional-N synthesizer—1.5 Hz resolution
- Integrated LO buffers, high-linearity RF mixers, and low phase noise VCOs
- Programmable linearity mixers for power-saving
- Full duplex mode (RF2051, RF2057, RF2059)
- Three-wire serial control interface

For sales or technical support, contact your authorized local sales representative (see www.rfmd.com/globalsales).

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