

ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change.
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Direct-Conversion Tuner IC for Digital DBS Applications

MAX2105

General Description

The MAX2105 is a low-cost, direct-conversion tuner IC designed for use in digital direct-broadcast satellite (DBS) television set-top box units. Its direct-conversion architecture reduces system cost compared to devices with IF-based architectures.

The MAX2105 directly tunes L-band signals to baseband using a broadband I/Q downconverter. Its operating frequency range spans from at least 950MHz to 2150MHz.

The IC includes an LNA with AGC, two downconverter mixers, an oscillator buffer with 90° quadrature generator and prescaler, and baseband amplifiers.

The MAX2105 has lower conversion gain than the MAX2102; this accommodates additional front-end gain, reducing overall system noise figure.

Applications

- DirecTV, PrimeStar, EchoStar DBS Tuners
- DVB-Compliant DBS Tuners
- Cellular Base Stations
- Wireless Local Loop
- Broadband Systems
- LMDS

Features

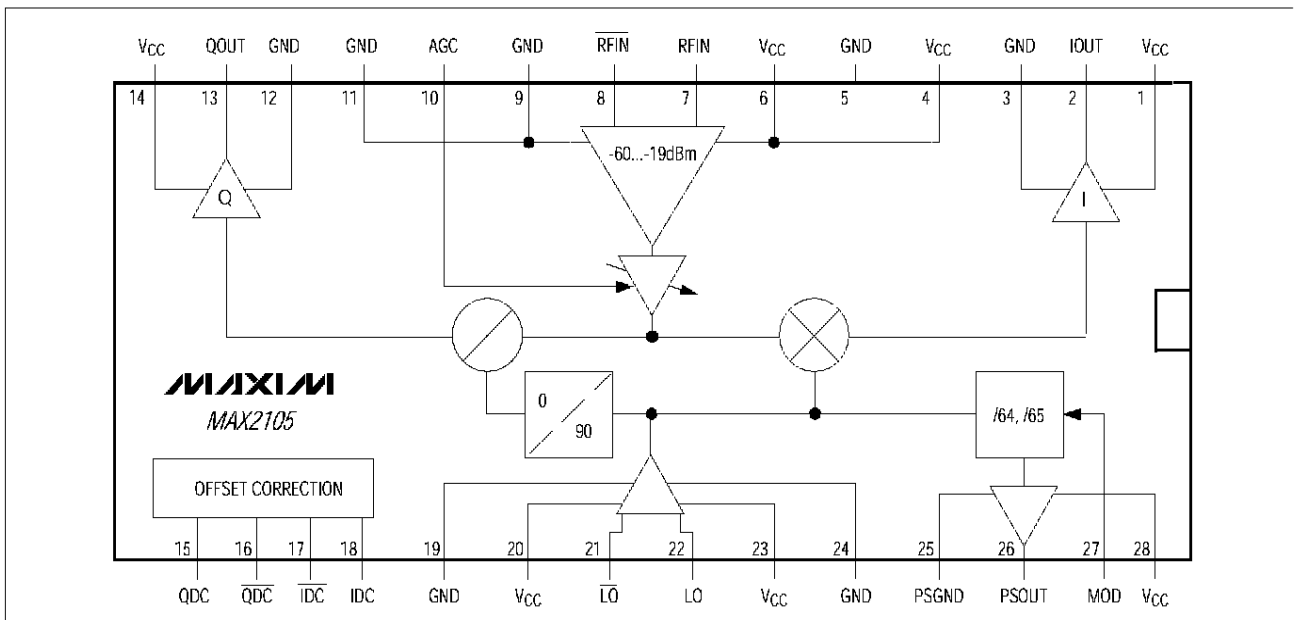
- ◆ Low-Cost Bipolar Design, Lowest Cost Architecture
- ◆ Operates from Single +5V Supply
- ◆ 950MHz to 2150MHz Input Frequency Range*
- ◆ On-Chip Quadrature Generator, Dual-Modulus Prescaler (/64, /65)
- ◆ Input Levels: -19dBm to -60dBm per Carrier
- ◆ Over 41dB AGC Control Range
- ◆ Noise Figure = 13.5dB; IIP3 = 6.5dBm (at 1450MHz)
- ◆ Automatic Baseband Offset Correction
- ◆ Easy Interface to MAX1002/MAX1003 Dual ADC and Popular Baseband ICs
- ◆ Evaluation Kit Available, Tuner Reference Design Assistance Available

*Contact factory for MAX2105 versions with expanded frequency range.

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX2105CWI	0°C to +70°C	28 Wide SO

Functional Diagram



Maxim Integrated Products 1

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For small orders, phone 408-737-7600 ext. 3468.