MICROTUNE

Product Brief

MT2066
Single-Chip Broadband Tuner

Related Product Information:

- Press Release
- Related Products
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- Cable Product Selector Guide

The MicroTuner™ MT2066 is an advanced, low-power single-chip broadband tuner, with loop-through, optimized for Digital Video Broadcast via Cable (DVB-C) set-top boxes.

Description

The MicroTuner™ MT2066 is an advanced, low-power single-chip broadband tuner, with loop-through, optimized for Digital Video Broadcast via Cable (DVB-C) set-top boxes.

The MT2066 receives frequencies in the 41 to 862 MHz range and converts them to a standard 36.125 MHz IF output.

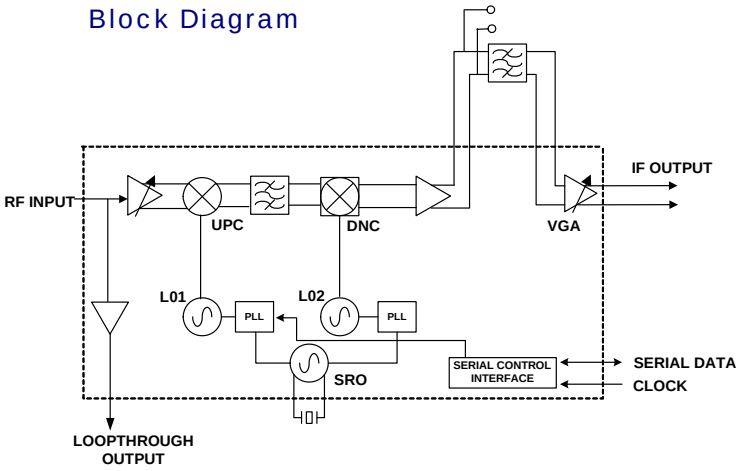
The MT2066 dual-conversion architecture, without any need for tracking filters, yields the desirable characteristics of traditional cable television tuners. This is achieved by careful control of the input impedance across the entire input band, low in-band emissions and outstanding image rejection.

An integrated spur-avoidance technology allows the MT2066 to be easily implemented in multi-tuner applications. The MT2066 has an integrated on-chip loop-through function that allows the Bill of Materials (BOM) cost to be kept low. With excellent in-band flatness and repeatable gain characteristics across the complete reception band, the MT2066 is an affordable low cost tuner for DVB-C set-top box applications.

Features

- 41 MHz to 862 MHz input frequency range
- 3.3 V power supply
- Works seamlessly with all digital demodulators
- Low-power 1 Watt dual-conversion architecture
- Integrated first IF filter
- Integrated loop-through function
- Single-ended RF input reduces BOM by eliminating input balun
- Minimal external components
- No manually tunable parts required
- Integrated IF variable gain amplifier for direct connection to digital demodulators
- Fully compatible with all DVB-C standards
- Capable of driving multiple SAW filters

Block Diagram



Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit
Input frequency range	41		862	MHz
Supply voltage	3.15	3.3	3.45	V
Supply voltage ripple			25	mVp-p
Operating junction temperature			125	°C
VGA output load impedance	200			Ω
Serial control clock			400	kHz

Tuner Electrical Characteristics

Parameter	Min	Typ	Max	Unit
Power Supply				
Active current (I_{CC}) 3.3 V		338		mA
RF Signal Path				
Input frequency range	41		862	MHz
Return Loss		8		dB
Noise figure at max gain		7		dB
Terminal voltage gain		42		dB
RF AGC range		75		dB
Image rejection		70		dBc
Phase noise (10 kHz)		87		dBc/Hz
Phase noise (100 kHz)		105		dBc/Hz
LO step size	50			kHz

Parameter	Min	Typ	Max	Unit
IF VGA				
IF Frequency		36.125		MHz
Output voltage			2.0	Vp-p
Terminal voltage gain (VGAGC = 3) Gain Range		42		dB
Loop-through				
Loop-through gain		3		dB

Related Documents

- PB-00162 – MT2066 Product Brief (This document)
- DS-00113 – MT2066 Data Sheet
- UG-00413 – MT2066 EV Board User Guide
- Reference Group 00413– EV Board references including Schematic, Gerbers, PCB Layout, etc.

Contact and Ordering Information

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