

MxL101SF

Single Chip DVB-T Tuner + Demodulator SoC

MxL101SF is a highly integrated low power System on Chip (SoC) integrating the functionality of a high performance CMOS silicon tuner and NORDIG/DTG compliant DVB-T demodulator. MxL101SF delivers exceptional performance, lowest power consumption, the smallest footprint and the lowest total solution cost.

All RF input signal filtering, channel selection filtering, demodulation and error correction functionality have been completely integrated, reducing the external bill of materials to a small number of standard value discrete components. SAW filters are not required for any application. The RF input is a single-ended 75Ω interface requiring no external transformers. Serial and Parallel TS (Transport Stream) options are configurable on the same IC.

In addition to integrating all functionality required to receive and demodulate DVB-T signals, MxL101SF also provides access to the IF signal of the tuner portion, enabling hybrid DVB-C/DVB-T2 implementations by connecting a discrete demodulator to the IF interface. The IF output frequency of MxL101SF is SW configurable which provides a seamless interface to all commonly available demodulators on the market today. All gain control loops are fully integrated and are automatically controlled by the MxL101SF without any interaction from the MPEG decoder.

MxL101SF is based on a single monolithic IC, enabling superior reliability and manufacturability compared to discrete and Silicon in Package (SiP) implementations. The cost advantages of standard digital CMOS enable MxL101SF to be the most competitive solution in any digital TV application.

MxL101SF utilizes an API based SW architecture, reducing the programming of the device to a few simple commands and eliminating the need for complicated register calls. Additionally, MxL101SF requires no complicated spur avoidance algorithms commonly used by other solutions. This SW simplicity enables quick and easy implementation of the driver source code on any SW platform.

MxL101SF is available in a small 7x7mm QFN48 package, which represents a 50% reduction in size compared to other solutions in the market today. The small footprint and low BOM count make MxL101SF uniquely suitable for space constrained and power sensitive applications. Supporting information is available upon request, including reference schematics, detailed bill of materials, HW and SW design guides, source code and standard specific performance test reports. Complete reference designs are available for a variety of applications and standards from MaxLinear as well as from MaxLinear's partners.



Applications

- Set-Top Boxes
- Digital Televisions
- Mobile / Portable Applications
- PCTV Applications
- Tuner Modules

Features

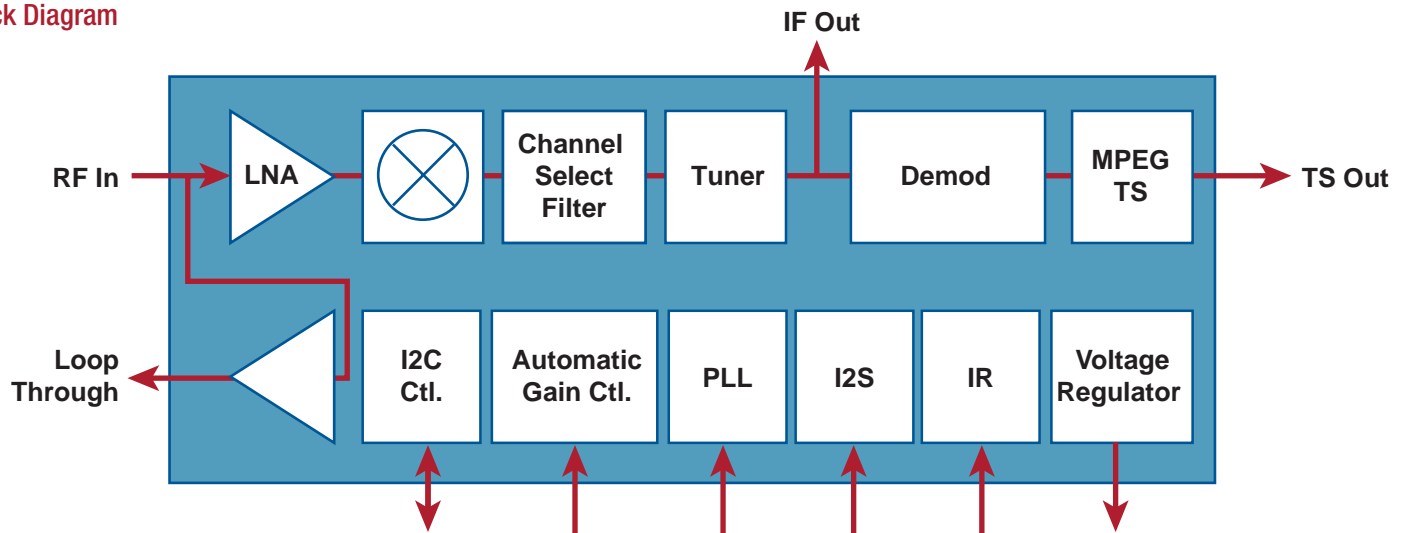
- 44MHz to 885MHz tuning range
- Programmable IF output
- Programmable IF spectrum inversion
- I2C compatible interface
- API based SW interface
- QFN 48 Package, 7x7mm

Benefits

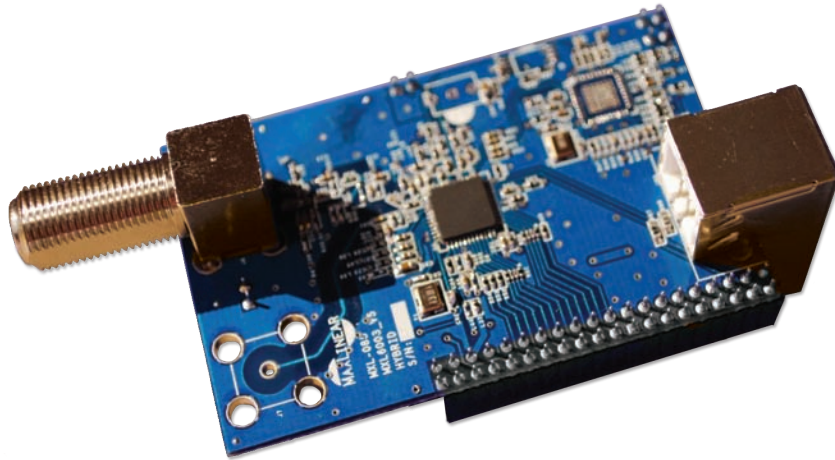
- Ultra low power – 415mW
- No external SAW filters
- Low BOM cost
- Integrated loop-through
- Reference clock output for crystal sharing
- IF output option

MxL101SF Single Chip DVB-T Tuner + Demodulator

Block Diagram



Evaluation Board



Ordering Information

Product	Part Number	Description
MxL101SF	MxL101SF	Single Chip DVB-T Tuner + Demodulator SoC



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