

Product Information

MLX71120

300 to 930MHz FSK/FM/ASK Receiver

The MLX71120 is a multi-band, single-channel RF receiver based on a double-conversion super-heterodyne architecture. It can receive FSK and ASK modulated signals. The IC is designed for general purpose applications for example in the European bands at 433MHz and 868MHz or for similar applications in North America or Asia, e.g. at 315MHz or 915MHz. It is also well-suited for narrow-band applications according to the ARIB STD-T67 standard in the frequency range 426MHz to 470MHz.

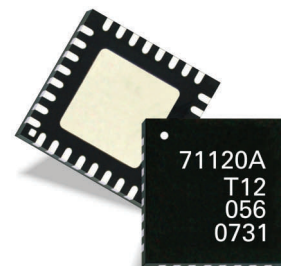
The receiver's extended temperature and supply voltage ranges make the device a perfect fit for automotive or similar applications where harsh environmental conditions are expected.

Features

- Dual RF input for antenna and frequency diversity, LNA cascading or diff. feeding
- Fully integrated PLL-based synthesizer
- 2nd mixer with image rejection
- Reception of ASK or FSK modulated signals
- Wide operating voltage and temperature range
- Very low standby current consumption
- Low operating current consumption
- External IF filters: 10.7MHz or 455kHz
- Internal FSK demodulator
- Average or peak detection data slicer mode
- RSSI output with high dynamic range for signal strength indication
- Output noise cancellation filter
- MCU clock output
- High over-all frequency accuracy
- 32 pin Quad Flat No-Lead (QFN 5x5 Quad)

Technical Data Overview

- Input frequency ranges: 300 MHz to 470 MHz
610 MHz to 930 MHz
- Power supply range: 2.1 V to 5.5 V
- Temperature range: -40 °C to +125 °C
- Standby current: 50 nA
- Operating current: 6.5 mA to 8.1 mA
- FSK Input Sensitivity: -108 dBm (WB, 433 MHz)
-112 dBm (NB, 433MHz)
- ASK Input Sensitivity: -113 dBm (WB, 433MHz)
- Selectable IF2 frequency: 10.7 MHz or 455 kHz
- FM/FSK deviation range: ±2.0 kHz to ±100 kHz
- Maximum data rate: 100 kbps NRZ, 50 kbps bi-phase code
- Image rejection: 65 dB 1st IF (with external RF front-end filter)
25 dB 2nd IF (internal image rejection)
- Spurious emission: < -54 dBm
- Linear RSSI range: > 70 dB
- MCU clock frequency: 2.0 MHz to 3.4 MHz



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Automotive ICs

Hall ICs

Intelligent Drivers
and Actuators

RF&RFID

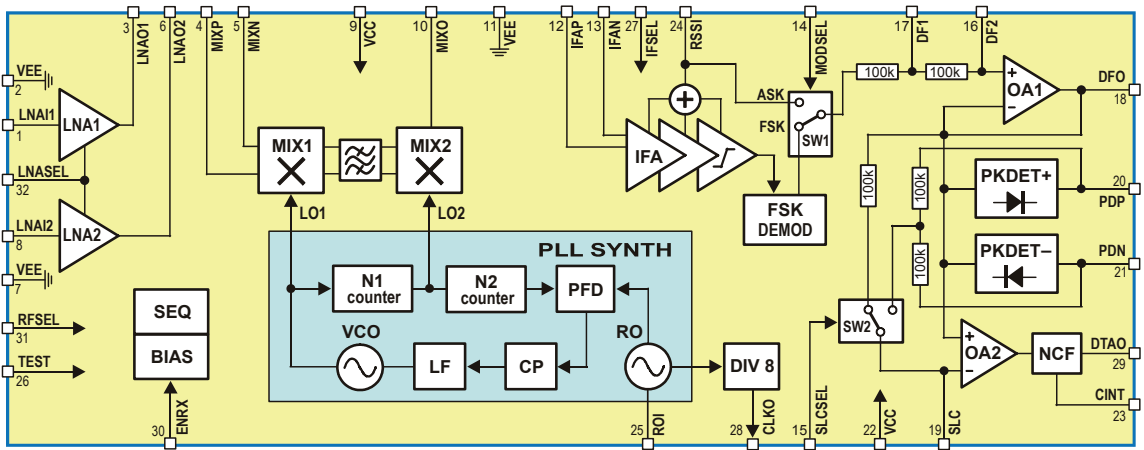
Silicon MEMS

CMOS Imaging

Bus ICs

IR Temperature

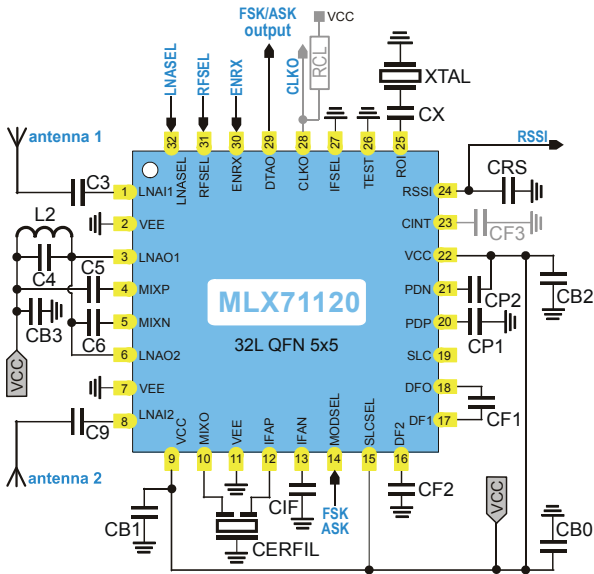
Block Diagram



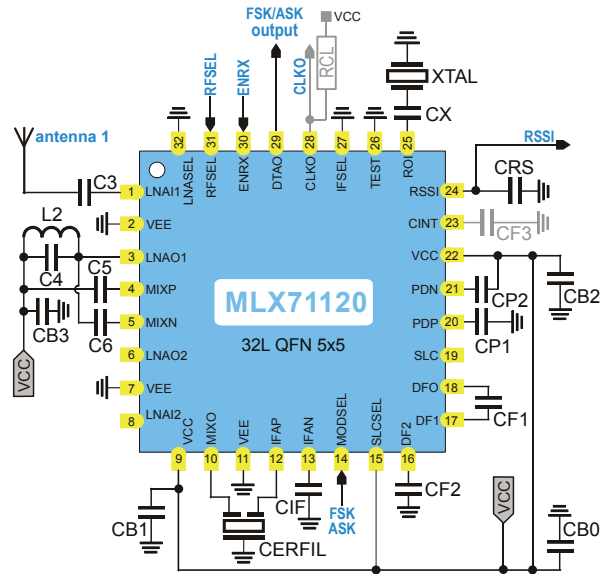
Applications

- General digital and analog data receiving
- Tire Pressure Monitoring Systems (TPMS)
- Remote Keyless Entry (RKE)
- Wireless access control
- Low-power telemetry systems
- Home and building automation
- Alarm and security systems
- Garage door openers
- Remote controls
- Active RFID tags

Application Circuits



Dual-Channel Application



Single-Channel Application

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