MxL568

Product Brief

Eight-Channel, Six TS, Single RF FSC® Satellite Receiver

General Description

The MxL568 is a low-power single-chip satellite receiver IC, featuring an L-band Full-Spectrum Capture® (FSC®) tuner and eight demodulators that are compliant with DVB-S, DVB-S2, and DIRECTV legacy standards.

The MxL568 receives signals from the L-band differential RF input from 950 MHz to 2150 MHz, and demodulates eight satellite channels to produce six independent serial TS outputs. All six TS outputs support two-wire, three-wire, or four-wire modes. The MxL568 can accept up to four DVB TS inputs. Each of the six TS output ports can carry TS from any of the internal eight DVB-S/DVB-S2/DIRECTV legacy demodulators, or a TS from one of the four DVB TS inputs.

The MxL568 communicates with satellite LNBs through on-chip DiSEqC and FSK modems.

All major functions are incorporated onto the device, including LNA, channel filters, AGC, adaptive equalizers, PLLs, crystal load capacitors, and demodulators. The MxL568 enables simple, compact board designs with low-power consumption and reduced BOM costs.

The MxL568 is controlled via an I^2C interface, and operates using 1.8V and 1.1V core supplies and an I/O supply of 3.3V. The MxL568 is available in a small 10 mm x 10 mm footprint 72-pin QFN package.

Applications

- STBs
- Residential gateways
- SAT>IP multi-switch
- IP-LNB

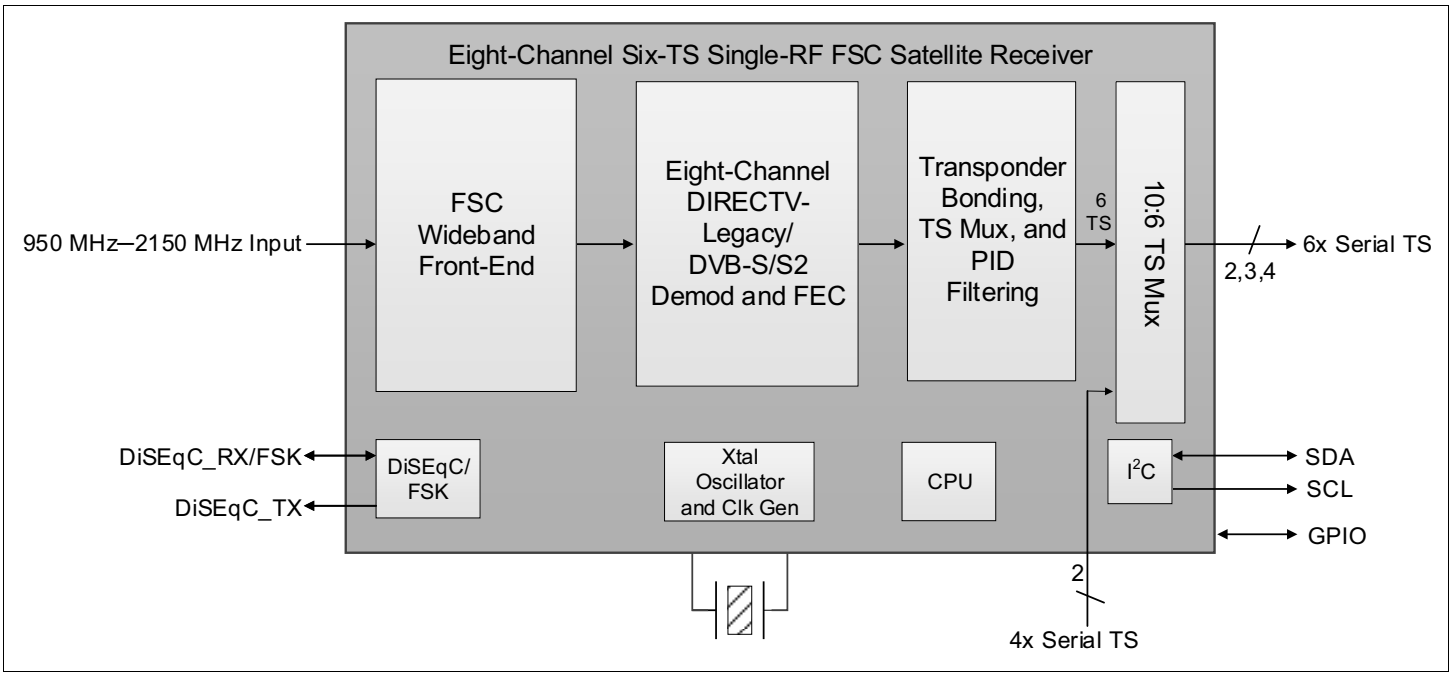
Features

- Ultra low power
- Symbol rates of:
  - 1 MSps to 45 MSps in DVB-S and DVB-S2 modes
  - 20 MSps to 30 MSps in DIRECTV Legacy mode
- DIRECTV full transponder loading compliant
- Broadcast wake-up
- Conversion from DIRECTV legacy packets to standard DVB-S/DVB-S2 TS packets
- Single-channel or Network Tuner mode
- Integrated LNA
- Differential RF input
- Channel spectrum analysis data available through I^2C
- On-chip programmable crystal load capacitors to reduce external components
- Coexistence with MoCA, LTE, and WiFi
- Automatic channel acquisition
- Auto-detection and auto-correction of spectral inversion
- Six serial TS output ports, configurable in two-wire, three-wire, or four-wire modes
- PID filtering and output TS multiplexing with 2:1 or 4:1 ratio in serial TS mode, or 6:1 ratio in parallel TS mode
- Up to four two-wire TS inputs that can be routed to the output TS lines
- DiSEqC 2.2 two-way LNB control interface and FSK modem
- *EN50494:2007* and *EN50607:2013* standards, and SWM single-cable LNB distribution
- I^2C compatible interface

Supported Standards

- DVB-S
- DVB-S2
- DIRECTV Legacy standard

Block Diagram



Ordering Information

Ordering Part Number	Ordering Part Numer	Package	Dimensions	Shipping
MxL568	MxL568-AK-T	SAWN QFN72	10 mm x 10 mm x 0.85 mm	Tray
MxL568	MxL568-AK-R	SAWN QFN72	10 mm x 10 mm x 0.85 mm	Tape and Reel

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