"CX24128"

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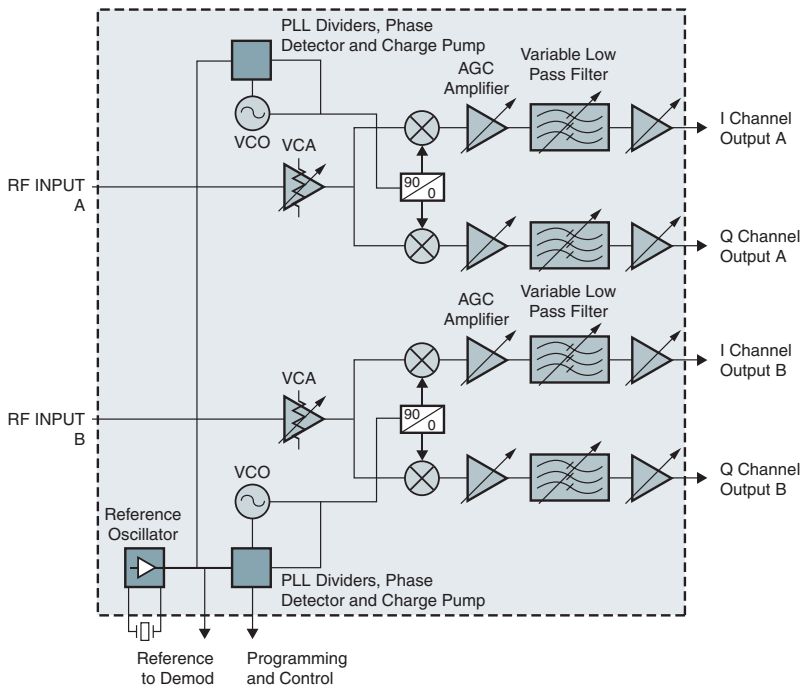1010101010101010101010101010101010101

Digital Satellite Dual Tuner RF IC
CX24128

Industry's First Dual Tuner for DVR Applications

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications, enterprise networks and the digital home. The CX24128 is Conexant's innovative dual stream direct down-conversion satellite tuner RF IC intended for high-volume digital video, audio, and data receivers. The CX24128 offers excellent phase noise performance and very low implementation loss, required for advanced modulation systems such as 8PSK and DVB-S2. The CX24128 provides bill of materials (BOM) savings over two single tuners and simplifies layout for DVR set-top boxes (STBs).

The CX24128 has a built-in auto-tuning machine that eliminates the need for software calibration routine and accelerates the calibration time. The on-chip fractional synthesizers enable fine frequency step size without adversely affecting lock time. The CX24128 requires a single 3.3 V power supply and has an improved power supply rejection ratio (PSRR) that reduces the need for power supply conditioning components required for proper operation. The CX24128 does not require a Balun, thus reducing external BOM cost. Its highly integrated design saves valuable board space and simplifies RF layout.

Distinguishing Features

- Dual stream RF-to-baseband satellite receiver
- State-of-the-art architecture that provides for up to 60 decibel (dB) isolation between two channels
- Zero-IF architecture eliminates the need for image reject filtering
- Very low phase noise for 8PSK and DVB-S2 applications
- Variable baseband filters for optimal interference rejection
- Auto-tuning machine eliminates need for software calibration
- Very low power consumption
- Small (7 mm x 7 mm) footprint
- Lead-free package

CX24128 Block Diagram

Part Number	CX24128
Description	Digital Satellite Dual Tuner RF IC

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Conexant Product Portfolio

The company's broad portfolio of semiconductor products also includes client-side DSL and cable modem solutions, home network processors, broadcast video encoders and decoders, digital set-top box components and systems solutions, and dial-up modems. In addition to its IEEE 802.11a/b/g-compliant WLAN chipsets, software, and reference designs, Conexant offers a suite of networking components that includes solutions for applications based on HomePlug^{SM} and HomePNA™. Additional products include a complete line of asymmetric and symmetric DSL central office solutions, which are used by service providers worldwide to deliver broadband data, voice, and video over copper telephone lines.

CX24128 Features

- State-of-the-art architecture that provides for up to 60 decibel (dB) isolation between two channels
- RF input: 925–2175 MHz
- Symbol rate: 1–45 MSps
- Noise figure: 10 dB, typical
- Input IP3 at minimum gain: 10 dBm, typical
- Baseband filter bandwidth: 3–40 MHz
- Output voltage: 0.5 Vp-p @ RL > 1 kΩ:
- Operating temperature: 0–85° C
- Package type: 48-pin, Pb- free, QFN

Applications

- Advanced modulation set-top boxes
- DSS/DVB set-top boxes
- Digital VCR (DVR)
- Commercial digital video, audio and data receivers

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