LT2611UXC --- Product Brief

Dual-Port LVDS to HDMI2.0 with Audio

Features

- **Single/Dual-Port LVDS Receiver**
  - Compatible with VESA and JEIDA standard
  - 1/2 configurable ports
  - 1 clock lane and 3/4 configurable data lanes per port
  - 1.2Gbps per data lane
  - Programmable receiver equalization
  - Support data lane swap(arbitrarily) and polarity inversion(independent)
  - DeSSC capable: +/-5%@30~80kHz
  - 6-bit and 8-bit color depth
  - 3D support: direct 3D input, 2-way 2D L/R input

- **Digital Audio Input**
  - I2S interface supporting 2-channel audio, with sample rates of 32~192 kHz and sample sizes of 16~24 bits
  - SPDIF interface supporting PCM, Dolby Digital, DTS digital audio at up to 192kHz frame rate
  - IEC60958 or IEC61937 compatible

- **HDMI2.0 Transmitter**
  - Compliant with HDMI2.0b, HDMI1.4 and DVI1.0
  - Compliant with HDCP2.2 and HDCP1.4
  - Data rate up to 3Gbps
  - On-die back termination
  - Programmable transmitter swing and pre-emphasis
  - AC-couple capable
  - Support channel swap(arbitrarily) and polarity inversion(independent)
  - Support 4k@30Hz
  - Supported 3D formats:
    Direct 3D input: frame packing(progressive)
    2-way 2D L/R input: side-by-side(half/full), line alternative
  - Supported video formats:
    CSC disabled: 24-bit RGB
    CSC enabled: 24-bit YCbCr4:4:4, 16-bit YCbCr4:2:2
  - Support TMDS scrambling for EMI/RFI reduction
  - Support SCDC
  - 5V tolerance DDC/HPD I/Os

- **Miscellaneous**
  - CSC: RGB <-> YUV444 <-> YUV422
  - Integrated CEC Controller
  - External oscillator
  - Integrated microprocessor
  - Embedded SPI flash for firmware and HDCP keys
  - GPIOs for system controls
  - Integrated 100/400kHz I2C slave
  - Firmware update through SPI or I2C interface
  - Power supply: 3.3V for I/O and 1.2V for core
  - ESD 4kV HBM
  - Temperature Range: -40℃ ～ +85℃
  - Package: QFN64(7.5mm*7.5mm)

Description

The LT2611UXC is a high performance LVDS to HDMI2.0 converter for STB, DVD applications.

The LVDS input can be configured as single-port or dual-port with 1 high-speed clock lane, and 3~4 high-speed data lanes operating at maximum 1.2Gbps/lane, which can support a total bandwidth of up to 9.6Gbps. LT2611UXC supports flexible video data mapping path for 2D and 3D applications.

The HDMI2.0 output supports data rate up to 3Gbps which provides sufficient bandwidth for 4k@30Hz video. Also HDCP2.2 is supported for data encryption.

Two digital audio input interfaces are available, I2S and SPDIF. The I2S interface supports 2-ch LPCM and the SPDIF interface supports 2-ch LPCM or compressed audio, both at maximum 192kHz sample rate.

The device is capable of automatic operation which is

enabled by an integrated microprocessor that uses an embedded SPI flash for firmware storage. System control is also available through the configuration I2C slave interface.
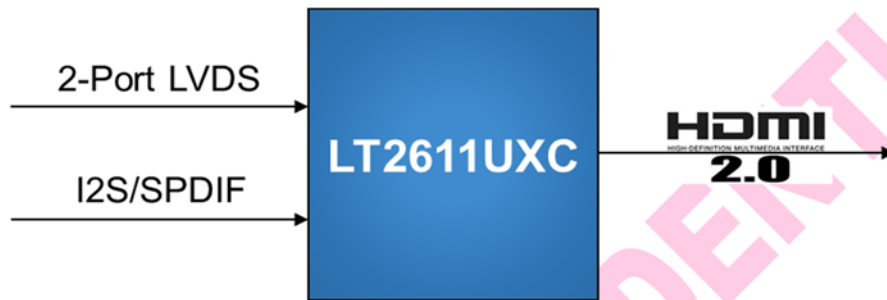
Applications

- STB
- DVD/BD
- PTV Box

Figure1. Application Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT2611UXC	-40℃ to +85℃	QFN64 (7.5*7.5)	Tray

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