

LT8612UX --- Product Brief

HD-DVI2.0 to HD-DVI2.0 and VGA Converter with Audio

1. Features

● HD-DVI2.0 Receiver

- Compliant with HD-DVI2.0b, HD-DVI1.4 and DVI1.0
- Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
- Data rate up to 6Gbps
- Support up to 4Kx2K@60Hz
- Adaptive receiver equalization
- Support data channel swap(arbitrarily) and polarity inversion(independent)
- AC and DC couple capable
- Support HDCP repeater
- Support 3D and HDR
- Support 8/10/12-bit color depth
- Support TMDS descrambling for EMI/RFI reduction
- Support ACDC (Auxiliary and Control Data Channel) and CES (Consumer Electronics Service)2.0
- Integrated EDID shadow
- 5V tolerance DDC/HPD I/Os

● HD-DVI2.0 Transmitter

- Compliant with HD-DVI2.0b, HD-DVI1.4 and DVI1.0
- Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
- Data rate up to 6Gbps
- Support up to 4Kx2K@60Hz
- Programmable transmitter swing and pre-emphasis
- Support channel swap(arbitrarily) and polarity inversion(independent)
- DC couple capable
- Downstream receiver sensing
- Support 3D and HDR
- Support 8/10/12-bit color depth
- Support TMDS scrambling for EMI/RFI reduction
- Support ACDC (Auxiliary and Control Data Channel) and CES (Consumer Electronics Service)2.0
- 5V tolerance DDC/HPD I/Os

● Triple-Channel Video DAC

- Compliant with VESA VSIS1.2
- Support WUXGA timing and up to 200MSPS throughput
- Support CSC(Color Space Conversion) from YCbCr 4:2:2 to YCbCr 4:4:4 and YCbCr 4:4:4 to RGB
- Only support separate SYNC
- Amplitude calibration
- R/B swappable
- Load sensing
- 5V tolerance DDC I/Os

● Digital Audio Output

- Up to four I2S interface supporting 8-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

● Miscellaneous

- Internal term calibration
- External crystal supports 25MHz
- Integrated microprocessor
- Integrated SPI master for embedded SPI flash
- Embedded SPI flash for firmware and HDCP keys
- Integrated 100/400kHz I2C slave for debug and firmware update
- 1.2V core power supply & 3.3V I/O power supply

2. General Description

The LT8612UX is a HD-DVI to HD-DVI&VGA converter, which converts HD-DVI2.0 data streams to HD-DVI2.0 signals and analog RGB signals. It also outputs 8 channel I2S and SPDIF signals which enable high quality 7.1 channel audio.

The LT8612UX uses the latest ClearEdge™ Technology to expand a VGA interface in addition to original HD-DVI interface.

3. Applications

- Digital Signage
- PC, Laptop Mother Boards
- HD-DVI to VGA Dongle
- Car Entertainment System

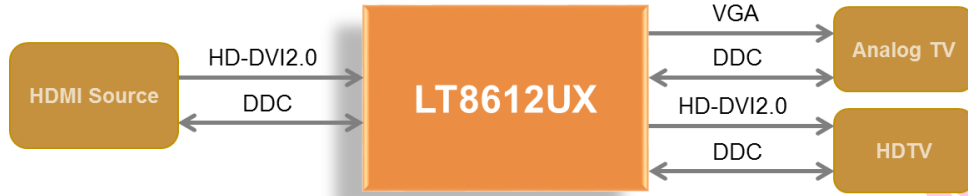
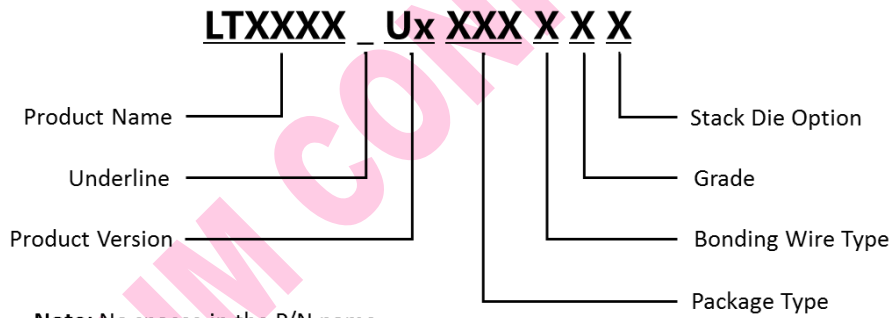


Figure 3.1 Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Product Name	Part Number	Product Status	Package	Bonding Wire	Grade	Operating Temperature Range	Stack Die Option	Packing Method	MPQ
LT8612UX	LT8612UX_U5Q04CED	Preview	QFN76 (9*9)Saw	Cu	E	-40°C to +85°C	D	Tray	2600pcs



Note: No spaces in the P/N name.

Figure 4.1 Part Number Naming Rules

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