

LT8612UX --- Product Brief

HDMI2.0 to HDMI2.0 and VGA Converter with Audio

1. Features

● HDMI2.0 Receiver

- Compliant with HDMI2.0b, HDMI1.4 and DV11.0
- 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 SCDC and CEC2.0
- Integrated EDID shadow
- 5V tolerance DDC/HPD I/Os

● HDMI2.0 Transmitter

- Compliant with HDMI2.0b, HDMI1.4 and DV11.0
- 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 SCDC and CEC2.0
- 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 HDMI to HDMI&VGA converter, which converts HDMI2.0 data streams to HDMI2.0 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 HDMI interface.

3. Applications

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

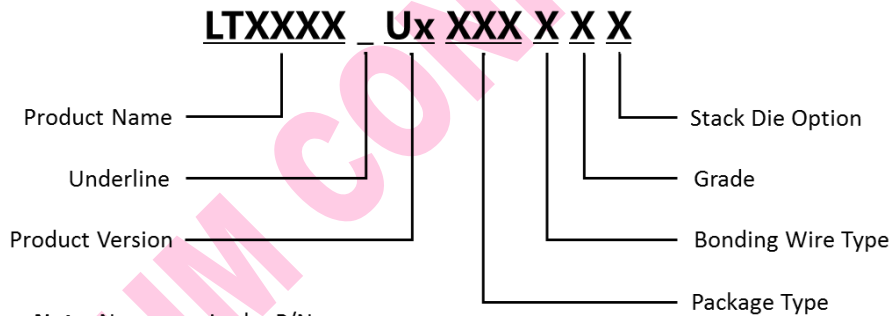


Figure 3.1 Application Diagram

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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