

LT8642UX --- Product Brief

HD-DVI2.0 4-In 2-Out Matrix Switch

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
- Support ARL (Audio Return Lane)
- 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
- Support ARL (Audio Return Lane)

- 5V tolerance DDC/HPD 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 rterm 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 LT8642UX HD-DVI2.0/1.4 Switch features a 4:2 switch compliant with HD-DVI2.0/1.4 specification, max 6Gbps high speed data rate, adaptive equalization RX input and pre-emphasized TX output to support long cable application.

LT8642UX HD-DVI2.0/1.4 Switch automatically detects the cable loss, and adaptively optimize the equalization setting. It supports RX termination resistor calibration to further improve signal integrity.

LT8642UX support DDC/ACDC compliant to HD-DVI2.0/1.4 specification.

3. Applications

- Front panel buffer for advanced television (HDTV) sets
- Standalone switcher
- Multiple input displays
- Projectors

- AV receivers

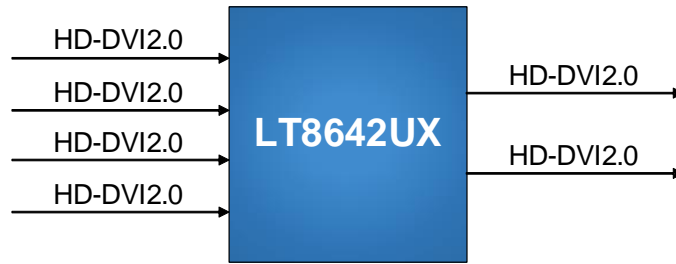


Figure 3.1 Application Diagram

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
LT8642UX	LT8642UX_U5Q00CED	Preview	QFN128 (14*14)Saw	Cu	E	-40°C to +85°C	D	Tray	1190pcs

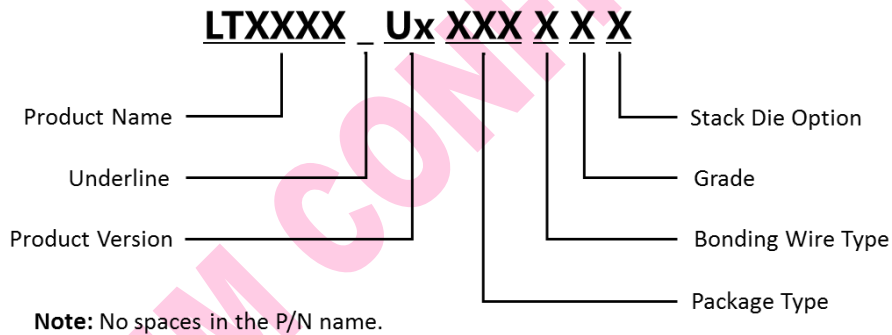


Figure 4.1 Part Number Naming Rules

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