

# LT8642UXE --- Product Brief

## HDMI2.0 4-In 2-Out Matrix Switch

### 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 polarity inversion
- Support 3D and HDR(only for bypass mode)
- Support 8/10/12-bit color depth
- Support TMDS descrambling for EMI/RFI reduction
- Support SCDC and CEC2.0
- Support ARC TX
- Integrated 256-byte 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
- Support 3D and HDR(only for bypass mode)
- 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

#### ● Digital Audio Output/Input

- I2S interface supports 8-channel audio output and 2-channel audio input, with sample rates of 32~192 kHz and sample sizes of 16~24 bits
- SPDIF interface supports LPCM, Dolby Digital, DTS digital audio input and output up to 192kHz frame rate
- IEC60958 or IEC61937 compatible

#### ● Miscellaneous

- Internal Rterm calibration
- CSC: RGB <-> YUV444 <-> YUV422<-> YUV420
- Scaler: 4Kx2K@60/50/30Hz to 1080P@60/50/30Hz (3840x2160 to 1920x1080 or 4096x2160 to 2048x1080)
- Support horizontally split one stream to two stream(3840x1080@60Hz to 1920x1080@60Hz and 1920x1080@60Hz)
- Support horizontally combine two synchronous stream to one stream(1920x1080@60Hz and 1920x1080@60Hz to 3840x1080@60Hz)
- External crystal supports 25MHz(+/-100ppm)
- 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 LT8642UXE HDMI2.0/1.4 switch features a 4:2 switch compliant with HDMI2.0/1.4 specification, max 6Gbps high speed data rate, adaptive equalization RX input and pre-emphasized TX output to support long cable application.

LT8642UXE HDMI2.0/1.4 switch automatically detects the cable loss, and adaptively optimize the equalization setting. It supports RX termination resistor calibration to further improve signal integrity.

### 3. Applications

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

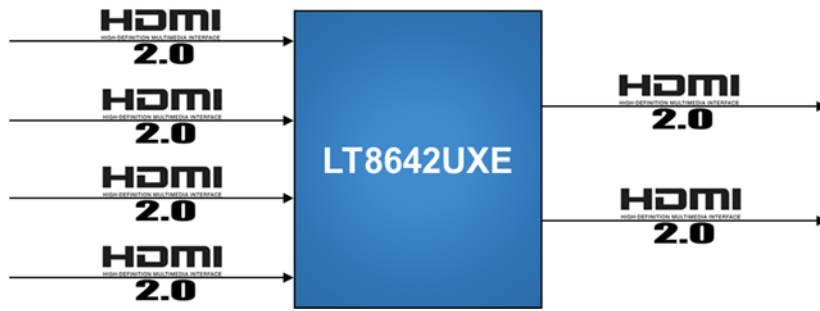
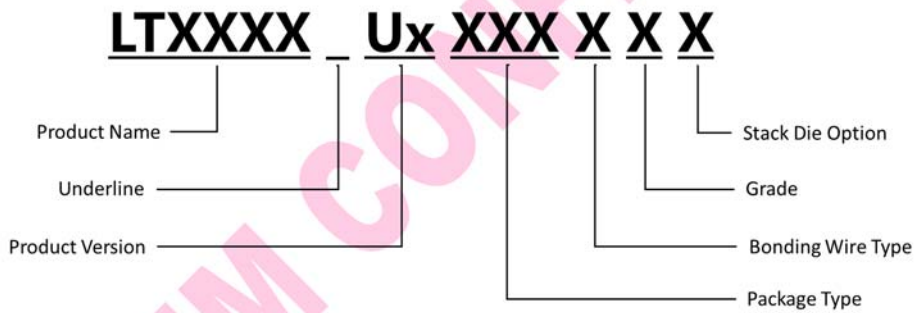


Figure 3.1 Application Diagram

## 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
LT8642UXE	LT8642UXE_U1Q00CED	MP	QFN128 (14*14)Saw	Cu	E	-40°C to +85°C	D	Tray	1190pcs



Note: No spaces in the P/N name.

Figure 4.1 Part Number Naming Rules

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