

LT6711GX --- Product Brief

HD-DVI2.1 to DP1.4a with Type-C

1. Features

● HD-DVI2.1 Receiver

- Compliant with HD-DVI2.1, HD-DVI2.0b, HD-DVI1.4 and DVI1.0
- Data rate up to 10Gbps
- Support HDCP 1.4/2.3
- Support HDCP repeater
- Support RGB 8/10/12 bpc, YCbCr4:4:4/ YCbCr4:2:2/ YCbCr4:2:0 /8/10/12 bpc
- Support up to 8K@30Hz RGB/YCbCr4:4:4/ YCbCr4:2:2 8bpc or YCbCr4:2:0 12 bpc
- Support up to 4K@120Hz RGB/YCbCr4:4:4/ YCbCr4:2:2 8bpc or YCbCr4:2:0 12 bpc
- Support up to 8K@60Hz DSC pass-through
- Support static HDR10
- Support FEC
- Support CES (Consumer Electronics Service)
- Support Adaptive-Sync
- Integrated EDID shadow (max 512-byte)
- Support ARL (Audio Return Lane)

● DP1.4a/eDP1.5 Transmitter

- Compliant with DisplayPort specification 1.4a for 1.62Gbps, 2.7Gbps, 5.4Gbps, 8.1Gbps
- Compliant Embedded DisplayPort specification version 1.5
- Support DisplayPort 1/2/4 lanes
- Support HDCP 1.3/2.3
- Support HDCP repeater
- Support RGB 6/8/10/12 bpc, YCbCr4:4:4/YCbCr4:2:2/ YCbCr4:2:0 8/10/12 bpc
- Support up to 8K@30Hz RGB 6bpc, YCbCr4:2:2 10 bpc or YCbCr4:2:0 12 bpc
- Support up to 4K@120Hz RGB 6bpc, YCbCr4:2:2 10 bpc or YCbCr4:2:0 12 bpc
- Support up to 8K@60Hz DSC pass-through

- Support static HDR10
- Support FEC
- Support Adaptive-Sync
- Support ASSR for eDP
- Support Horizontal Blanking Expansion
- Support SSC

● USB Type-C

- Compliant with VESA DisplayPort alt mode on USB Type-C standard 1.0
- DP alt mode only support pin assignment C and E
- Compliant with USB power delivery specification 3.0
- Compliant with USB Type-C cable and connector specification 1.3
- Built-in dual CC logic and PD controller for charger and normal communication
- Data roles supported: DFP
- Power Roles Supported: source, sink and DRP
- Support USB Billboard

● Digital Audio Input or Output

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

● DSC Encoder

- Compliant with DSC 1.2a
- Support up to hactive 4096
- Support up to pixel clock 1.2GHz
- Support 1/2/4 slices
- Support color space RGB, YCbCr4:4:4, YCbCr4:2:2, and YCbCr4:2:0
- Support color depth 8bit and 10bit
- Support bpp precision 1 bit
- Support only constant refresh rate

● Miscellaneous

- CSC: RGB <-> YCbCr4:4:4 <-> YCbCr4:2:2<-> YCbCr4:2:0
- Zoom scaling up or down (4K max)
- Integrated 100/400KHz I2C slave
- Integrated microprocessor
- External oscillator 25MHz, +/-50ppm
- Embedded SPI flash for firmware and HDCP keys
- Firmware update through SPI or I2C or USB interface
- Power supply: 3.3V and 1.15V

For DP1.4a output, it consists of 4 data lanes, supporting 1.62Gbps, 2.7Gbps, 5.4Gbps and 8.1Gbps link rate. The build-in optional SSC function reduces EMI effect.

In order to be adaptable to the latest USB Type-C system, LT6711GX integrates CC logic and PD controller to relieve mobile system design complexity and BOM cost.

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.

2. General Description

The LT6711GX is HD-DVI2.1 to DP1.4a converter with PD controller.

For HD-DVI2.1 input, LT6711GX can be configured as 3/4 lanes. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 32Gbps. It supports the highest resolutions of 8K@30Hz or 8K@60Hz with compression data (pass-through).

3. Applications

- Mobile systems
- VR/AR
- Dongles
- Digital video cameras and Digital still cameras
- Cellular handsets, PAD/Tablets



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
LT6711GX	LT6711GX_U3Q02AED	MP	QFN88 (10*10)Saw	Au	E	-40°C to +85°C	D	Tray	1680pcs

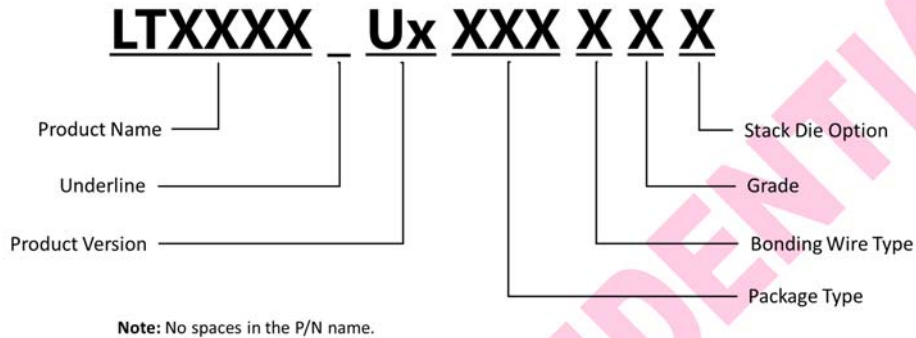


Figure 4.1 Part Number Naming Rules

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