LT6711 --- Product Brief

HDMI2.0 to DP1.2 with Type-C

1. Features

- **HDMI2.0 Receiver**
  - Compliant to HDMI2.0 Standard
  - Support HDCP1.4/2.2
  - Support Resolution up to 4Kx2K@60Hz
  - Support 8-bit color depth
  - Support Status and Control Data Channel (SCDC)
  - Support 8 sound channels
- **DP1.2 /eDP1.4 Transmitter**
  - Compliant to VESA DP1.2 Standard
  - Support Four Lanes with 1.62Gbps (RBR), 2.7Gbps (HBR) or 5.4Gbps (HBR2) Data Rate
  - Support Resolution up to 4Kx2K@60Hz
  - Support HDCP1.3 Encryption
  - Support 8-bit Color Depth
  - Support Hot-Plug Detect
  - Optional SSC 0.5% Down-Spreading Output
  - Internal Rterm Calibration
  - Support Backlight Control for eDP
  - Support ASSR for eDP
  - Build-in Pattern Generation
- **USB Type-C**
  - Compatible with USB Type-C R1.2, DP Alt Mode V1.0 and USB PD R3.0
  - Roles Supported: DFP and UFP for DCC, UFP for UCC
  - Power Roles Supported: SRC, SNK and DRP for DCC, SNK for UCC
  - USB Type-C Full-Featured, Orientation and Role Detection
  - 3-level Current Ability Advertise (Host Mode) or Detection (Device Mode) for Type-C Power: USB Default, 1.5A@5V, 3A@5V
  - Support FR_Swap
  - SBU Data Path Control for DP Alt Mode

- Dead Battery Support When No Power Applied
- Support Standby Mode for Low-Power Operating
- **Miscellaneous**
  - Support OSD display with 8K Programmable Dot Matrix and Attribute Table
  - 1.2V/1.8V/3.3V Supply Power
  - External 27MHz Crystal Reference Clock
  - Temperature Range: -40°C to +85°C
  - Packaged in BGA81 5mmx5mm, 7.5mmx7.5mm QFN64
  - Power Consumption: 1W@4K60Hz

2. General Description

The Lontium LT6711 is HDMI2.0 to DP1.2 converter with internal Type-C Alternate Mode switch and PD controller.

For HDMI input, LT6711 features a HDMI2.0 receiver with 1 clock lane and 3 data lanes operating at maximum 6Gb/s per data lane and a maximum input bandwidth of 18Gb/s, allowing resolution up to 4Kx2K@60Hz for RGB format. The converter also integrates a DDC controller and supports both HDCP1.4 and HDCP2.2.

For DP1.2 output, it consists of 4 data lanes, supporting RBR (1.62Gbps), HBR (2.7Gbps) and HBR2 (5.4Gbps) link speeds. The build-in optional SSC function reduces EMI effect on EMI-concerned system application.

In order to be adaptable to the latest USB Type-C ecosystem, LT6711 integrates CC logic and PD management unit to relieve mobile system design complexity and BOM cost. The switch function is compliant with VESA DP Alternate Mode on USB Type-C Standard.

The LT6711 is fabricated in advanced CMOS process and implemented in a small outline 5mmx5mm BGA81 (LT6711B) and 7.5mmx7.5mm QFN64 (LT6711A) package. This package is RoHS compliant and specified to operate from -40°C to +85°C.

3. Applications

● Cellular handsets, PAD/Tablets

● Digital video cameras and Digital still cameras
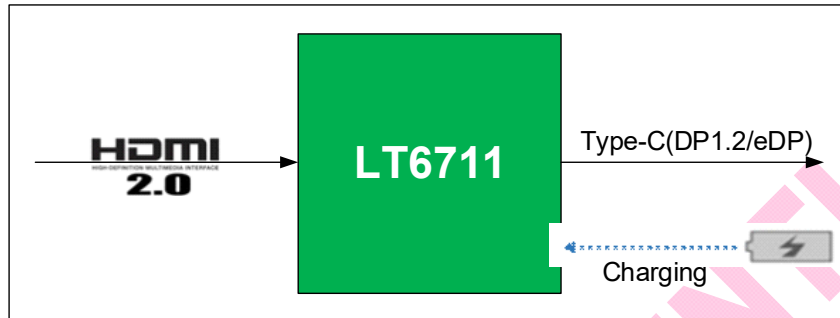
● Mobile systems, VR/AR

Figure 3.1 LT6711 Typical Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method	MPQ
LT6711A	−40°C to +85°C	QFN64 (7.5*7.5)	Tray	2600pcs
LT6711B	−40°C to +85°C	BGA81 (5*5)	Tray	4900pcs

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