

LT7211 --- Product Brief

Type-C/DP/eDP to Quad-port LVDS & MIPI DSI/CSI with Audio

1. Features

● Type-C

- Compliant with VESA DisplayPort Alt Mode on USB Type-C Standard version 1.0
- Compliant with USB Power Delivery Rev.2.0
- Compatible with USB Type-C V1.1
- Built-in CC controller for plug and orientation detection
- One-port CC for UFP communication.

● DP/eDP Receiver

- Compliant with DisplayPort Specification 1.2 for 1.62Gbps, 2.7Gbps, 5.4Gbps
- Compliant with Embedded DisplayPort (eDP) Specification version 1.4
- Support DisplayPort 1, 2, 4 lanes
- Support HDCP 1.3
- Support eDP Authentication: Alternative Scramble Seed Reset
- Adaptive DisplayPort Receiver Equalization for PCB, cable and connector losses

● Single/Dual-Port/Quad-Port LVDS Transmitter

- Compatible with VESA and JEIDA standard
- 1/2/4 Configurable Port
- 1 clock lane and 4 configurable data lanes per port
- Data Lane and Polarity Swapping
- Support Maximum Data Rate 1.2Gbps/lane
- Output Color Depth supports 6-bit and 8-bit
- Video stream copy mode for each port
- Side-by-side 3D support

● Single/Dual-Port/Quad-Port MIPI® DSI/CSI

Transmitter

- Compliant with DCS1.02, D-PHY1.2& DSI1.02 & CSI-2 1.0
- 1 Clock Lane, and 1~4 Configurable Data Lanes per

port

- 1/2/4 configurable port
- 80Mbps~1.5Gbps per data lane
- Maximum 64pixels overlap for each half
- Both non-burst and burst video mode supported
- Support RGB666, Loosely RGB666, RGB888, RGB565, 16-bit YCbCr4:2:2, 20-bit YCbCr4:2:2, 24-bit YCbCr 4:2:2 Video Format
- Video stream copy mode for each port
- Side-by-side 3D support

● Miscellaneous

- 3.3V/1.2V Supply Power
- Internal CSC support conversions between YCbCr 4:4:4 and RGB, and between YCbCr 4:2:2 and YCbCr 4:4:4
- Support SPDIF and 8-channel IIS audio output
- Support 100KHz I2C slave
- Integrated Microprocessor
- Temperature Range: -40°C ~ +85°C
- ESD 2kV HBM

2. General Description

The LT7211 is a high performance Type-C/DP1.2 to MIPI®DSI/CSI/LVDS chip for VR/Display application.

For DP1.2 input, LT7211 can be configured as 1,2,4 lane. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 21.6Gbps.

For MIPI®DSI/CSI output, LT7211 features configurable single-port or dual-port or quad-port. MIPI®DSI/CSI with 1 high-speed clock lane and 1~4 high-speed data lanes operating at maximum 1.5Gbps/lane, which can support a total bandwidth of up to 24Gbps. LT7211 supports burst mode DSI video data transferring, also supports

flexible video data mapping path. For LVDS output, LT7211 can be configured as single-port or dual-port or quad-port.

For 2D video stream, the same video stream can be mapped to two separated panels, for 3D video format, left side data can be sent to one panel, and right side data can be sent to another panel.

With embedded MCU and flash, LT7211 supports EDID buffer, DP/eDP input detection and determines to enter into power saving mode automatically. When the

receiver of LT7211 locks the input signal, MCU can read the recovered timing parameters by MSA registers to match the ASSR. The DPCD registers are accessible via system I2C when debugging the link training.

3. Applications

- Mobile system
- VR
- Video conference system

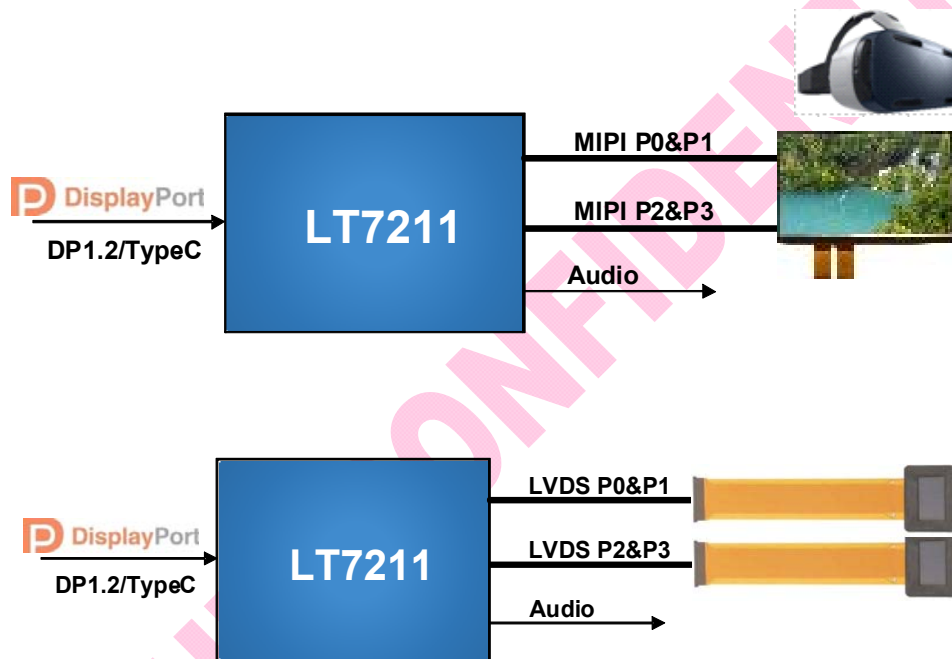


Figure 3.1 Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

| Part Number | Operating Temperature Range | Package | Packing Method |
|-------------|-----------------------------|----------------|----------------|
| LT7211 | -40°C to+85°C | QFN128 (14*14) | Tray |

Copyright © 2016-2021 Lontium Semiconductor Corporation, All rights reserved.

Lontium Semiconductor Proprietary & Confidential

This document and the information it contains belong to Lontium Semiconductor. Any review, use, dissemination, distribution or copying of this document or its information outside the scope of a signed agreement with Lontium is strictly prohibited.

LONTIUM DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THOSE OF NONINFRINGEMENT, MERCHANTABILITY, TITLE AND FITNESS FOR A PARTICULAR PURPOSE. CUSTOMERS EXPRESSLY ASSUME THEIR OWN RISK IN RELYING ON THIS DOCUMENT.

LONTIUM PRODUCTS ARE NOT DESIGNED OR INTENDED FOR USE IN LIFE SUPPORT APPLIANCES, DEVICES OR SYSTEMS WHERE A MALFUNCTION OF A LONTIUM DEVICE COULD RESULT IN A PERSONAL INJURY OR LOSS OF LIFE.

Lontium assumes no responsibility for any errors in this document, and makes no commitment to update the information contained herein. Lontium reserves the right to change or discontinue this document and the products it describes at any time, without notice. Other than as set forth in a separate, signed, written agreement, Lontium grants the user of this document no right, title or interest in the document, the information it contains or the intellectual property in embodies.

Trademarks

Lontium™ 龙迅™ and ClearEdge™ is a registered trademark of Lontium Semiconductor. All other brand names, product names, trademarks, and registered trademarks contained herein are the property of their respective owners.

Visit our corporate web page at: www.lontiumsemi.com

Technical support: support@lontium.com

Sales: sales@lontium.com