LT9211C --- Product Brief

MIPI/TTL/2-Port LVDS to MIPI/TTL/2-Port LVDS Converter

1. Features

- **MIPI Transmitter**
  - Compliant with DCS1.02, D-PHY1.2 ,DSI1.2 and CSI-2 1.00
  - 1 clock lane and 1~4 configurable data lanes
  - Two port simultaneous display supported
  - 8-Lane CSI supported
  - 80Mb/s~2.5Gb/s per data lane
  - Resolution up to 3840x2160 30Hz or any other resolution with pixel clock between 6.25MHz to 297MHz
  - Both non-burst and burst video mode supported
  - Support RGB666, loosely RGB666, RGB888, RGB565, 16-bit YCbCr4:2:2 video format

- **Dual-Port   LVDS Transmitter**
  - Compatible with VESA and JEIDA standard
  - 1~2 configurable port
  - 1 clock lane and 5 data lanes per port
  - Two port simultaneous display supported
  - Resolution up to 3840x2160 30Hz or any other resolution with pixel clock between 6.25MHz to 297MHz
  - Support   DE and SYNC mode
  - Support YCbCr4:2:2
  - Programmable pre-emphasis
  - Support output SSC(30KHz±5%)

- **TTL   Output**
  - Support 24-bit RGB,16-bit YUV422, 8-bit BT656 and 16-bit BT1120
  - Both DDR and SDR sampling supported
  - 1.8V and 3.3V voltage output based on VCCIO
  - Resolution up to 3840x2160 30Hz or any other resolution with pixel clock between 6.25MHz to 297MHz

- **MIPI Receiver**
  - Compliant with DCS1.02, D-PHY1.2 , DSI1.2 and CSI-2 1.00
  - 1 clock lane and 1~4 configurable data lanes

- 80Mb/s ~ 2.5Gb/s per data lane
  - Resolution up to 3840x2160 30Hz or any other resolution with pixel clock between 6.25MHz to 297MHz
  - Both non-burst and burst video mode supported
  - Support RGB666, loosely RGB666, RGB888, RGB565, 16-bit YCbCr4:2:2 video format

- **Dual-Port LVDS Receiver**
  - Compatible with VESA and JEIDA standard
  - 1~2 configurable port
  - 6/8/10bit supported
  - Resolution up to 3840x2160 30Hz or any other resolution with pixel clock between 6.25MHz to 297MHz
  - Support   DE and SYNC mode
  - Support YCbCr4:2:2
  - Internal rterm calibration with less than 5% error
  - Support input De-SSC(30KHz±5%)

- **TTL Input**
  - Support 24-bit RGB,16-bit YUV422, 8-bit BT656 and 16-bit BT1120
  - Both DDR and SDR sampling supported
  - Support DE and SYNC mode
  - 1.8V and 3.3V input voltage based on VCCIO
  - Resolution up to 3840x2160 30Hz or any other resolution with pixel clock between 6.25MHz to 297MHz

- **Miscellaneous**
  - Alternative input and output configuration for LVDS/TTL/MIPI
  - Support 2-port MIPI or LVDS repeater
  - MIPI switch and splitter supported
  - LVDS switch and splitter supported
  - MIPI-LVDS level shifter for FPGA application
  - Support 100KHz and 400KHz I2C slave
  - External 25MHz ± 50ppm crystal reference clock is preferred

2. General Description

LT9211C is a high performance convertor which interconverts among MIPI DSI/CSI-2, Dual-Port LVDS and TTL except for 24bit RGB TTL to 24bit RGB TTL. The conversion between 2-port 10-bit LVDS and 24bit RGB TTL is not recommended. LT9211C deserializes input MIPI/LVDS/TTL video data, decodes packets, and converts the formatted video data stream to MIPI/LVDS/TTL transmitter output between AP and mobile display panel or camera.

LT9211C can be used as 2-port MIPI/LVDS repeater which support maximum 12.5dB input equalization and programmable pre-emphasis to improve performance. LT9211C can also be used as MIPI/LVDS switch and splitter. However, for MIPI CSI RAW format, it must be continuous clock mode.

Except TTL input or output, VCCIO could be 1.8V. In TTL input applications, VCCIO voltage must be greater than or equal to TTL input high voltage level. TTL output voltage level is determined by VCCIO, for resolutions above 1080P60Hz, 3.3V is recommended for VCCIO.

3. Applications

- Mobile systems
- Cellular handsets
- Digital video cameras
- Digital still cameras
- Tablet PC, Notebook PC
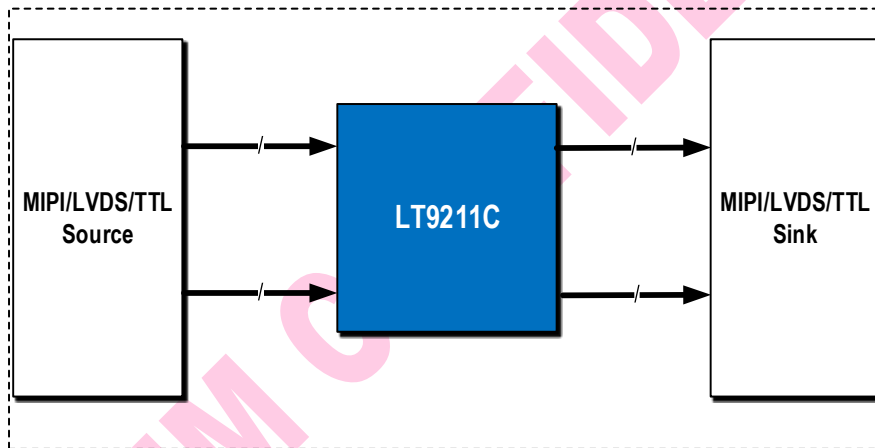- Car Display and Camera System
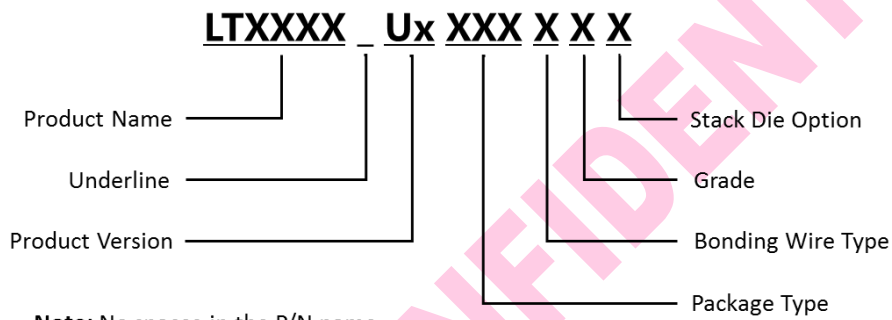

Figure 3.1 LT9211C Typical Application Diagram

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
LT9211C	LT9211C_U2Q07CEN	MP	QFN64 (7.5*7.5) Saw	Cu	E	−40°C to +85°C	N	Tray	2600pcs
LT9211C	LT9211C_U2Q07CAN	MP	QFN64 (7.5*7.5) Saw	Cu	A	−40°C to +105°C	N	Tray	2600pcs
MP: Mass Production.									

Note: LT9211C_U2Q07CAN is an automotive grade device which is qualified by AEC-Q100 grade 2 testing.

LTXXXX _ Ux XXX X X X

Product Name

Underline

Product Version

Stack Die Option

Grade

Bonding Wire Type

Package Type

Note: No spaces in the P/N name.

Figure 4.1 Part Number Naming Rules

Visit our corporate web page at: www.lontiumsemi.com
Technical support: support@lontium.com
Sales: sales@lontium.com