

LT2911R --- Product Brief

MIPI/TTL/2-Port LVDS to MIPI/TTL/2-Port LVDS Converter with Frame Rate Conversion and Rotation

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
- Up to 1.8Gb/s per Data Lane
- Resolution Up to 1080P 60Hz
- Data Lane and Polarity Swapping
- Both Non-Burst and Burst Video Mode Supported
- Support RGB666, Loosely RGB666, RGB888, RGB565, 16-bit YCbCr4:2:2, 24-bit YCbCr 4:2:2 Video Format

● Dual-Port LVDS Transmitter

- Compatible with VESA and JEIDA standard
- 1~2 Configurable Port
- Two Port Simultaneous Display Supported
- Up to 1080P 60Hz
- Data Port ,Data Lane and Polarity Swapping
- Programmable Pre-emphasis
- Support output SSC(30KHz±5%)

● TTL Output

- Support 24-bit RGB and BT656/BT1120
- Both DDR and SDR supported
- Support both 1.8V and 3.3V Voltage Output
- Resolution up to 1080P 60Hz

● 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
- Two Port Input switchable
- Up to 1.8Gb/s per Data Lane
- Resolution Up to 1080P 60Hz

- Data Lane and Polarity Swapping
- Both Non-Burst and Burst Video Mode Supported
- Support RGB666, Loosely RGB666, RGB888, RGB565, 16-bit YCbCr4:2:2, 24-bit YCbCr 4:2:2 Video Format

● Dual-Port LVDS Receiver

- Compatible with VESA and JEIDA standard
- 1~2 Configurable Port
- Up to 1080P 60Hz
- Data Port ,Data Lane and Polarity Swapping
- Internal Rterm Calibration with Less than 5% Error
- Programmable Equalization
- Support input Dessc(30KHz±5%)

● TTL Input

- Support 24-bit RGB and BT656/BT1120
- Both DDR and SDR supported
- Support both 1.8V and 3.3V Input Voltage
- Resolution up to 1080P 60Hz

● DDR3 Controller

- Compliant with DDR3 JESD79-3F
- BandWidth up to 1866Mbps
- Support 1Gb X16 SDRAM Organization
- Programmable CAS Latency
- BL8 Supported Only
- Programmable Output Driver Impedance
- SR Supported
- Byte and Lane swappable

● Miscellaneous

- 1.5V, 1.8V and 3.3V Power Supply
- 90/270 Degree Video Rotation
- X2 or /2 Frame Rate Conversion
- Alternative Input and Output configuration for LVDS/TTL/MIPI
- Support 100KHz and 400KHz I2C Slave

- External 25MHz±200ppm Crystal Reference Clock is Preferred
- Temperature Range: -40°C ~ +85°C
- External DDR3 DRAM, Packaged in QFN128 14mm x 14mm

2. General Description

The Lontium LT2911R is a high performance convertor which interconvertible between MIPI DSI/CSI-2/Dual-Port LVDS and TTL. The LT2911R deserializes input MIPI/LVDS/TTL video data, decodes packets, rotates video, changes frame rate and converts the formatted video data stream to MIPI/LVDS/TTL transmitter output

between AP and mobile display panel or camera.

The LT2911R is fabricated in advanced CMOS process and implemented in 14mm x 14mm QFN128 package. This package is RoHS compliant and specified to operate from -40°C to +85°C.

3. Applications

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

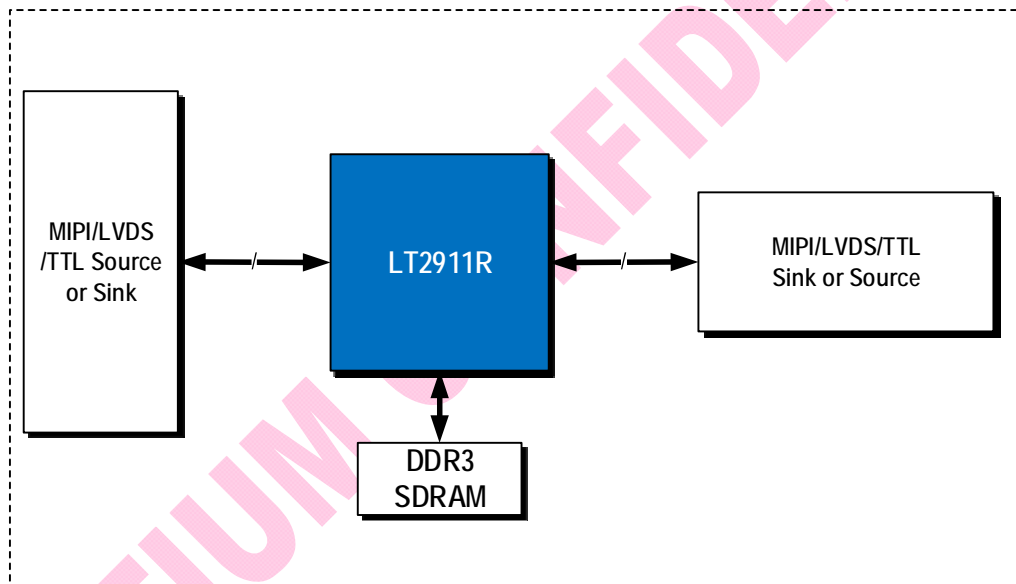


Figure 3.1 LT2911R Typical Application Diagram

4. Ordering Information

Table 4.1. Ordering Information

Part Number	Product Version	Product Status	Operating Temperature Range	Package	Packing Method	MPQ
LT2911R	U2	NRND	-40°C to +85°C	QFN128 (14*14)	Tray	900pcs
LT2911R	U4	MP	-40°C to +85°C	QFN128 (14*14)	Tray	900pcs
LT2911R_U5	U5	MP	-40°C to +85°C	QFN128 (14*14)	Tray	900pcs

NRND: Not Recommended for New Designs.
MP: Mass Production.

Table 4.2 IC Version Information

Product Version	Information	Note
U2	<ol style="list-style-type: none"> If the MIPI source does not have “eotp packet”, LT2911R’s MIPI Receiver do not work well. Any other conversions between MIPI DSI/CSI-2/Dual-Port LVDS and TTL are OK; MIPI Port-B input do not work well in non-continuous clock mode. 	
U4	<ol style="list-style-type: none"> MIPI Receiver solved the issue which MIPI source does not have “eotp packet”; MIPI Port-B input do not work well in non-continuous clock mode. 	
U5	<ol style="list-style-type: none"> Add TTL output dclk phase adjust function; Solved MIPI Port-B input non-continuous clock issue. 	

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