

LT9721 --- Product Brief

MIPI DSI/HDMI to DP with Type-C

Features

- z Single-Port MIPI® DSI Receiver
 - f Compliant with D-PHY1.1 and DSI1.02
 - f 1 Clock Lane and 1~4 Configurable Data Lanes
 - f 80Mb/s~1.5Gb/s per Data Lane
 - f Data Lane and Polarity Swapping
 - f Internal Rterm Calibration with Less than 5% Error
 - f Programmable Equalization
 - f Only Non-Burst Mode Supported
 - f Support up to 24-bit RGB/YUV Data Format
 - f Support YUV4:2:0 Video Format
- z HDMI1.4 Receiver
 - f Compliant to HDMI1.4 Standard
 - f Support 3D Video Data Stream
 - f Support HDCP1.4 and DDC Slave for EDID
 - f Support HDMI2.0 YUV4:2:0 Video Format
 - f Support Resolution up to 4Kx2K@30Hz for RGB and 4Kx2K@60Hz for YUV4:2:0
 - f Support Hot-Plug Detect
 - f Support Status and Control Data Channel (SCDC)
 - f No HEAC and CEC Support
- z DP1.2 Transmitter
 - f Compliant to VESA DP1.2 Standard
 - f Support Four Lanes with 1.62Gbps (RBR), 2.7Gbps (HBR) or 5.4Gbps (HBR2) Data Rate
 - f Data Lane and Polarity Swapping
 - f Support HDCP1.3 Encryption
 - f Support 18/24-bit RGB and YUV4:2:0 Data Format
 - f Build-in Pattern Generation
 - f Support Hot-Plug Detect
 - f Support Backlight Control for Screen Application
 - f Optional SSC 0.5% Down-Spreading Output
 - f Configurable and Power-on-Calibrated Output Swing for Optimized EMI
- f Internal Rterm Calibration with Less than 5% Error
- z USB Type-C
 - f Compatible with USB3.1 Gen1, USB Type-C R1.0, DP Alt Mode V1.0 and USB PD R2.0
 - f 3 Data Roles Supported: DFP, UFP and DRP
 - f 2 Power Roles Supported: Source and Sink
 - f USB PD-PHY (Tx/Rx) and BMC Encoding / Decoding
 - f USB PD Protocol Control by Software
 - f Bi-directional Differential Passive Switch for USB3.1 Gen1 SS signal with less than 2.5-dB Insertion Loss, Controlled by Internal or External CC logic module
 - f USB Full-Featured, Orientation and Role Detection
 - f 3-level Current Ability Advertise (Host Mode) or Detection (Device Mode) for Type-C Power: USB Default, 1.5A@5V, 3A@5V
 - f SBU Data Path Control for DP Alt Mode
 - f OCP Control for External VBUS Power Switch
 - f Dead Battery Supports (Sink Mode) When No Power Applied
- z Audio Input
 - f Support SPDIF and up to 8-CH I2S Audio Input in MIPI mode
- z Miscellaneous
 - f 1.8V/3.3V Dual Supply Power
 - f External 25MHz Rystal Reference Clock
 - f Temperature Range: -40°C to +85°C
 - f Packaged in 5mm x 5mm BGA81 and 7.5mm x 7.5mm QFN64

Description

The Lontium LT9721 is MIPI/HDMI to DP converter with internal Type-C Alternate Mode switch and PD controller. For MIPI DSI® input, LT9721 features a single-port MIPI DSI receiver with 1 clock lane and 4 data lanes operating at maximum 1.5Gbps per data lane and a maximum input

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