

LT8712X --- Product Brief

Type-C/DP1.2 to HDMI2.0 and VGA Converter with Audio

Features

- **USB Type-C**
 - Compliant with VESA DisplayPort Alt Mode on USB Type-C standard V1.0
 - Compliant with USB Power Delivery specification R2.0, V1.0
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- Embedded SPI flash for firmware
- GPIOs for VBUS/VCONN/AUX and other system controls
- Integrated 100/400kHz I2C slave
- Firmware update through SPI, I2C, AUX or USB interface
- Low power consumption

- Power supply: 3.3V for I/O and 1.2V for core
- Embedded 5V to 3.3V LDO
- ESD 4kV HBM
- Temperature range: -40°C ~ +85°C
- Package 9mmx9mm QFN76

Description

The LT8712X is a high performance Type-C/DP1.2 to HDMI2.0 and VGA converter, designed to connect a USB Type-C source or a DP1.2 source to an HDMI2.0 and a VGA sink .

The LT8712X integrates a DP1.2 compliant receiver, an HDMI2.0 compliant transmitter and a high-speed triple-channel video DAC. Also, two CC controllers are included for CC communication to implement DP Alt Mode and power delivery function, one for upstream Type-C port and another for downstream port.

Two digital audio output interfaces are available, I2S and SPDIF. The I2S interface supports 2-ch LPCM and the SPDIF interface supports 2-ch LPCM or 8-ch compressed

audio, both at maximum 192kHz sample rate.

The device is capable of automatic operation which is enabled by an integrated microprocessor that uses a embedded SPI flash for firmware storage. System control is also available through the use of a dedicated configuration I2C slave interface.

LT8712X also support EDID buffer, DP/eDP input detection and determine to enter into power saving mode automatically. When the receiver of LT8712X locks the input signal, the MCU can read the recovered timing parameters by the MSA registers to match the ASSR. The DPCD registers are accessible via system I2C when debugging the full link training. Once the fast link training used, system time will save at least 400ms.

Applications

- Docking Station
- Dongle

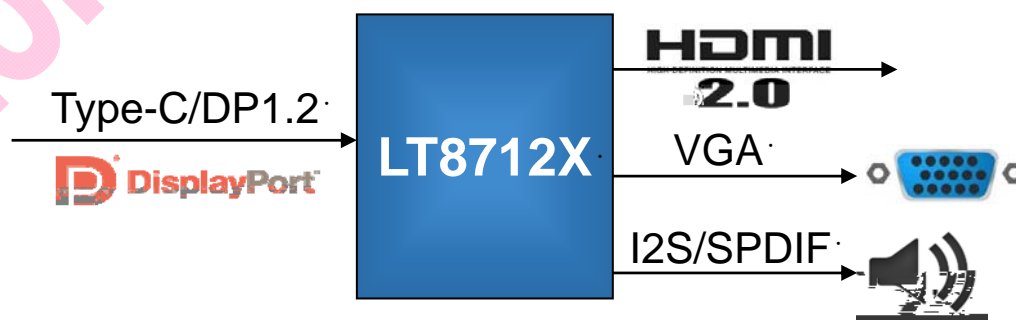


Figure 1. Application Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT8712X	-40 to+85	QFN76 (9*9)	Tray

