

LT8712 --- Product Brief

DP to HDMI/VGA Converter with USB Type-C Support

Features

- z DisplayPort receiver
 - f DP 1.2 compliant
 - f HDCP 1.3 compliant
 - f Link rate 5.4/2.7/1.62Gbps (HBR2/HBR/RBR)
 - f 1/2/4 lanes
 - f Integrated CC controller for USB type-C Alt Mode support
 - f 1Mbps AUX channel
 - f SST/MST mode
 - f Equalizer
- z Video DAC
 - f VSIS 1.2 compliant
 - f 200MSPS throughput
 - f WUXGA timing
 - f R/B swappable
 - f YPbPr output capable
 - f Separate SYNC or embedded SYNC (SOG/SOY)
 - f Load sensing
 - f Amplitude calibration
 - f 5V tolerance DDC I/Os
- z HDMI transmitter
 - f HDMI 1.4 compliant
 - f DVI 1.0 compliant
 - f Dual HDMI ports
 - f AC-couple capable
 - f Data rate up to 3Gbps
 - f FHD 1080p 60Hz 3D
 - f UHD 4k 30Hz
 - f Pre-emphasis
 - f Downstream RX sensing
 - f Output swing caon
 - f 5V tolerance DDC/HPD I/Os
- z Digital audio output

f I2S and SPDIF

f 8-channel LPCMd audio

f Sample rate up to 192kHz

z Misc

f Integrated MCU with embedded

f Power supply: 3.3V for I/O and 1.2V for core

Description

TTyPort(DP) to HDMI and VGA

converter, designed to connect a DP source to a VGA sink

and up to two HDMI sinks simultaneously. The

integrated a DP 1.2 compliant receiver, a high-speed

triple-channel video DAC and two HDMI 1.4 compliant

transmitters (transmitter 0 and transmitter 1). The

port integrates a CC controller which enables DP

Alternate Mode support when connected to a USB Type-C source.

Two digital audio output interfaces are available, I2S and

SPDIF. Both support 8-ch LPCM or compressed audio at

maximum 192kHz sample rate.

The device is capable of automatic operation that is

enabled by an integrated MCU that uses an embedded

SPI flash for microcode. System control is also available

through the use of a dedicated configuration I2C slave

interface.

The LT8712 is provided in two package types, LT8712

and LT8712B. LT8712 is a 128-lead LQFP package with

ePad and LT8712B is a 144-ball LFBGA package. Both

are specified over -40 to +85 operating temperature

range.

Applications

z Docking station

z Video hub

z DP-to-HDMI/VGA dongle/adaptor



Figure 1. Application Diagrams

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
/ 7	e & W R	e & / 4) 3	7 U D \
/ 7 %	e & W R	e & /) % * \$	7 U D \

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