

LT87101DC --- Product Brief

DP-to-Type-C Converter

1. Features

- Compliant to VESA DP1.2, Type-C r1.2, USB PD2.0 and DP Alt Mode v1.0 Standards
- Support Hot-Plug Detect for DP Input Interface
- Programmable Input Equalization
- Programmable Output Swing and De-emphasis
- 3-level Current Ability Advertise for Type-C Power: USB Default, 1.5A@5V, 3A@5V
- SBU Data Path Control for DP Alt Mode
- Internal MCU and Flash for Online Firmware Upgrade
- Support External I2C Debug
- 1.8V/3.3V Power Supply
- Packaged in 5mmx5mm QFN40

2. General Description

LT87101DC is a signal re-driver with DP input and Type-C output. DP signal quality is deeply-optimized and enhanced by performing cable or board trace loss compensation. The device complies with VESA DP1.2 specifications.

The input receiver of LT87101DC features a multi-level

programmable linear equalizer, supporting up to 20dB loss compensation due to Inter-Symbol Interference (ISI).

The output transmitter re-drives the received signal with multi-level programmable output swing and up to 6dB de-emphasis.

Type-C operating is controlled by CC detect, CC logic and PD management unit. A high performance passive differential switch is also integrated to realize data channel exchange according to Type-C interface insert orientation. This relieves BOM cost and mobile system design complexity. The switch function is compliant with VESA DP Alternate Mode standard and support Pin Assignment C or D in different applications.

The LT87101DC is fabricated in advanced CMOS process and implemented in a small outline 5mmx5mm QFN40 package. This package is RoHS compliant and specified to operate from -40°C to +85°C.

3. Applications

- Smartphone, Tablet and Other Mobile Devices
- VR/AR Eco-System and Home Entertainment
- PC, Notebook, All-in-Ones Computer and Docking



Figure 3.1 LT87101CD / LT87101DC Typical Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Part Number	Product Version	Product Status	Operating Temperature Range	Package	Packing Method	MPQ
LT87101DC	U1	MP	-40°C to +85°C	QFN40 (5*5)	Tray	4900pcs

MP: Mass Production.

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