

LT948DX --- Product Brief

Automotive Deserializer

1. Features

● eDP Transmitter

- Compliant with Embedded DisplayPort version 1.4
- 1/2/4 configurable lane with 1.62Gbps, 2.7Gbps, 5.4Gbps for each lane
- Aux channel
- Support ASSR

● Automotive Display Port Transmitter

- 1/2 configurable link
- Bidirectional transmission with maximum 8.1Gbps/lane forward data channel and max 29.7Mbps back control channel.
- Transmit video, I2C data and audio on the forward data channel with scrambling, DC balance and FEC
- Carry I2C data and interrupt from back control channel with DC balance and ECC
- Maximum 5m transmission distance for 8.1Gbps, and maximum 15m transmission distance for lower speed, depending on the attenuation of cable.
- Typical resolution 4K RGB888 30Hz with 1 lane, 4K RGB888 60Hz with 2 lanes

● Automotive Display Port Receiver

- 1/2 configurable link
- Bidirectional transmission with maximum 8.1Gbps/lane forward data channel and maximum 29.7Mbps back control channel
- Receive video, I2C data and audio from the forward data channel with scrambling, DC balance and FEC
- Carry reference clock, I2C data, interrupt and frame

sync on back control channel with DC balance and ECC

- Maximum 5m transmission distance for 8.1Gbps, and maximum 15m transmission distance for lower speed, depending on the attenuation of cable
- Typical resolution 4K RGB888 30Hz with 1 lane, 4K RGB888 60Hz with 2 lanes

● Miscellaneous

- SSC for transmitter
- Interrupt Input
- Temperature and Voltage sensing
- Integrated 100KHz, 400KHz, 1MHz I2C master and slave
- 8-channel I2S master
- External 27MHz oscillator
- 1.8V, 1.2V power for core and 1.8/3.3V power for IO
- POC/POE
- AEC-Q100 Grade 2

2. General Description

The LT948DX deserializer is a part of Lontium's long distance video transmission family for Advanced Driver Assistance Systems (ADAS), designed to provide a solution for eDP video transmission with a maximum 15m coaxial (POC) or STP cable. The chip delivers an 8.1Gbps /lane forward data channel and back control channel and supports power the cable.

3. Applications

- Advanced Driver Assistance Systems (ADAS)
 - Display System

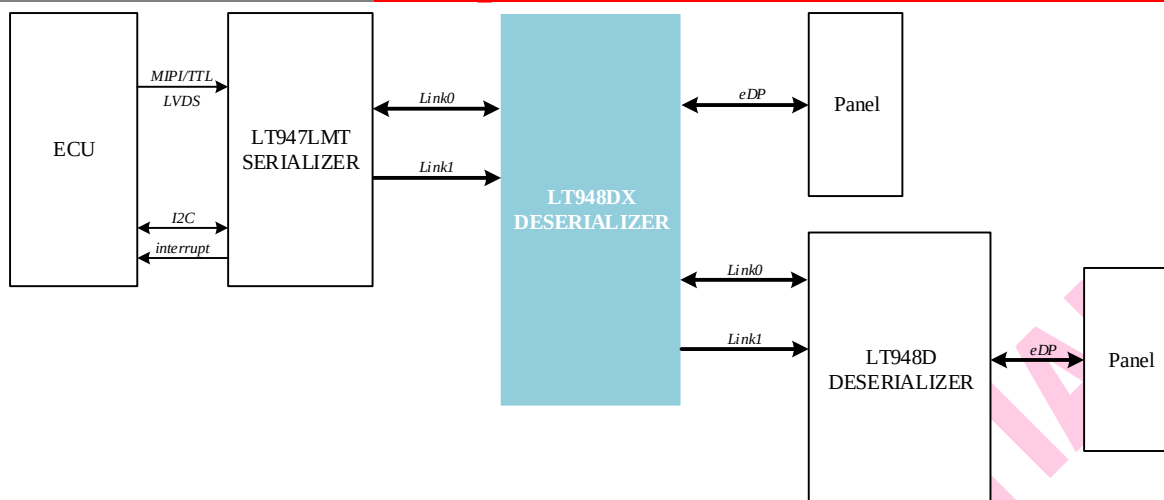


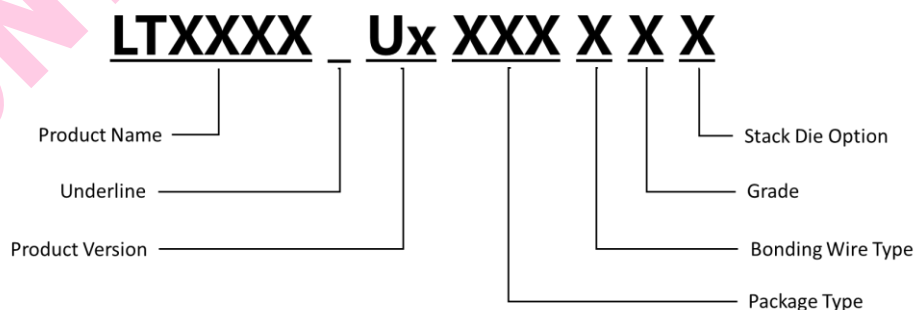
Figure 3.1 Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Product Name	Part Number	Product Status	Package	Bonding Wire	Grade	Operating Temperature Range	Stack Die Option	Packing Method	MPQ
LT948DX04	LT948DX04_U2Q04CAN	Preview	QFN76 (9*9)Saw	Cu	A	-40°C to +105°C	N	Tray	TBD
LT948DX06	LT948DX06_U2Q04CAN	Preview	QFN76 (9*9)Saw	Cu	A	-40°C to +105°C	N	Tray	TBD
LT948DX08	LT948DX08_U2Q04CAN	Preview	QFN76 (9*9)Saw	Cu	A	-40°C to +105°C	N	Tray	TBD
LT948DX04	LT948DX04_U2Q04CEN	Preview	QFN76 (9*9)Saw	Cu	E	-40°C to +85°C	N	Tray	TBD
LT948DX06	LT948DX06_U2Q04CEN	Preview	QFN76 (9*9)Saw	Cu	E	-40°C to +85°C	N	Tray	TBD
LT948DX08	LT948DX08_U2Q04CEN	Preview	QFN76 (9*9)Saw	Cu	E	-40°C to +85°C	N	Tray	TBD

Note: AEC-Q100 is just for Grade A.



Note: No spaces in the P/N name.

Figure 4.1 Part Number Naming Rules

Copyright © 2023-2024 Lontium Semiconductor Corporation, All rights reserved.

Lontium Semiconductor Proprietary & Confidential

This document and the information it contains belong to Lontium Semiconductor. Any review, use, dissemination, distribution or copying of this document or its information outside the scope of a signed agreement with Lontium is strictly prohibited.

LONTIUM DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THOSE OF NONINFRINGEMENT, MERCHANTABILITY, TITLE AND FITNESS FOR A PARTICULAR PURPOSE. CUSTOMERS EXPRESSLY ASSUME THEIR OWN RISK IN RELYING ON THIS DOCUMENT.

LONTIUM PRODUCTS ARE NOT DESIGNED OR INTENDED FOR USE IN LIFE SUPPORT APPLIANCES, DEVICES OR SYSTEMS WHERE A MALFUNCTION OF A LONTIUM DEVICE COULD RESULT IN A PERSONAL INJURY OR LOSS OF LIFE.

Lontium assumes no responsibility for any errors in this document, and makes no commitment to update the information contained herein. Lontium reserves the right to change or discontinue this document and the products it describes at any time, without notice. Other than as set forth in a separate, signed, written agreement, Lontium grants the user of this document no right, title or interest in the document, the information it contains or the intellectual property in embodies.

Trademarks

Lontium™ 龙迅™ and ClearEdge™ is a registered trademark of Lontium Semiconductor. All other brand names, product names, trademarks, and registered trademarks contained herein are the property of their respective owners.

Visit our corporate web page at: www.lontiumsemi.com

Technical support: support@lontium.com

Sales: sales@lontium.com