LT1258EX --- Product Brief

12.5Gbps 8-Channel Retimer

1. Features

- Support 9.8Gbps to 12.5Gbps data rate and 1/2, 1/4, 1/8 sub-rate
- Input signal detect and output sink detect support
- 2x2 cross-point switch
- Up to 4 forward and 4 backward lanes support
- Data lane polarity swappable
- Integrated CDR for Jitter clean
- On chip EOM(EYE-Open Monitor)
- Support PRBS 7/9/15/31 generator and checker
- Up to 25dB equalization at 6.25GHz
- Programmable De-emphasis up to 8dB
- Up to 1.2V output Swing
- Selectable 2.5-V or 3.3-V supply voltage
- Support up to 400KHz I2C/SMBus slave

2. General Description

The Lontium LT1258EX is a quad 2:2 cross-point switch or splitter with signal conditioning suitable for high-speed bus applications with data rates up to 12.5 Gbps. The continuous time linear equalizer (CTLE) of the receiver provides adjustable boost to compensate up to 25dB insertion-loss at 6.25 GHz. The integrated CDR reset the jitter budget and retime the high-speed serial data. The transmitter features a programmable amplitude voltage levels to be selectable up to 1200 mVpp and de-emphasis up to 8dB.

The LT1258EX integrated EYE-Open Monitor to detect the signal performance after equalization. The EOM function support 9.8~12.5Gbps only.

In order to save power consumption, the LT1258EX can work well at 1.8V and 2.5V power supply in external LDO mode.

The LT1258EX can be configured to support PCIe, CAUI-10, and 10G-KR, CPRI or other signaling protocols.

The LT1258EX is fabricated in advanced CMOS process and implemented in 10mm x 5.5mm QFN54 package.

3. Applications

- 10G-KR
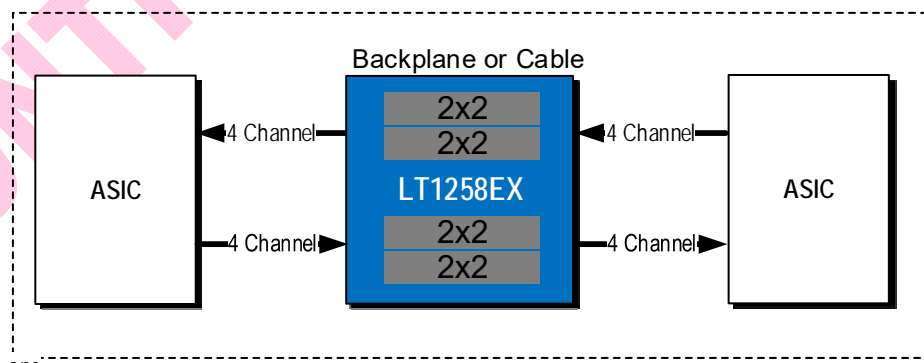- CAUI-10
- CPRI
- PCIe
- SGMII

Figure 3.1 LT1258EX Typical Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Part Number	Product Version	Product Status	Operating Temperature Range	Package	Packing Method	MPQ
LT1258EX	U1	NRND	-40°C to +85°C	QFN54 (10*5.5)	Tray	1560pcs
LT1258EX_U2	U2	MP	-40°C to +85°C	QFN54 (10*5.5)	Tray	1560pcs
NRND: Not Recommended for New Designs. MP: Mass Production.						

Table 4.2 Product Version Information

Product Version	Information	Note
U1	Initial Version.	
U2	1. Optimized the performance differences between channels slightly; 2. Reduced CDR open-loop temperature effect; 3. Increased CDR frequency tracking range in 1.8V power mode; 4. Support PRBS 7/9/15/31 check function.	

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Technical support: support@lontium.com
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