LT1258 --- Product Brief

12.5Gbps Quad-lane 2:2 Cross-Point Switch with Equalization and De-Emphasis

1. Features

- Support 1Gbps to 12.5Gbps Data Rate
- Input signal detect and output sink detect support
- Up to 4 forward and 4 backward lanes support
- 2x2 analog cross-point switch
- Data lane polarity swappable
- Equalization performance
  PRBS31 25 dB@12.5Gbps
  PRBS31 26 dB@11.5Gbps
  PRBS31 27 dB@10.3125Gbps
- Programmable de-emphasis up to   8 dB
- Up to 1.2V output swing
- Programmable through pin selection, EEPROM or I2C/SMBus interface
- Selectable 2.5-V or 3.3-V supply voltage
- Support up to 400KHz I2C/SMBus slave

2. General Description

The Lontium LT1258 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 25 dB insertion-loss at 6.25 GHz. The transmitter features a programmable amplitude voltage levels to be selectable up to 1200 mVpp and de-emphasis up to 8 dB.

In order to save power consumption, the LT1258 can work well from 1.8V to 2.5V power supply in external LDO mode.

The LT1258 can be configured to support PCIe, CAUI-10, and SAS/SATA, 10G-KR, CPRI or other signaling protocols.

The LT1258 is fabricated in advanced CMOS process and implemented in 10mm x 5.5mm QFN54 package.

3. Applications
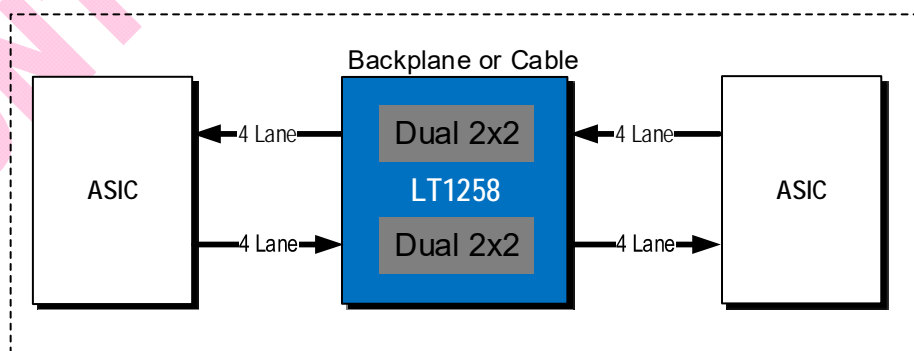
- 10G-KR
- CAUI-10
- SAS/SATA
- CPRI
- PCIe
- SGMII

Figure 3.1 LT1258 Typical Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Part Number	Product Version	Product Status	Operating Temperature Range	Package	Packing Method	MPQ
LT1258	U1	NRND	-40°C to +85°C	QFN54 (10*5.5)	Tray	1560pcs
LT1258_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	Do not support two or more LT1258 share one EEPROM in I2C Master mode.	
U2	1. Support two or more LT1258 share one EEPROM in I2C Master mode; 2. Optimized the performance differences between channels slightly.	

Visit our corporate web page at: www.lontiumsemi.com
Technical support: support@lontium.com
Sales: sales@lontium.com