

Analog Devices Welcomes Hittite Microwave Corporation

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HMC6545LP5E



Applications

- 100 GbE Line Card and Backplane
- 16G / 32G FC and 14G FDR / 28G EDR
- 10G / 100G Stress Eye Generation
- Broadband Test and Measurement
- Active Copper / Optical Cable Assemblies
- 12G SAS / SATA

Features

- Data Rate Up to 32 Gbps
- Dual Channel Receive (Rx) or Transmit (Tx) Only Solution
- Multi-UI Linear Analog Filter (9 Tap T/2 Spaced) for Extending CTLE / DFE Based ASICs Performance
- Automatic Gain Control (20 dB)
- OOB Support
- Integrated Variable Gain Amplifier with Differential Sensitivity of Less Than 20 mVp-p
- Programmable Receiver Gain and Multi-UI Equalization Allows 20 dB Equalization
- Extend Chromatic and Polarization Mode Dispersion Tolerance
- Programmable Pre-Emphasis and Differential Output Amplitude
- Output Squelch Functionality
- Single 3.3V Power Supply Eliminating External Regulators
- 5 x 5 mm 40-Pin QFN Package
- -40° C to 95° C Operating Temperature

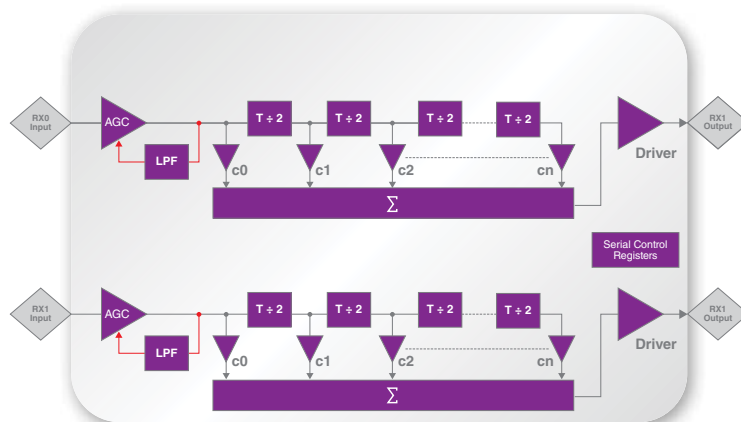
PRODUCT BRIEF DUAL CHANNEL ADVANCED LINEAR EQUALIZER

Low-Power, High Performance, Fully Programmable Dual-Channel Equalizer

The HMC6545LP5E is a low power, high performance, fully programmable dual channel asynchronous advanced linear equalizer operating with data rates up to 32 Gbps. The HMC6545LP5E is a protocol and data rate agnostic and it can operate on the transmit path to pre-distort transmitted signal in order to invert channel distortion or on the receiver path to equalize the distorted and attenuated received signal.

The HMC6545LP5E is effective in dealing with chromatic and polarization mode dispersion and inter-symbol interference (ISI) caused by wide variety of transmission media, backplane and or fiber, and channel lengths. HMC6545LP5E complements CTLE / DFE based ASIC's in effectively dealing with reflections, crosstalk and ISI related issues.

The low power, high performance and feature rich HMC6545LP5E is packaged in a 5 x 5 mm 32 pin QFN package. The device uses a single 3.3V supply eliminating external regulators. The HMC6545LP5E operates over a case temperature range of -40° C up to 95° C.

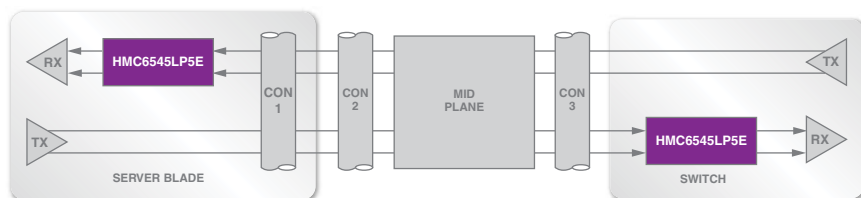


Functional Diagram

Typical Applications

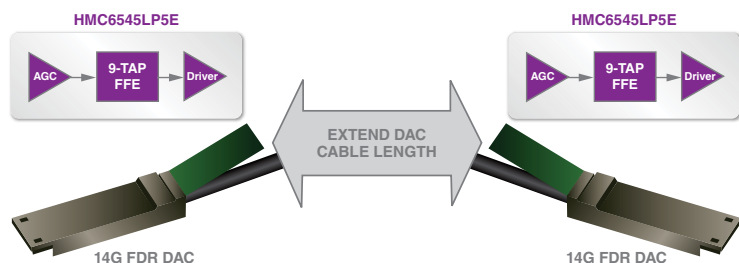
Networking / Storage Server Applications:

Effective in dealing with reflections, crosstalk and insertion loss.



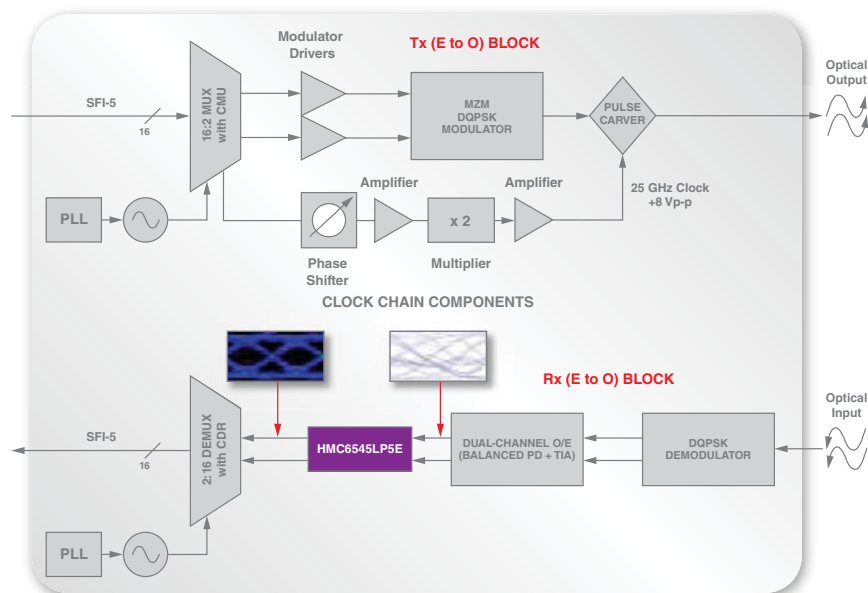
Active Copper Cable Assembly:

Compensate insertion losses up to 40 dB at Nyquist



40G RZ DQPSK Transponder:

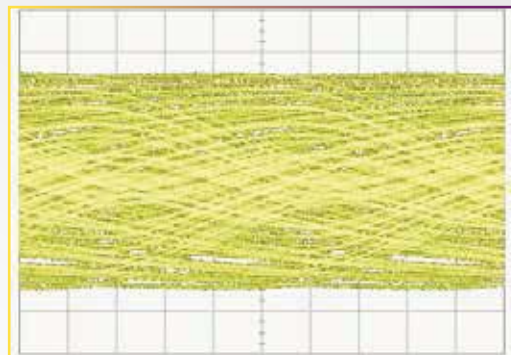
Effective in extending link OSNR and chromatic dispersion



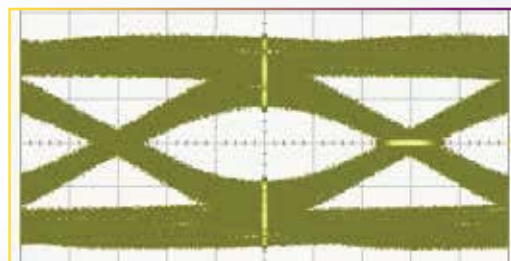
Related Products

- HMC1027BG, Fully Programmable Asynchronous 13 x 13 Crosspoint Switch with EQ

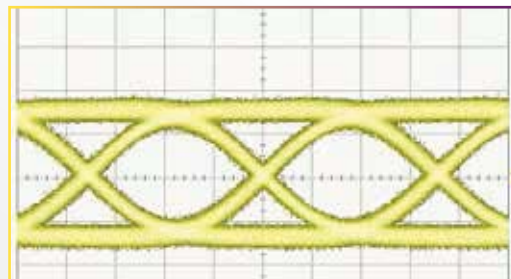
Unequalized Input at 20 dB Loss



Equalized Output



28.1 Gbps Eye Diagram for 100 GbE Applications



Pre-Emphasis Output Eye

