

FEATURES

Continuous time linear equalizer (CTLE) with up to 18 dB equalization
Loss of signal (LOS) detection with programmable threshold and hysteresis
Driver performance
 Programmable differential swing: 400 mV p-p differential to 900 mV p-p differential
 Programmable driver output with up to 12 dB de-emphasis
Automatic electrical idle and receiver detection
Output polarity inversion and automatic output squelch
Single supply (2.5 V or 3.3 V)
Low power operation: 80 mW per channel
 Per lane power-down options
Flexible configuration interface: pin strap, 2-wire interface, or EEPROM

APPLICATIONS

QSFP+ direct attach active copper modules
10 Gb, 40 Gb Ethernet and OTN line cards
10 Gb, 40 Gb backplane drivers
8 Gb, 16 Gb Fibre Channel and InfiniBand® EDR line cards and backplane drivers

8 Gb, 10 Gb, 16 Gb active optical modules
8 Gb, 10 Gb, 16 Gb active copper cable assemblies
1.5 Gb, 3 Gb, 6 Gb, 12 Gb SAS/SATA
PCIe 1.x, 2.0, 3.0
Broadband and automatic test and measurement

GENERAL DESCRIPTION

The **HMC7545** is a unidirectional, quad-channel, protocol and data rate agnostic, asynchronous signal conditioner, designed for short and intermediate range optical modules, line cards, and backplane applications operating at up to 14.2 Gbps.

Each channel provides programmable input equalization, LOS and receiver detection, automatic output squelch, programmable output swing and output de-emphasis.

All high speed differential inputs and outputs of the **HMC7545** are current mode logic (CML), terminated on-chip with 50 Ω to the positive supply, and can be dc-coupled or ac-coupled.

The device uses a single supply, 2.5 V or 3.5 V, and its typical power dissipation is less than 80 mW per channel.

The **HMC7545** is packaged in a 36-lead, 4 mm $\times$ 7 mm LFCSP package and operates from -40°C to $+85^{\circ}\text{C}$.

FUNCTIONAL BLOCK DIAGRAM

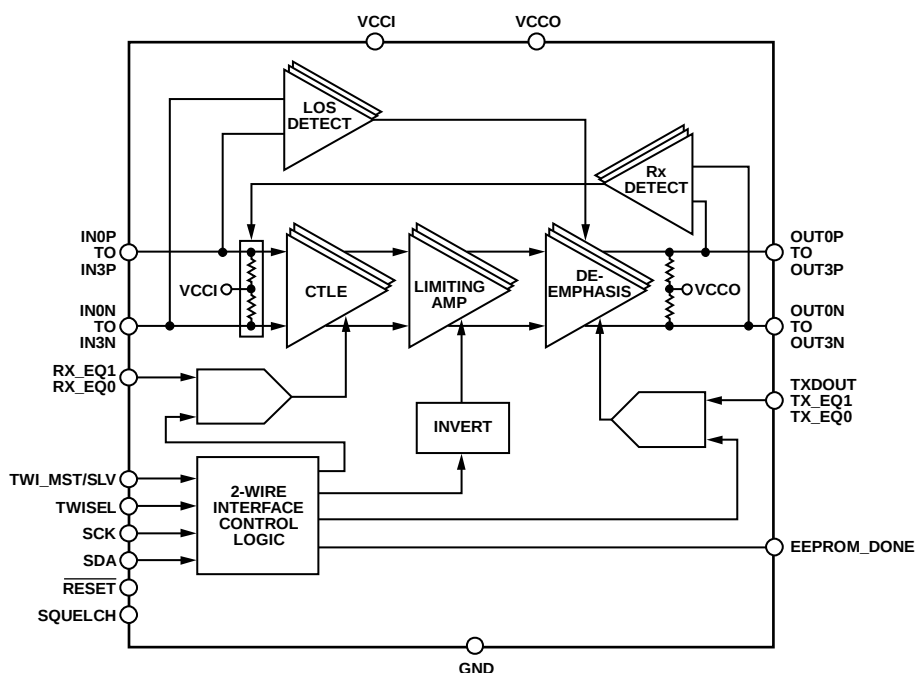


Figure 1.

For more information about the **HMC7545**, contact Analog Devices, Inc., at RFMG-HSL@analog.com.

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COMPARABLE PARTS

View a parametric search of comparable parts.

EVALUATION KITS

- HMC7545 Evaluation Board

REFERENCE MATERIALS

Product Selection Guide

- RF, Microwave, and Millimeter Wave IC Selection Guide 2017

DESIGN RESOURCES

- HMC7545 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all HMC7545 EngineerZone Discussions.

SAMPLE AND BUY

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