HXR45400

4 × 56Gbaud Linear TIA

The HXR45400 is an extension of low-power, single-ended input, quad channel linear Trans-Impedance Amplifier (TIA) array, and a member of the Optical Receiver Transmitter Array (ORTA) product family. Together with an array of PIN detectors or a group of detectors, the HXR45400 can be used to design a compact linear ROSA for the next generation 400G/800G optical transceivers with advanced modulation schemes. The HXR45400 supports 53GBaud PAM4 applications.

This TIA operates in a 3.3V supply or in a 2.9V supply for low power consumption, providing exceptionally low input referred noise density, wide input optical power range, excellent linearity up to 3mA overload, and a high bandwidth. The chip is designed with the patented adaptive biasing scheme.

Ordering Information

Part Number	Die Size	Temp. Range
HXR45400-DNJ	1.365 × 3.365 mm	-40°C to +95°C
HXR45400-EVB	Evaluation Board	Room Temperature

Features

- High receiver sensitivity for 112Gbps PAM4 Ethernet applications
- Low power mode in 56GBaud applications
- Power consumption as low as 158mW/channel
- Industrial operating temperature range -40°C to 95°C
- Up to 5kΩ typical differential gain
- Wide adjustable output voltage swing
- Linear operation up to 3mAppSE overload with internal AGC
- Up to 43GHz typical bandwidth
- 10pA/√Hz input referred current noise density
- RSSI, LOS and Rx Disable functions
- I^2C interface
- 100G Lambda MSA and IEEE 802.3cd compliance

Applications

- 100G/400G Ethernet LR Linear ROSA and OBO

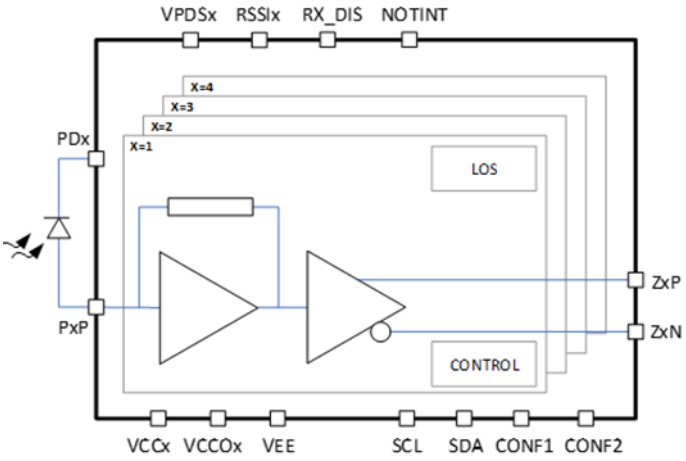

Figure 1. Block Diagram

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