

## Description

The HXR45400 is a 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 discrete detectors, the HXR45400 can be used to design a compact linear ROSA for the next generation 400G/800G optical transceivers with advanced modulation schemes.

This TIA operates from a 3.3V supply, providing exceptionally low input referred noise density, wide input optical power range, excellent linearity up to 3mA overload, and a high bandwidth, while consuming as low power with the patented adaptive biasing scheme.

## Features

- High receiver sensitivity for up to 112Gbps PAM4 Ethernet
- Up to 5kΩ typical differential gain
- From 150mVppd to 500mVppd adjustable output voltage swing
- Linear operation with internal AGC
- 190mW per channel power consumption
- 13pA/VHz typical input referred current noise density
- 40GHz typical bandwidth
- High overload input current: 3mAppSE
- Accurate channel RSSI
- 100G Lambda MSA and IEEE 802.3bs and cd compliance
- Optimized for isolated and common cathode photo-detector arrays from multiple vendors

## Typical Applications

- Next-generation Ethernet optical receiver modules: 400G QSFP-DD, OSFP and OBO
- 400G Linear LR ROSA

## Block Diagram

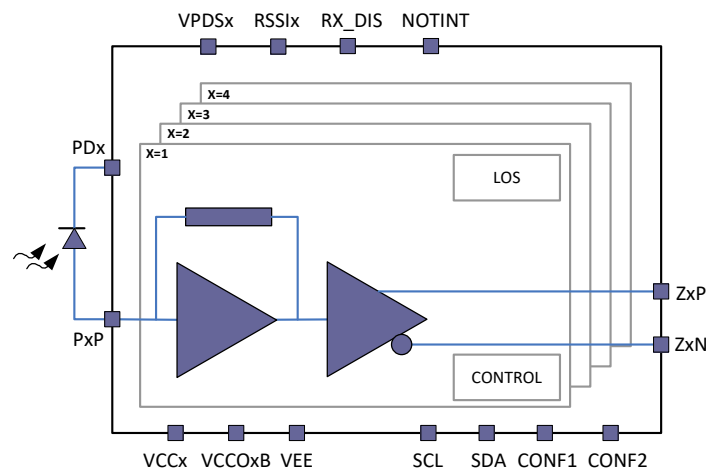


Figure 1: Block diagram

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