

## Description

The HXR4101A is a low-power, high-performance, dual-band limiting TIA. The HXR4101A implements all the functionalities that are traditionally shared between a TIA and a separate LIA chip.

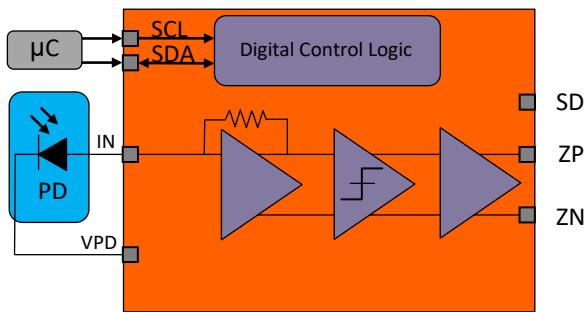
The HXR4101A can be used in stand-alone mode (no microcontroller need), or in an I<sup>2</sup>C-controlled mode. The I<sup>2</sup>C interface and the embedded monitoring circuits enable fully programmable OSAs with co-packaged PD and receiver, for various applications such as low-power SFP+ modules using *Smart TO-cans*<sup>®</sup>.

Both operational modes require a small number of additional components resulting in low cost, compact, high-yield assemblies.

## Features

- 18.5μApp input sensitivity at 10.3Gbps
- 95mW typ. power consumption in high performance mode
- < 80mW in low power 10.3Gbps mode
- Large Gain (20kΩ minimum)
- Bandwidth selection enabling data rates from 2 to 14 Gbps
- LIA / AGC for large dynamic range
- Line driver with output swing selection
- A/D read-out of temperature, RSSI information
- Adjustable pre-emphasis circuit
- Squelch circuit
- I<sup>2</sup>C control interface
- Stand-alone mode for a operation without microcontroller

## Block Diagram



## Typical Applications

- OC-192/STM-64 Transmission Systems
- 10GBASE-SR/LR/ER/ZR
- 2G/4G/8G/16G Fibre Channel
- USB 4.0 Active Optical Cables
- SONET OC-192 with dual FEC
- Avionic optical interconnects



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