General Description
The HXR8204 Transimpedance Limiting Amplifier array is a member of IDT’s family of Optical Receiver Transmitter Array (ORTA) products targeted at the parallel optical links market. Together with a PIN detector array or discrete detectors, high-capacity, high-availability optical links can be designed for telecom and datacom applications.

The 3.3V SiGe device integrates the trans-impedance pre-amplifier, the limiting post-amplifier, and a versatile CML output stage for four optical channels.

Applications
- 100G Ethernet SR4 modules
- 100G Ethernet AOC
- InfiniBand EDR 100G transceivers
- InfiniBand EDR 100G active cables
- Proprietary multi-channel optical modules

Features
- 60 µApp receiver sensitivity for 10^{-12} BER at 28Gbps
- Better than 2.4 mA_{pp} overload
- 126 mW per channel power consumption
- Adjustable output swing size and pre-emphasis in limiting mode and signal detect threshold
- Independent, per channel RSSI
- Optimized for isolated and common cathode photo-detector arrays from multiple vendors
- Control lines accessible on both sides of chip
- QSFP MSA compliance

Device Diagram

Figure 1: Device diagram
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