64 Gbaud Quad-Channel, Differential Input, Linear Transimpedance/Variable-Gain Amplifier

**Part No.**
IN6454TA

**Product Type**
Transimpedance Amplifiers

**Market Segments**
Long Haul/Metro

**Applications**
400G Coherent Receivers
Class 40 ICR

**Features**
- Supports baud rates up to 64 Gbaud
- Quad-channel monolithic TIA/VGA
- 625 µm channel pitch
- Wide differential electrical gain
- High electrical bandwidth
- Adjustable output amplitude
- Automatic or manual gain control
- Output peak detectors
- SPI or analog control interface
- Low power consumption
- Available in die form

**Description**
The IN6454TA is a quad-channel, differential linear transimpedance/variable-gain amplifier (TIA/VGA) for 400G coherent detection receivers for long haul and metro networks.

The IN6454TA offers two gain control modes: manual gain control and automatic gain control. In manual mode, the gain is controlled via SPI or an external control pin. In automatic mode, the gain is automatically adjusted to deliver a constant output voltage.

The IN6454TA provides linear amplification for a very wide input optical power range.

The IN6454TA has input DC current offset cancellation to accommodate a wide range of local oscillator power levels and supports reconfigurable, colorless applications.

The IN6454TA has an output peak detector monitoring function feature accessible through both analog and SPI interfaces.

The IN6454TA operates from a single +3.3 V power supply and is available in die form.

To deliver the data infrastructure technology that connects the world, we’re building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world’s leading technology companies for 25 years, we move, store, process and secure the world’s data with semiconductor solutions designed for our customers’ current needs and future ambitions. Through a process of deep collaboration and transparency, we’re ultimately changing the way tomorrow’s enterprise, cloud, automotive, and carrier architectures transform—for the better.

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