

# 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  $\mu\text{m}$  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.