
i7230N 155M to 4.25Gbps LD Driver

General Description

The i7230N is a +3.3V laser diode driver for SFP/SFF applications up to 4.25Gbps. The device accepts differential input data and provides bias and modulation currents for driving a laser. DC-coupling laser to the device eases of multi rate applications and reduces the external component count. The i7230N is fully compliant with the SFP MSA timing and the SFF-8472 transmits diagnostic requirements.

An automatic power control (APC) feedback loop is incorporated to maintain a constant average optical power over temperature and lifetime. Optional temperature compensation compensates Laser Diode extinction ratio change with temperature over 500PPM ~ 10,000PPM range. The wide modulation current range of 3mA to 80mA and bias current of 1mA to 100mA make this product ideal for driving FP/DFB laser diodes in fiber optic modules.

The i7230N also provides transmit-disable control (DISABLE), a single-point latched transmit-failure monitor output (FAULT), photocurrent monitoring, and bias-current monitoring to indicate faults, such as when the APC loop is unable to maintain the average optical power.

The i7230N comes in a 4mm * 4mm 24-pin QFN package and operates over the extended temperature range of -40°C to +85°C.

Applications

Gigabit Ethernet SFP/SFF and GBIC Transceiver
1G/2G/4G Fiber Channel SFP/SFF Transceiver Modules
Multi-rate OC3 to OC24-FEC SFP/SFF Transceiver Modules

Features

- Programmable Modulation Current from 3mA to 60mA (DC-Coupled)
- Programmable Modulation Current from 3mA to 80mA (AC-Coupled)
- Programmable temperature compensation
- Programmable Bias Current from 1mA to 100mA
- Edge Transition Time < 80ps
- 51mA Typical Power-Supply Current
- Multi rate 155Mbps to 4.25Gbps Operation
- 24-Pin 4mm * 4mm QFN package