

i7070

General Description

The i7070 is a +3.3V/5V laser diode driver for SFP/SFF applications up to 1.25Gbps. 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 i7070 is fully compliant with the SFP MSA timing and the SFF- 8472 transmit 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 5mA to 85mA and bias current of 1mA to 100mA make this product ideal for driving FP/DFB laser diodes in fiber optic modules.

The i7070 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 i7070 comes in a 4mm * 4mm 24-pin QFN package and operates over the extended temperature range of -40 °C to +85 °C.

Features

- Single +3.3V or +5V Power Supply
- Automatic Average Power Control (APC)
- Fully Compliant with SFP and SFF-8472 MSAs
- Programmable Modulation Current from 5mA to 60mA (DC-Coupled)
- Programmable Modulation Current from 5mA to 85mA (AC-Coupled)
- Programmable temperature compensation
- Programmable Bias Current from 1mA to 100mA
- Bias and modulation current monitor
- Edge Transition Time < 130ps
- 51mA Typical Power-Supply Current
- Multirate 155Mbps to 1.25Gbps Operation
- 24-Pin 4mm * 4mm QFN package