General Description

The HXT4101A VCSEL driver is a key component for compact, high-performance, low-power optical modules. In conjunction with the VCSEL, the chip handles the complete digital-to-optical conversion, including CML input, laser driver, drive control, and supervision.

The HXT4101A can be used in standalone mode (no microcontroller need), or in an I2C-controlled mode. The I2C interface and the embedded monitoring circuits enable fully programmable OSAs with co-packaged VCSEL and driver, for example low-power SFP+ modules using Smart TO-cans®.

Both operational modes require a small number of additional components resulting in low cost, compact, high yield assemblies.

Applications

- OC-192/STM-64 transmission systems
- 10GBASE-SR
- 2G/4G/8G/16G Fiber Channel
- USB 4.0 active optical cables
- SONET OC-192 with dual FEC
- Avionic optical interconnects

Features

- Low power consumption of 65 mW per channel while delivering 7 mA average and 7 mA modulation current
- 10 mA Average and 10 mA Modulation current max.
- 15 mA burn-in current max.
- Complete set of control and diagnostic features
- A/D read-out of temperature, effective VCSEL current and monitor photo-current
- I2C control interface
- Standalone modes for operation without microcontroller

Ordering Information

Part	Temp Range	Pin-Package
HXT4101A -DNT	-40 °C to +100 °C	Bare Die 1.1 mm x 1.1 mm

For price, delivery schedules, and to place orders, please contact IDT: www.IDT.com/go/sales

Device Diagram

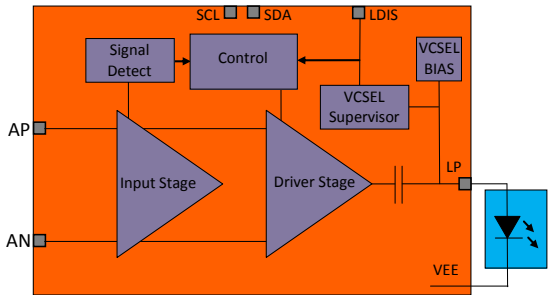

Figure 1: Device diagram

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