General Description

The HXT42400 is a quad channel, low power, Direct Modulated Laser (DML) driver array for LR4 optical applications that supports data rates up to 28Gbps and optical reach up to 10km. In conjunction with a DFB laser diode array or individual DFB laser diodes, the device handles the complete digital-to-optical conversion, including CML input with equalization, laser driver, drive control, and supervision.

Designed for direct DC-coupled die in TOSA applications with a small number of additional components for cost-effective and compact assemblies. Available in die form.

Applications

- Up to 10km LR4 100G-BASE Ethernet modules for datacenters
- Up to 2km CLR4 100G-BASE Ethernet modules for datacenters
- 128G Fiber Channel modules to 10km
- 32G Fiber Channel modules to 10km
- InfiniBand EDR optical modules
- Proprietary multi-channel optical modules

Features

- 200mW device power dissipation when configured for:
  - I_{MOD} = 50mA$_{PP}$
  - I_{BIAS} = 50mA
- Supports up to: I_{MOD} = 50mA$_{PP}$ & I_{BIAS} = 50mA with V_{CC} = 2.5V
- Programmable Input Equalization
- Programmable Input Signal Detect (SD) with Squelch
- Programmable Input Polarity Inversion
- Programmable Pulse Width Adjustment
- Programmable Laser Modulation Current Amplitude, Peaking, and Peaking Duration
- Integrated Temperature Sensor
- Interrupts with user selectable mask control
- Laser Disable for I_{MOD} and I_{BIAS}
- 2-wire interface control and symmetric pad design maximize module design flexibility
- QSFP MSA compliant

Ordering Information

Part	Temp Range	Pin-Package
HXT42400-DNU[1] HXT42400-TNU[2]	-5°C to +95°C	Bare Die Design Size: 1300µm x 3320µm Nominal Die Cut Size: 1350 µm x 3370 µm
HXT42400EVB	Room Temp	Evaluation Board

Notes:
[1] – Waffle Pack
[2] – Blue Tape

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

Device Diagram

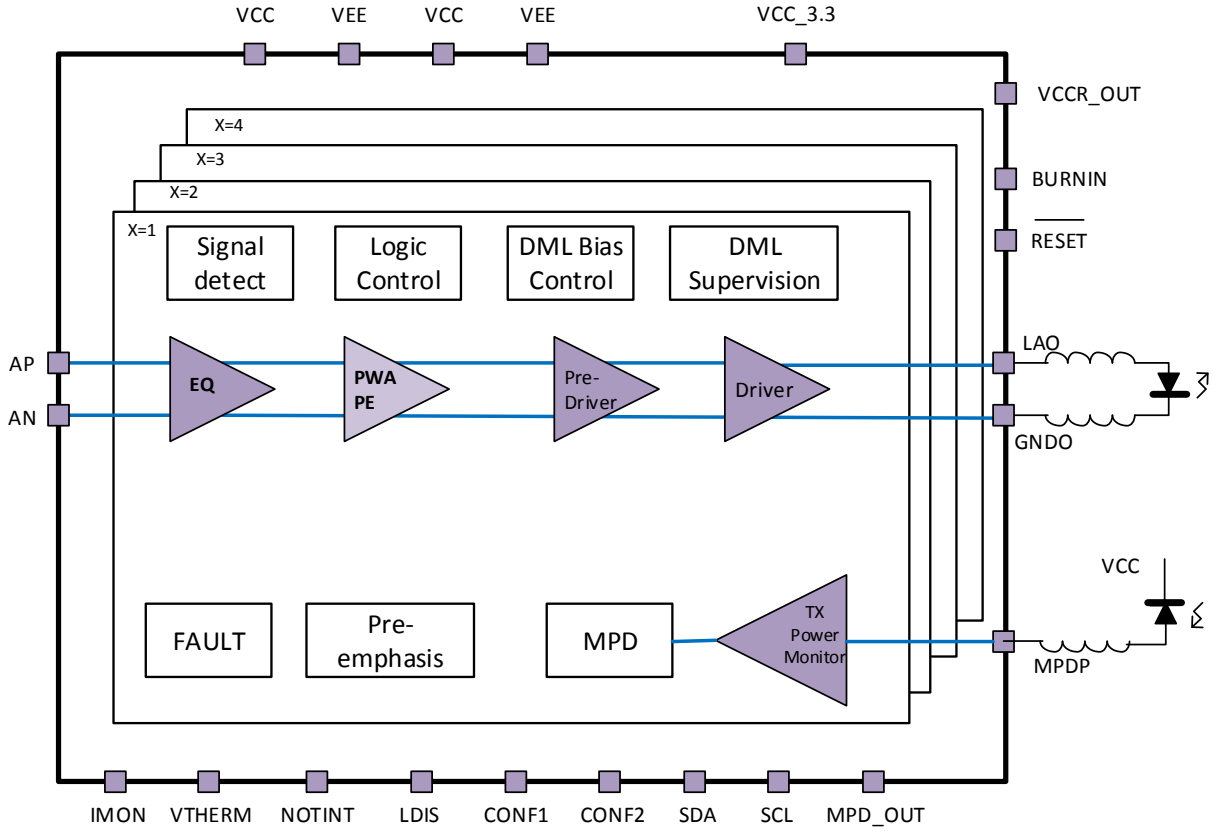

Figure 1: Functional block diagram

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