HXT14100

56Gbps – Single Channel PAM4 VCSEL Driver

The HXT14100 is a single channel, low power, Linear PAM4 VCSEL driver for SR optical applications that supports signaling rates up to 29GBuad PAM4. In conjunction with a VCSEL laser, the device handles the complete electrical-to-optical conversion. It includes CML input with equalization, linear multi-stage drivers, plus a digital interface to a driver control and supervision.

The HXT14100 integrates a number of functions like Automatic Power Control (APC), internal and module temperature monitoring and reporting. With RSSI input, the driver can directly synchronize with the input from a receiver.

HXT14100 is a direct DC-coupled die designed for a chip-on-board (COB) transmitter and in TOSA applications. It offers a cost-effective and compact solution.

Applications

- SFP56 Ethernet SR modules
- 50G Ethernet SR AOC
- 64G Fiber Channel modules
- Infiniband EDR modules

Features

- 230mW per channel Power Dissipation typical
- Supports up to: I_{MOD} = 12mAPP and I_{BIAS} = 12mA with V_{CC} = 3.3V
- Integrated 12-bit ADC with 6 channel analog multiplexor front-end
- Programmable 8-bit Laser Modulation and Bias current control
- Integrated Bias Monitor, Transmit and Receive Power monitor capability
- Automatic Power Control (APC)
- Programmable Input LOS and Squelch function with disable, Transmit Disable, and Transmit Fault indication
- Programmable Input CTLE Equalization
- Integrated Temperature Sensor and input for external module temperature sensor
- Interrupts with User selectable Mask control
- Input Polarity Inversion
- Laser Disable for I_{MOD} and I_{BIAS}
- Integrated OTP for calibration
- 2-wire interface control

Ordering Information

Part	Temp. Range	Dimensions
HXT14100-DNU[1]	-5°C to +95°C	Bare Die: 1350 x 1120µm
HXT14100-TNU[2]		
HXT14100-EVB	Room Temp.	Evaluation Board

1. Carrier type is waffle pack.
2. Carrier type is blue tape.

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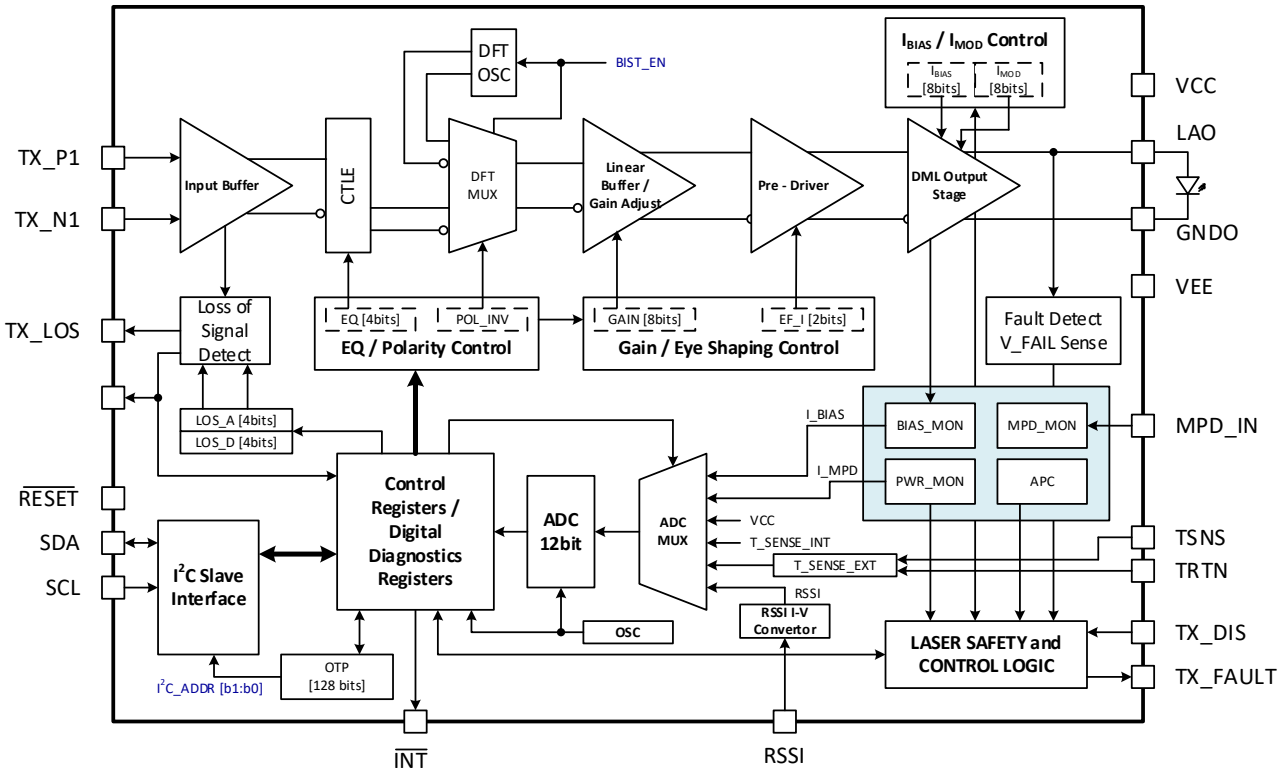


Figure 1. Block Diagram

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