

IPVD3X4 PRODUCT BRIEF

Introduction

IPVD3X4 is a 12-channel, high performance, low power driver for direct modulation of VCSELs at bitrates up to 12.5 Gbit/s.

It features 12 independent VCSEL drivers with a common serial digital management interface. The management interface is used for individual enable control of each of the 12 channels.

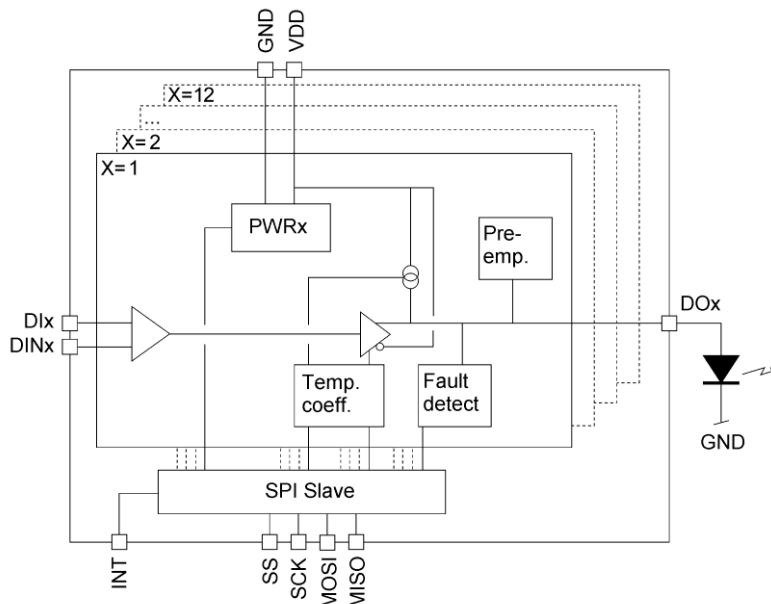


Figure 1 – Block Diagram

Temperature Compensation

For stable optical signals over a wide temperature range, modulation and bias currents, output waveform, pre-emphasis, and modulation current temperature compensation can be set and the individual VCSEL status can be monitored via the management interface.

Driver Output

The data outputs are power efficient high impedance current outputs optimized for short connections to common cathode VCSEL arrays.

The device is available as known-good-die.

Evaluation boards for easy and quick evaluation are available.

Features

- 12x12.5 Gbit/s VCSEL driver
- Support any rate from 1Gb/s - 12.5 Gbit/s
- No external components needed
- Single 3.3 V supply
- Power dissipation: 14 mW per channel (excluding bias and modulation current)
- Up to 7 mA modulation current with up to 15 % pre-emphasis
- Up to 10 mA pre bias
- Digital serial control interface for individual control and status read out
- Programmable temperature compensation of pre-bias and modulation current
- Die size 3800 x 2450 um

Applications

- Parallel Optical Interconnects
- 12-channel optical modules
- Active Cables

APPLICATION

IPVD3X4 features 12 individual VCSEL drivers that independently support multiple bitrates. Via the SPI management interface, each of the 12 VCSEL drivers can be configured with individual settings to accommodate the best possible performance for each of the channels.

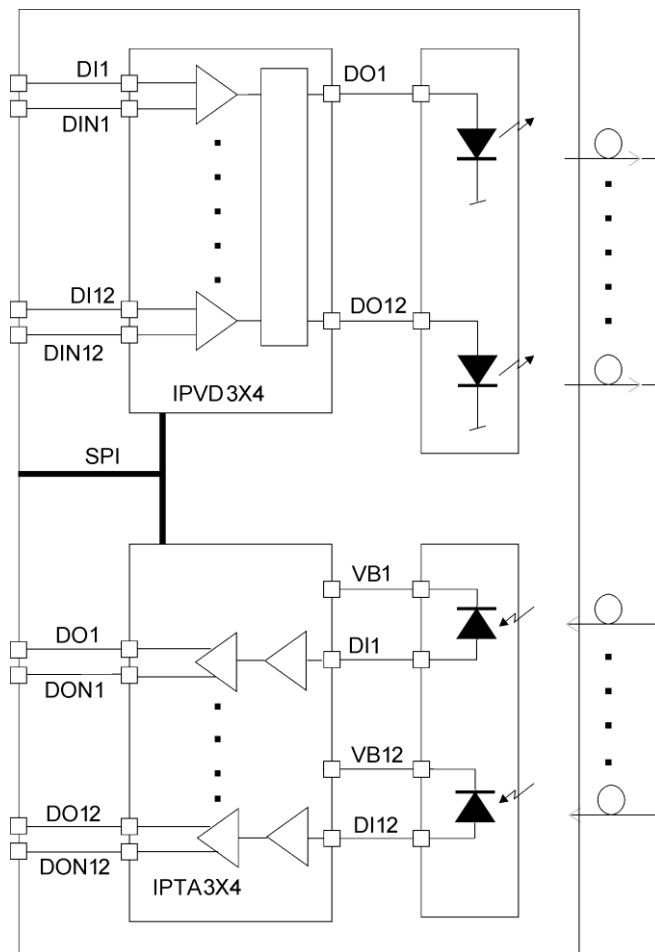


Figure 2 – Application using IPTA3X4 and IPVD3X4

The IPVD3X4 and its counterpart the transimpedance amplifier IPTA3X4 form a complementary chip set for a 12-channel transceiver module.

No external components (except the optics) are required for using the IPxx3X4 transceiver devices.

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