

IPVD12G011 PRODUCT BRIEF

Introduction

IPVD12G011 is a 4-channel, high performance, low power driver for direct modulation of VCSELs at bitrates up to 12.5 Gbit/s. It features 4 independent VCSEL drivers with a common serial digital management interface. The management interface is used for configuration and monitoring of each of the 4 channels.

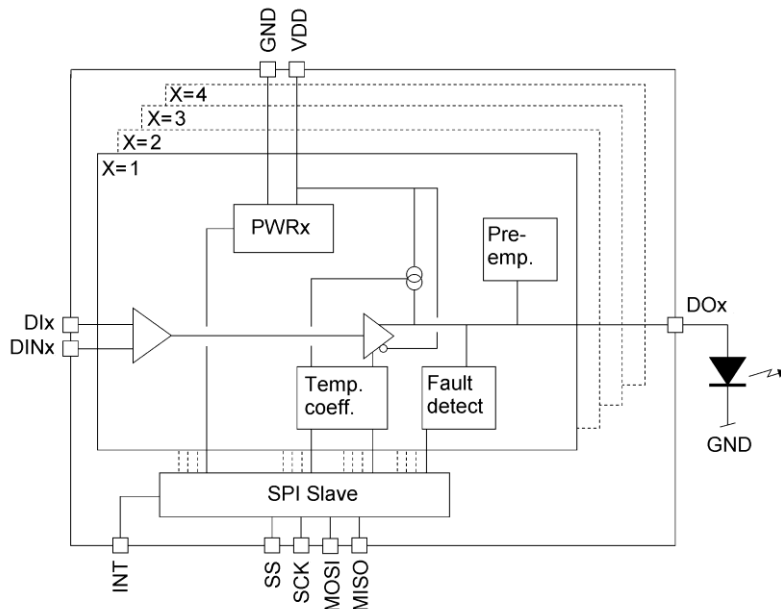


Figure 1 – Block Diagram

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

- 4x12.5 Gbit/s VCSEL driver
- Support any rate from 1 Gbit/s - 12.5 Gbit/s
- No external components
- Single 3.3V 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 management interface for individual control and status read out
- Temperature compensation of pre-bias and modulation current
- Die size 1850 * 2200 um

Applications

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

APPLICATION DIAGRAM:

IPVD12G011 features 4 individual VCSEL drivers that independently support multiple bitrates. Via the SPI control interface, each of the 4 VCSEL drivers can be configured with individual settings to accommodate the best possible performance for each of the channels.

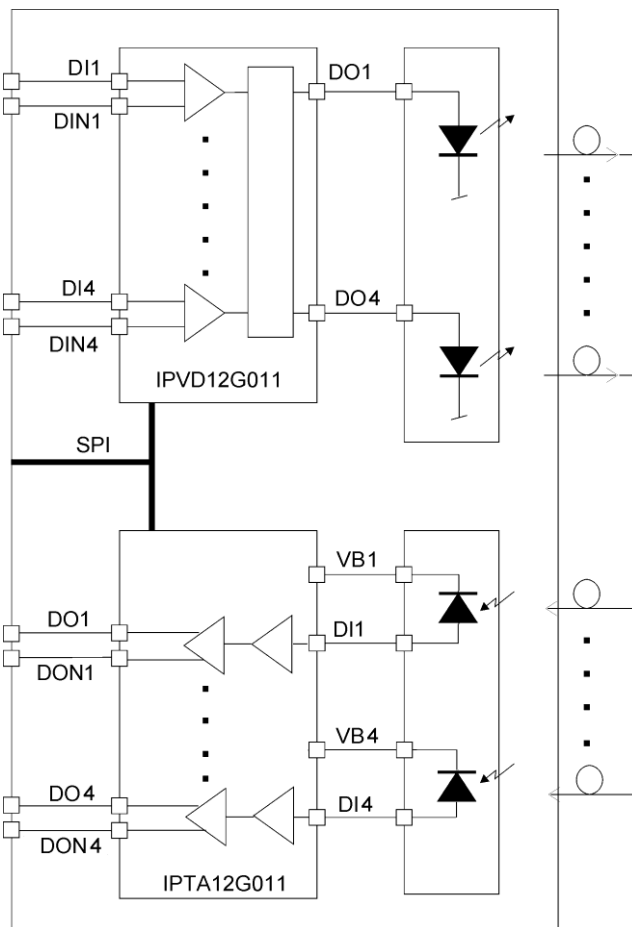


Figure 2 – Application using IPTA12G011 and IPVD12G011

The IPVD12G011 and its counterpart the transimpedance amplifier IPTA12G011 form a complementary chip set for a 4-channel transceiver module.

No external components (except the optics) are required for using the IPxx12G011 transceiver devices.

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