CCE4510 IO-Link Master PHY with Integrated Frame Handler

Description

IO-Link is a standardized, serial, bi-directional point-to-point connection for signal transmission and power supply under any networks, fieldbuses, or backplane buses. The CCE4510 is a highly integrated IO-Link Master PHY IC providing two IO-Link compliant channels with 1A peak driving current. The built-in IO-Link hardware frame handler significantly improves application performance by automating most of the lower layer communication tasks. By reducing the micro controller load, CCE4510 frees up valuable processing bandwidth enabling developers to add greater value by running additional processor-intensive tasks without the need for higher performance micro controllers. Alternatively, developers can reduce system cost by using less capable micro controllers without reducing overall performance. CCE4510 supports a wide supply voltage range from 8 to 32V with integrated over voltage detection as well as high current and temperature protection. Flexible configuration options are available with QFN48 7x7mm and QFN24 4x4mm optimized package variants. CCE4510 provides the perfect solution for 2/4/8/16 port IO-Link master applications connecting IO-Link compliant industrial sensors and actuators.

Features

- Two IO-Link compliant channels with 1 A peak driving current
- Hardware frame handler (support for all IO-Link v1.1 frame types)
- Fully IO-Link v1.1 compliant
- Wide voltage range 8-32 V
- Transceiver mode • Integrated UART (COM1-3)
- Completely automated wakeup procedure for master
- Two status LED drivers • Synchronization features for IO-Link channels and LEDs over multiple chips
- Includes NMOS gate drivers to switch power supply of devices
- Supports feed through of clock
- Temperature and supply voltage monitoring and protection
- Overload protection for channels and connected devices
- QFN48, 7x7mm and QFN24, 4x4mm package options

Benefits

- Reduced processor loading with integrated Frame Handler
- Flexible configuration supporting Master or Device
- Full compatibility with industry standard software stack (TEConcept)
- Optimized for 2/4/8/16 port IO-Link master applications

Applications

- Industrial Profibus/IO-Link Network
- Industrial Automation
  - Sensors
  - Actuators
  - Hubs
- High voltage level shifter

Block Diagram
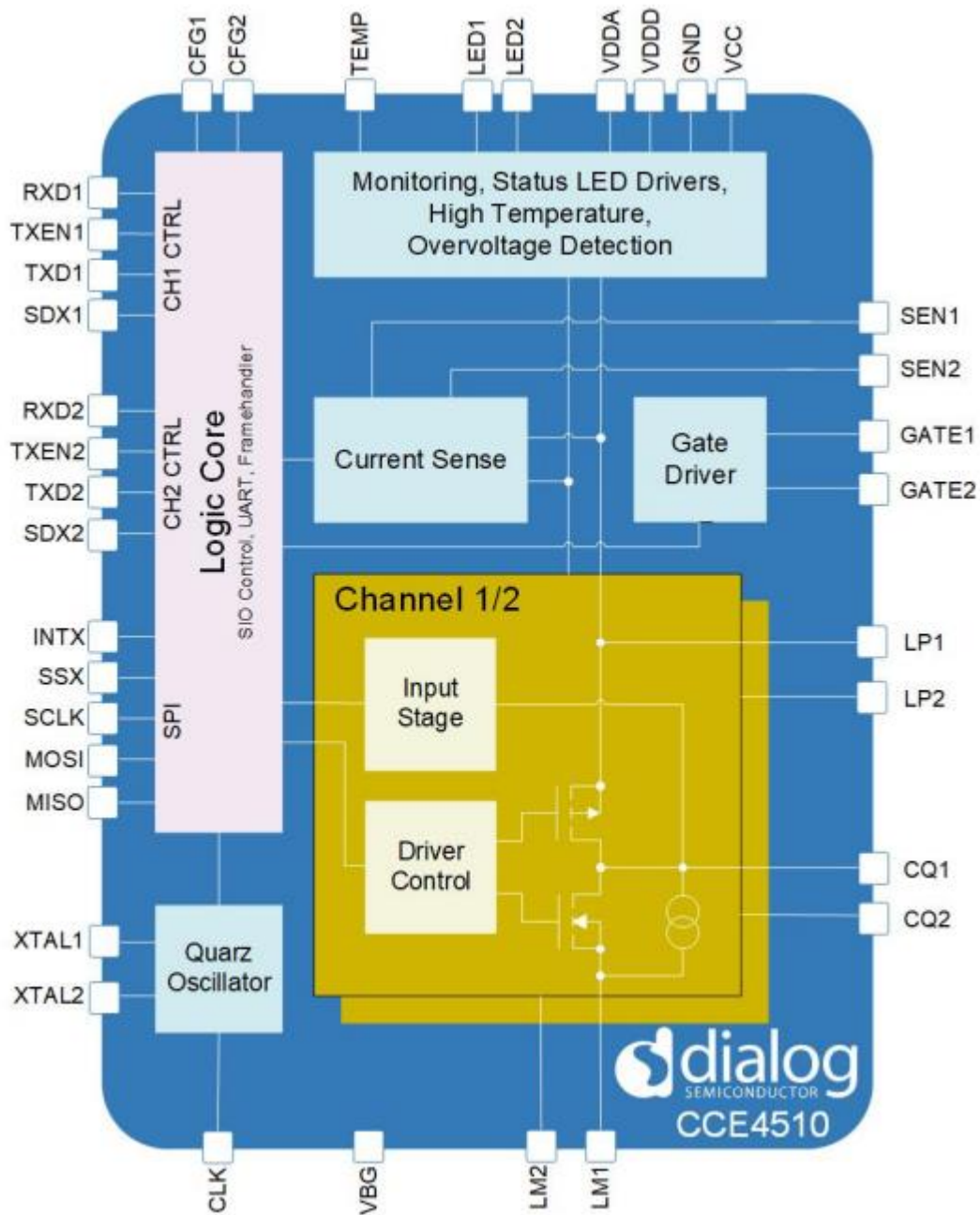
Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

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Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

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