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## CCE4502 IO-Link Device PHY with Integrated Frame Handler

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### Description

The CCE4502 is a highly integrated device-side IO-Link compliant transceiver IC. The built-in hardware-based IO-Link frame handler provides full IO-Link protocol handling facilities making it simple to connect a host micro controller via the UART interface. The comprehensive function set includes LDOs and step-down DC-DC converter, on chip oscillators and a user SPI interface for configuration and read back of fault indicators. The output stage provides overcurrent, reverse polarity and thermal protection and is tolerant to +/- 40V input. It is configurable as push-pull, open drain (PMOS or NMOS) or input only. Package options include a 4mm x 4mm, 0.5mm pitch QFN with an addition option of a 2mm x 2.6mm, 0.5mm pitch WLCSP. These options make the CCE4502 suitable for demanding industrial applications where power dissipation or space are highly important.

### Features

- IO-Link compliant transceiver
- Integrated UART (COM1-3)
- One IO-Link slave up to 200mA driving current
- Programmable PNP-, NPN-, and Push-Pull mode
- On-chip oscillator with  $\pm 2\%$  frequency accuracy
- Reverse polarity and short circuit protection
- Two LDO voltage regulators (programmable 3.3V/5V and 5V)
- DC/DC Buck converter 7V
- Temperature stable reference voltage output
- Slew rate control
- High temperature detection
- QFN24, 4x4mm package OR CSP 2.6x2mm

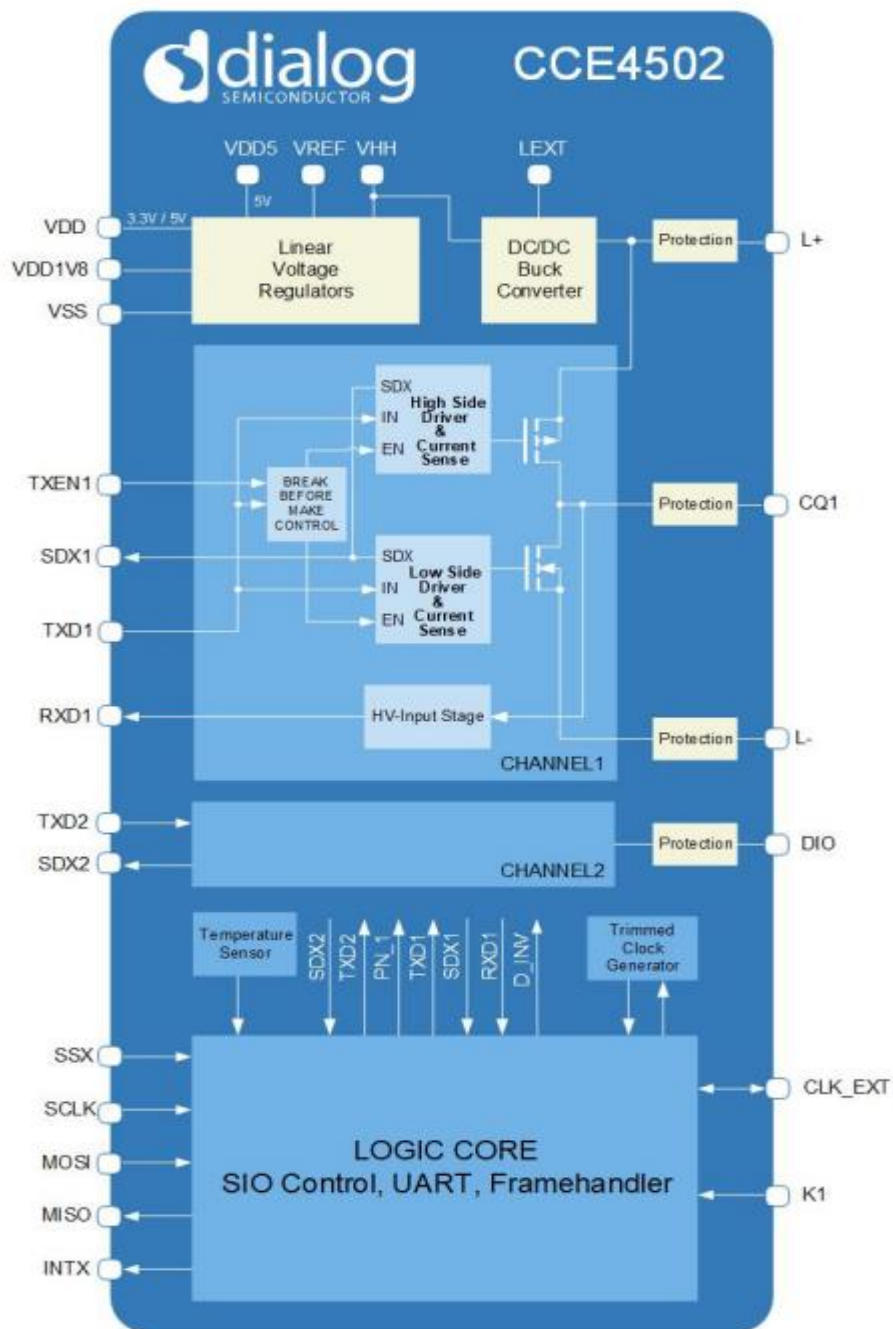
## Benefits

- Integrated Frame Handler automates most of the lower layer communication tasks
- All IO-Link frame types supported
- Hardware IO-Link stack support
- Evaluation board available
- IO-Link Physical Layer Test for Evaluation Board available
- Rich configuration options

## Applications

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

## Block Diagram



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