

Fully integrated master transceiver IC

Data brief

Features

- Supply voltage from 18 to 32.5 V
- Programmable 200 mA push pull power stage (<math><2 \Omega @ 125 \text{ }^\circ\text{C}</math>)
- Supports up to 230 kHz
- 500 mA protected high-side driver
- Short-circuit and overcurrent outputs protection through current limitation and programmable cut-off current
- 3.3 V/5 V selectable 50 mA linear
- Regulator with $V_H = V_{CC}$ (with maximum power dissipation = 200 mW)
- 5 mA quasi type-2 input with programmable filter time
- Additional IEC61131-2 type-1 input with programmable filter time
- Diagnostic dual LED sequence generator and driver
- 5 V and 3.3 V compatible I/Os
- Overvoltage protection (>36 V)
- Integrated IEC61000-4-5 surge protection, with source impedance 500 Ω
- Overtemperature protection
- ESD protection
- Conform to IEC 61000-4-4
- Miniaturized: QFN 3.5 x 5 x 1 26 lead package

Applications

- Industrial sensors power-stage
- 24 V push pull line driver
- Fast I/O PLC interface, IO-Link conform



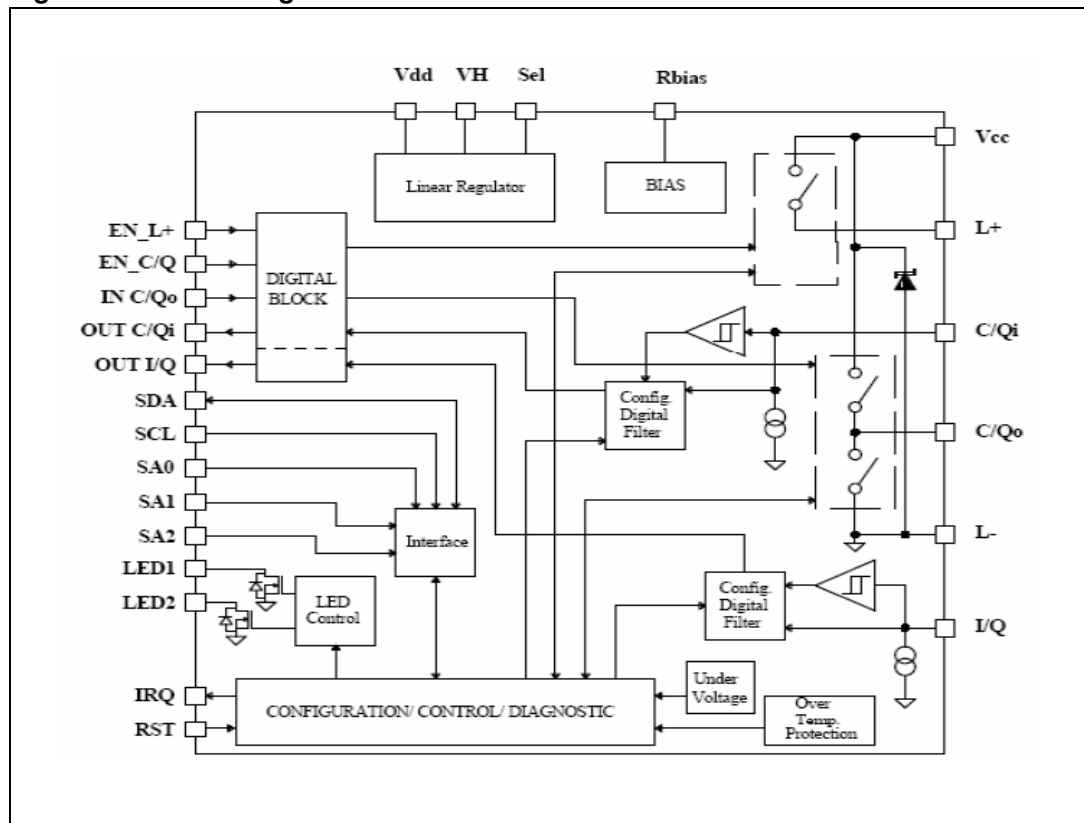
Description

The L6360 is a monolithic PHY input and output device. One channel is designed as HSD, while Channel 2 is configured as push pull power stage, ideally usable as 24 line driver, supporting communication speed up to 230 kHz.

C/Q_O output stage is programmable: high-side, low-side or push-pull; also cut-off current and cut-off current delay time, restart delay are programmable. Cut-off current and cut-off current delay time, combined with thermal shutdown and automatic restart, protect the device against over-load and short circuit. C/Q_O and L+ output stages are able to drive resistive, inductive and capacitive loads. Inductive loads can be driven up to 10 mJ.

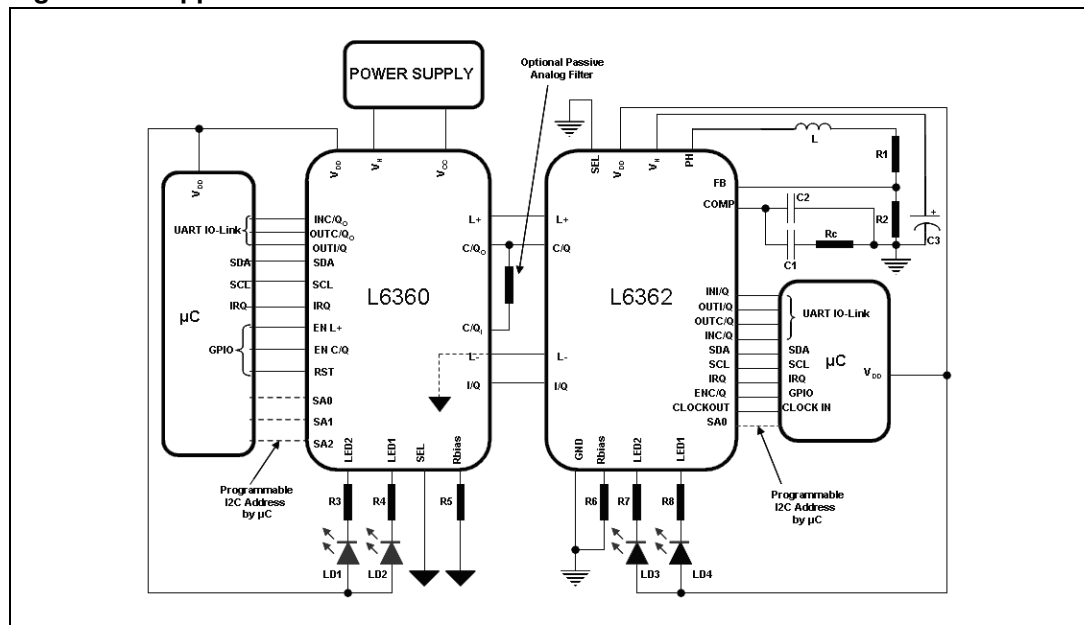
Supply voltage is monitored and low voltage condition is detected. L6360 transfers, through the PHY2, data received or transmitted in the digital block from microcontroller by USART. For more details on complete system please refer to application schematic. To enable full IC control, regarding configuration and monitoring (i.e. fault condition stored in the status register) the communication between the system microcontroller and L6360 is based on a fast mode 2 wires interface. The L6360 has nine registers to manage the programmable parameters and the status of the IC. Monitored fault conditions are: Power On (L+ line), Overtemperature, C/Q over-load, linear regulator under-voltage and parity check. Internal LED driver blocks, in open drain configuration, provide two programmable sequences to drive two LEDs.

Figure 1. Block diagram



STMicroelectronics complete solution with device and master unit communicating each other and with μ C's.

Figure 2. Application schematic



1 Revision history

Table 1. Document revision history

Date	Revision	Changes
22-Jul-2009	1	Initial release.

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