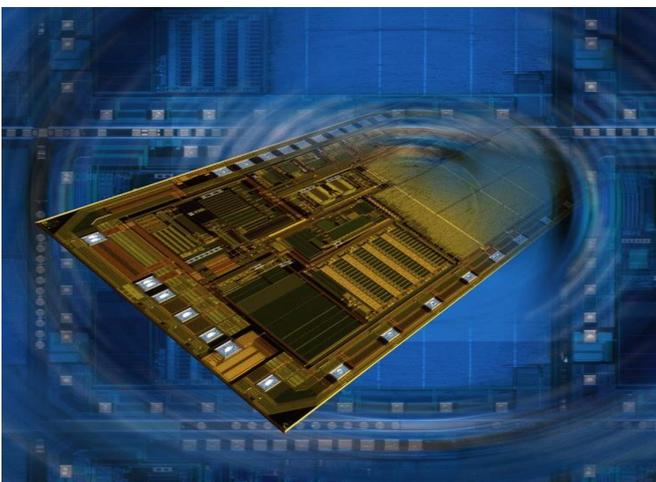


Product Information EDC / Motronic IC – CY310



BOSCH

Invented for life



The CY310 is a high integrated power circuit designed for supply, signal processing and control of motor management ECU's.

Customer benefits:

- ▶ Excellent system know-how
- ▶ Smart concepts for system safety
- ▶ Secured supply
- ▶ Long- term availability of manufacturing processes and products
- ▶ QS9000 and ISO/TS16949 certified

Features

- ▶ One 5V-regulator for system supply
- ▶ One 3.3V-regulator for system supply
- ▶ Three 5V-regulators for sensor supply
- ▶ One 3.3V-standby supply
- ▶ Low side switch for main relay control
- ▶ High side switch (100mA)
- ▶ Sensor interface for inductive wheel speed sensors
- ▶ Two serial ISO-interfaces
- ▶ Four low side signal drivers with diagnostic
- ▶ One CAN driver
- ▶ Digital watch dog with SPI- Interface
- ▶ Power- package: HIQUAD64

Power supply

Power supply inputs

- ▶ Protection against reverse battery and over voltage
- ▶ Overload detection

Voltage regulators

- ▶ Main regulators:
 - 5V and 3.3V / 500mA (total)
- ▶ Standby supply:
 - 3.3V / 100mA in operating mode
 - 3.3V / 2mA in standby mode
- ▶ Sensor supplies:
 - three independent outputs
 - 5V / 70mA (each)
 - tracking to 5V main regulator
 - protected against permanent short circuit to ground and battery

High side and low side switch

- ▶ Switched battery (high side switch):
 - protected battery voltage for power stages and peripherals
- ▶ Main relay control (low side switch):
 - protected output for driving a main relay
 - diagnostic features

Control inputs, control outputs

- ▶ Ignition input:
 - control for all switch able outputs
- ▶ Ignition output:
 - 5V ignition signal with integrated delay
- ▶ Reset signals:
 - power down voltage control for 3.3V and 5V power supply
 - two open collector outputs, active low
 - integrated reset delay times

RPM sensor interface

- ▶ Differential input for an inductive engine speed sensor:
 - switchable sensitivity
 - thresholds controlled via SPI
 - integrated glitch filter (controlled via SPI)

Serial data interface (bidirectional)

- ▶ Two low side drivers (transmitter):
 - open drain output (50mA)
 - 5V logic input
 - short circuit protected
- ▶ Two input comparators (receiver):
 - thresholds according ISO 9141
 - 5V push pull output

Signal drivers

- ▶ Four low side switches:
 - open drain output (50mA)
 - 5V logic input
 - short circuit protected
 - diagnosis

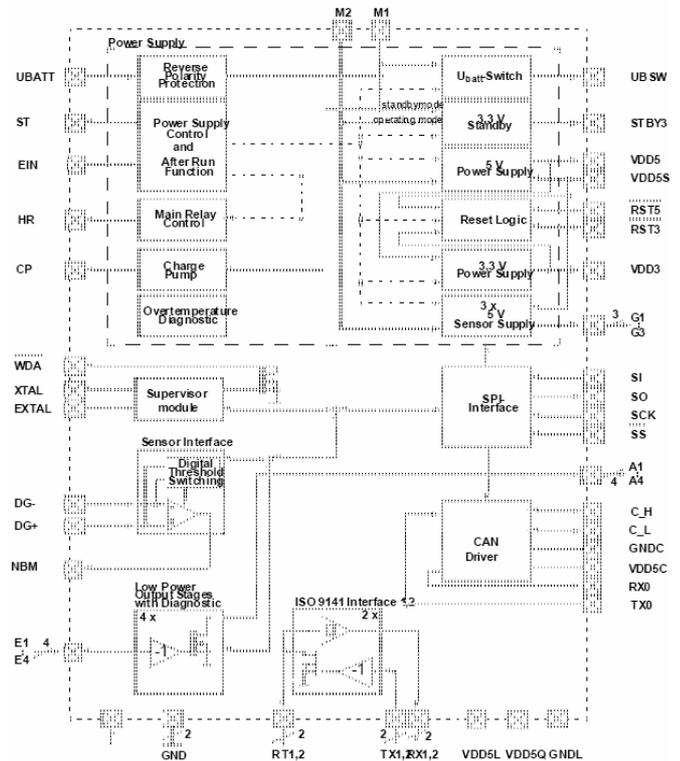
CAN driver

- ▶ - according ISO/DIS 11898
- ▶ - low/high speed configurable via SPI

Digital functions

- ▶ SPI Interface:
 - Baudrate up to 2MBit/sec
 - used for configuration, diagnosis and communication with supervisor module
- ▶ Supervisor module:
 - intelligent module to control correct function of the ECU microcontroller
 - reset signal for microcontroller and peripherals
 - quartz oscillator

Application example



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