

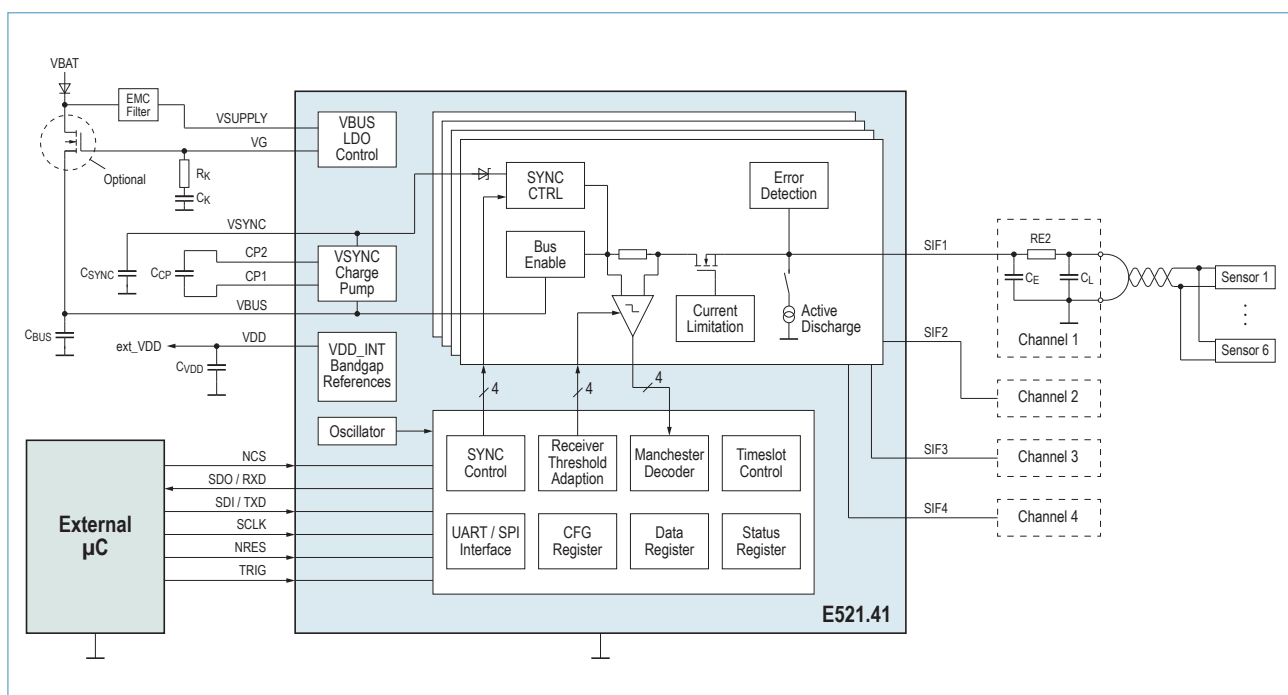
Features

- ▶ Transceiver compliant with PSIS standard v1.3 and v2.0
- ▶ Provides four independent master channels (up to 6 sensors each)
- ▶ Supporting 125 Kbit/s and 189 Kbit/s protocols
- ▶ Supporting synchronous and asynchronous operation modes
- ▶ Various diagnostic features
- ▶ Internal sync-voltage generation
- ▶ Programmable bus-voltage 4.6V to 11V
- ▶ Automatic threshold adaption to sensor quiescent current
- ▶ Reverse polarity protected bus outputs up to 40V
- ▶ Enables operation in powertrain and chassis control systems
- ▶ Developed according to ISO 26262, based on safety requirements rated up to ASIL C.
- ▶ Operating temperature range -40°C to +125°C

Applications

- ▶ Safety (airbag) control systems
- ▶ Powertrain control systems
- ▶ Vehicle dynamics control system

Typical Application Circuit



This document contains information on a new product. ELMOS Semiconductor AG reserves the right to change specifications and information herein without notice.

General Description

The E521.40/41 was developed to manage the connection and communication between a microcontroller unit and up to 24 sensor satellites.

Data transmission from the sensor to ECU is done by current modulation on the power supply lines with data rate of 125 Kbit/s or 189 Kbit/s (Manchester coded). Data transmission from ECU to sensor is done by voltage modulation on the power supply. It supports bidirectional communication. Two methods are supported:

- tooth gap method
- pulse width method

The device is a PSIS V1.3 and V2.0 compliant receiver which provides four independently operating channels. The channels are able to communicate in low power-, standard-, synchronous- and asynchronous operating mode.

The communication to µC is done via the SPI or UART interface.

Ordering Information

Product ID	Features	Package
E521.40	2-channel	QFN20L5 / SOIC20
E521.41	4-channel	QFN20L5 / SOIC20

Elmos Support 01/2013

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