



SPSB081

Automotive Power Management IC with LIN and CAN-FD transceivers



With 2 embedded linear voltage regulators, CAN-FD and LIN transceivers, and very low quiescent current, the SPSB081 simplifies designs

The SPSB081 is a power management system IC providing electronic control modules with enhanced power management functionality, including various standby modes to minimize the power consumption with programmable local and remote wake-up capability, as well as LIN (optional) and CAN-FD physical communication layers.

In addition to embedding a two low-drop voltage regulators (for the system MCU and external peripherals), the device features four high-side drivers to supply LEDs and sensors.

All outputs are short-circuit protected and implement open-load diagnostics. The ST standard SPI interface allows device control and further diagnostics while enabling generic software development.

KEY FEATURES & BENEFITS

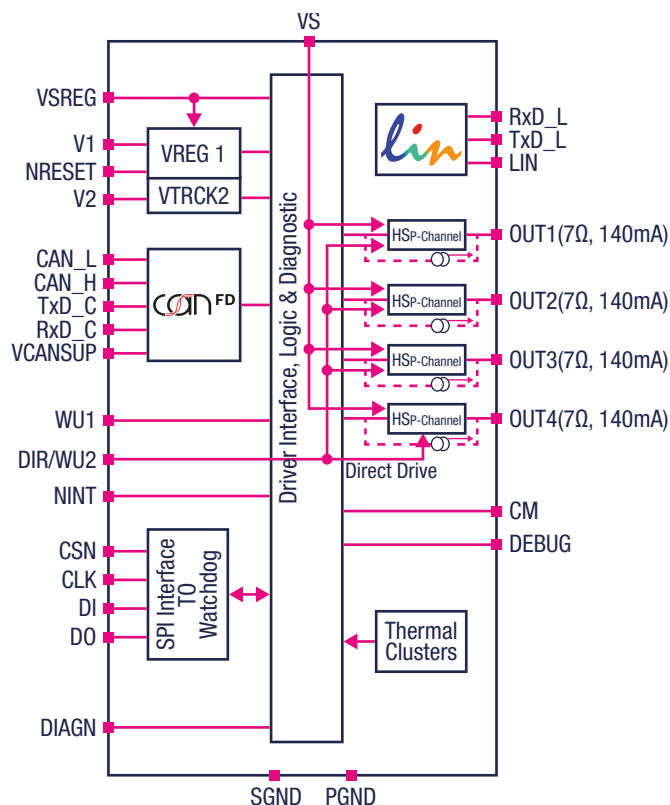
- Very low quiescent current (typ. 15 μ A) in standby modes
- SPI-configurable LDO enables solutions with different output voltage requirements (3.3 or 5 V)
- Even if not designed as safety HW element, the device contains some features that can be used to support application that needs to fulfill functional safety requirements as per ISO26262

KEY APPLICATIONS

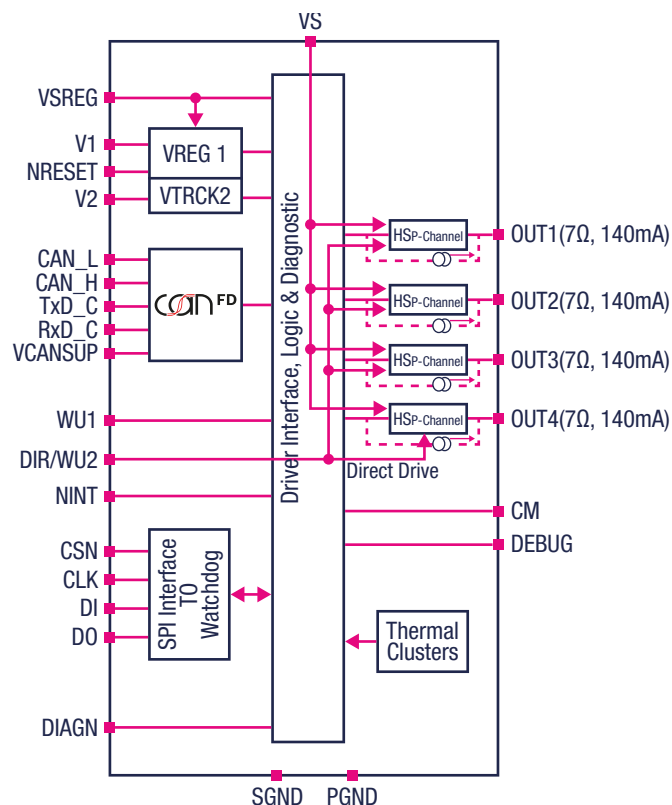
- MCU supply
- Body control module
- HVAC systems
- NFC car door access
- Sunroof modules

The SPSB081 is a power management system IC family with LIN (optional) and CAN-FD physical communication layers. SPSB081 devices embed a low-drop voltage regulator with a fixed rail of either 3.3 or 5 V for the system microcontroller, and a second SPI-configurable LDO (3.3 or 5 V) that acts as a tracker voltage regulator for supplying external peripheral loads such as LEDs and sensors. Covering 8 different output voltages, the SPSB081 series is a flexible solution for electronic platforms that require different rails and peripherals.

SPSB0815/SPSB0813 Block Diagram



SPSB081C5/SPSB081C3 Block Diagram



Device summary

Part number	Package	Extended operative input voltage (V)	Regulated Output Voltage (V)	Output Current (mA)	Transceiver	Typ. Quiescent current (µA)	Features
SPSB0815-TR	QFN32L Epad	6 to 28	V1 = 5V V2 = 5V or 3.3V	V1 = 250 mA V2 = 100 mA	CAN-FD and LIN	15 *	Configurable window watchdog DIAGN output pin for fail-safe signalization Current monitor output for all internal high-side drivers Open-load diagnosis for all outputs Overcurrent protection for all outputs V1 overvoltage detection and protection
SPSB0813-TR			V1 = 3.3V V2 = 5V or 3.3V				
SPSB081C5-TR			V1 = 5V V2 = 5V or 3.3V		CAN-FD		
SPSB081C3-TR			V1 = 3.3V V2 = 5V or 3.3V				

* In standby mode



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