Product Brief

TLE8888

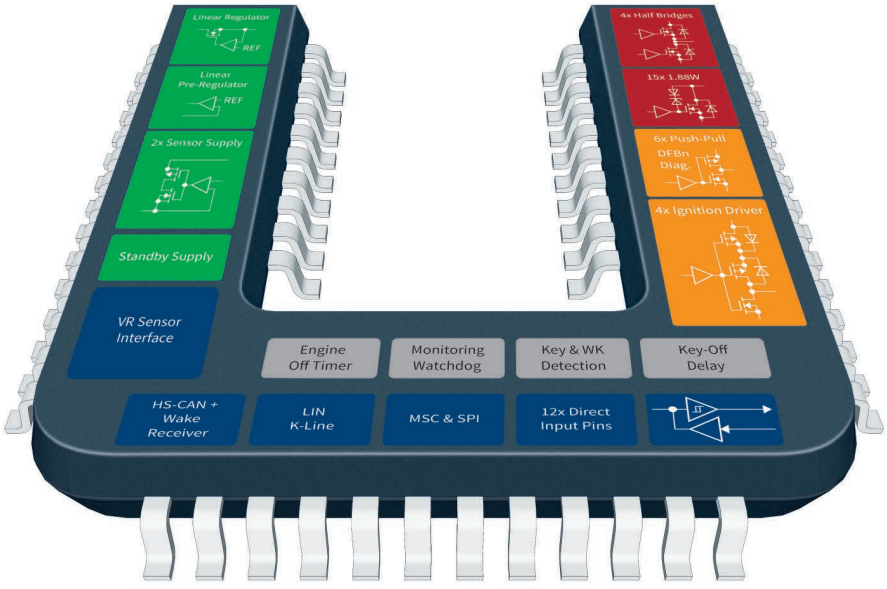
for Engine Management Systems

The TLE8888QK is the optimum “all-in-one-device” solution, if it’s about automotive engine management systems. It contains all necessary items for an Electronic Control Unit (ECU) for 4 cylinder automotive engine management systems. TLE8888 includes state of the art communication interfaces, ECU – and sensor supply functions and the output drivers for solenoids, injectors, relays and stepper motors. In addition to that there are advanced diagnosis features and functions implemented into the TLE8888 for optimum use in a modern engine management system.

Main Applications

- Multi-port injection engine management systems
- Gasoline direct injection engine management systems

Block Diagram



Key Features

- Supply system for EMS components like µC, bridges, sensors etc.
- 29 power outputs for inductive loads, half bridges and ignition
- Main relay driver with key/wake detection
- Communication I/F: Direct inputs, µ second bus, CAN H and LIN I/F
- Protection and safety features: Diagnosis, active clamping, UV-/OV detection, safety watchdog
- Advanced features: VRS I/F, key Input detection, engine-off time, after run mode and delay timer
- Package: PG-LQFP-100

Key Benefits

- Complete solution for 4-cylinder engine management systems
- Enables for area optimized ECU design
- Enables for low EMI designs

Applications

- 4 cylinder automotive engine management systems
- MPI and GDI systems
- All-in-one chip solution for small engine application

RoHS AEC Qualified

www.infineon.com/tle8888

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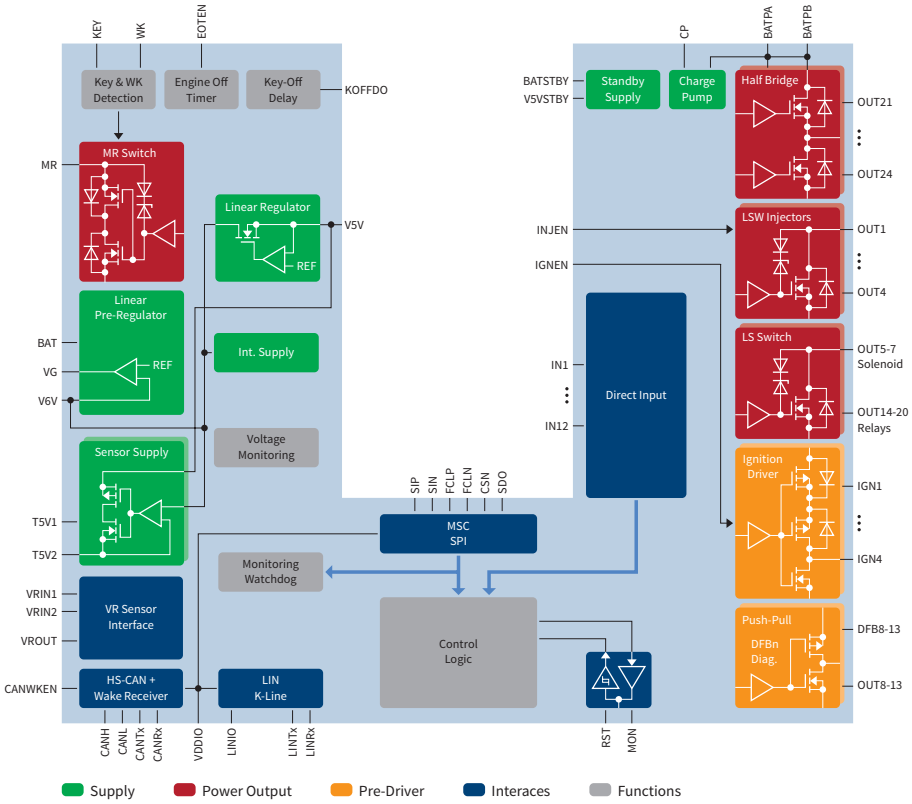
Block Diagram



The **block diagram** includes a color code to highlight the main blocks of the TLE8888: The elements of the supply system – green, the output stages and drivers – red/orange, the communication interfaces – blue as well as additional functions – light grey. The supply block includes a 6-V pre-regulator for external FETs, a 5-V linear regulator, a 5-V standby supply, two sensor supplies and a supply input for I/O logic level selection. There are altogether fifteen low side outputs ranging from 0.6A up to 4.5A as well four configurable half bridges and ten push-pull outputs. Next to twelve direct input pins, there is a µ second bus, CAN H and a LIN transceiver with high-speed mode incorporated into the TLE8888.

Protection and Diagnosis features of the TLE8888 include diagnosis detection (SCG, OL, SCB), overtemperature, current protection, active clamping, UV/OV monitoring, internal and ECU power-on reset, bidirectional disable pin, safety watchdog, enable inputs for injectors and ignition, key-off delay output.

Additional integrated features implemented in the TLE8888 are a VR-sensor interface, key input detection and delayed key-out, wake-up input detection, engine off timer, after-run mode and a delay timer as well as two delayed outputs. For electro-magnetic conformance optimization, a special edge-shaping slew-rate control is used for the output stages.

Product Summary

Type	Description	Ordering Code
TLE8888QK	Fixed parameter setting for the watchdog	SP000921534
TLE8888-1QK	Configurable parameter setting for the watchdog	SP001279928
TLE8888-2QK	Watchdog function is disabled	SP001279926

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