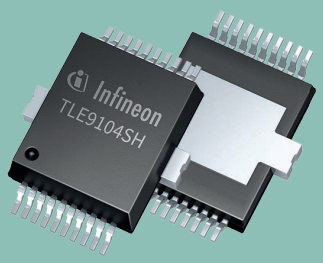


Product brief

TLE9104SH

4-channels high-current/energy powertrain low-side switch

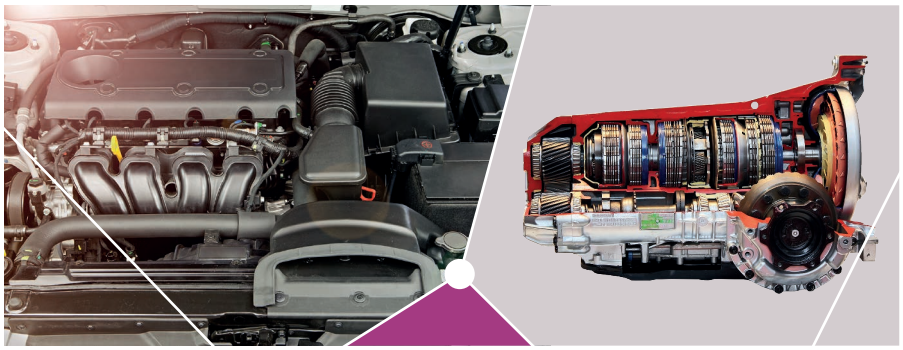
The TLE9104SH is a smart 4-channel low-side switch in Smart Power Technology designed for automotive powertrain applications and it's equipped with a 16-bit Serial Peripheral Interface (SPI) for control and diagnosis. All channels are protected against overcurrent/temperature and enhanced with an active clamping circuitry for driving inductive loads. Load status detection is possible over the SPI for: Short to Ground (SCG), Open Load (OL), and Short to Battery (SCB). 4 input pins are available for direct control of the switches.

The TLE9104SH comes along with important safety features, which makes it a good fit to safety critical automotive and industrial applications.

The TLE9104SH is particularly suitable for engine management, transmission control and battery management systems where high-current/high-energy actuators have to be controlled.

Applications

- Automotive powertrain, body and safety applications
- Engine management, transmission control and battery management
  - Driving resistive/inductive loads (solenoids, injectors, valves, relays)
- Industrial applications



Performance TLE9104SH

The TLE9104SH is a 4-channel high-current/energy low-side switch for various automotive powertrain, body and safety applications.

Key features

- 16-bit SPI at 8 MHz
- 4x direct input pins
- $V_{DS(CL)}$: 50 … 60 V (int. clamping)
- $R_{DS(on)}$: 300 mΩ (@ 150°C)
- 3 A nominal load current
- 5 A peak current
- VIO pin for 3.3 V and 5.5 V SPI
- Independent on-state and off-state diagnostic functions
- Configurable overcurrent protection
- Extra output EN pin
- SPI communication watchdog
- Output stage status via SPI
- Green product (RoHS compliant)
- Completely lead free
- AEC-Q100/101/006 qualified

Key benefits

- High-current/energy capability
- Flexible due to configurability
- Cost and size optimized package
- Protection and diagnosis functions
- Enhanced safety features

RoHS AEC Qualified

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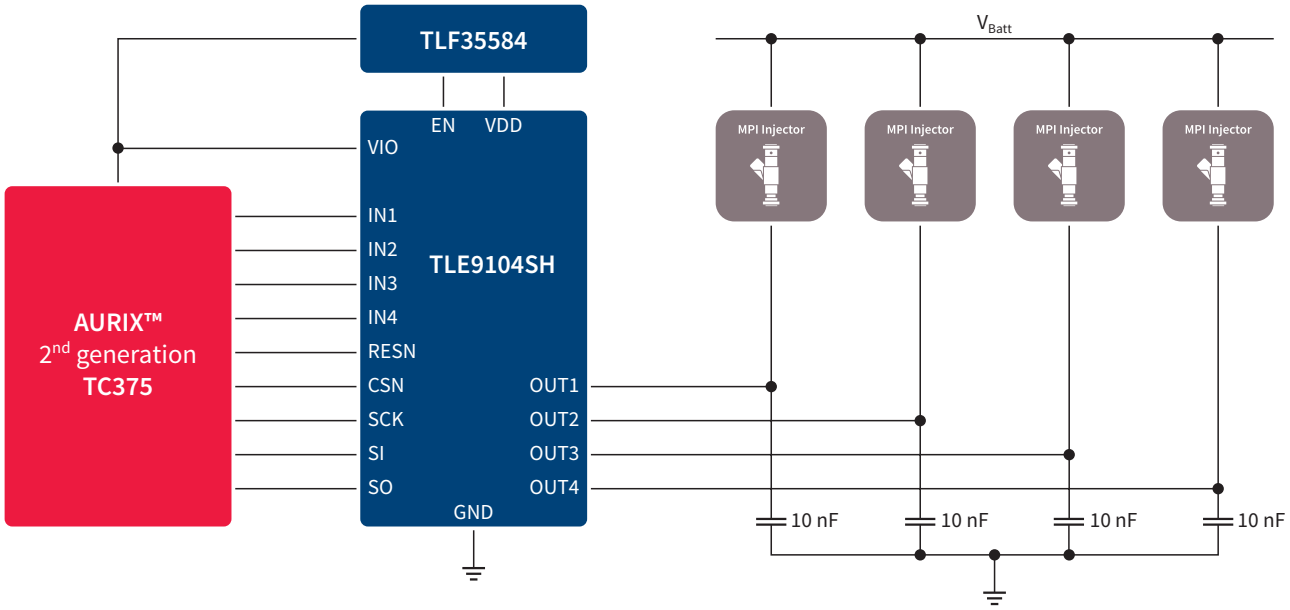
TLE9104SH

4-channels high-current/energy powertrain low-side switch

Block diagram



The DSO-20 (Heatslug) package

- Small footprint (68 mm^2)
- 0.5 mm pitch
- Unparalleled thermal performance R_{thJC} of 1 K/W

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Additional information
For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

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