

## Product brief

# TLE8110ED

## 10-channels smart powertrain low-side switch

The TLE8110ED is a ten channel low-side switch in Smart Power Technology with Serial Peripheral Interface (SPI) and ten open drain DMOS output stages. It is part of the Flex family of low-side power drivers for automotive powertrain or industrial applications.

The output stages are controlled via parallel input pins for PWM use or SPI interface.

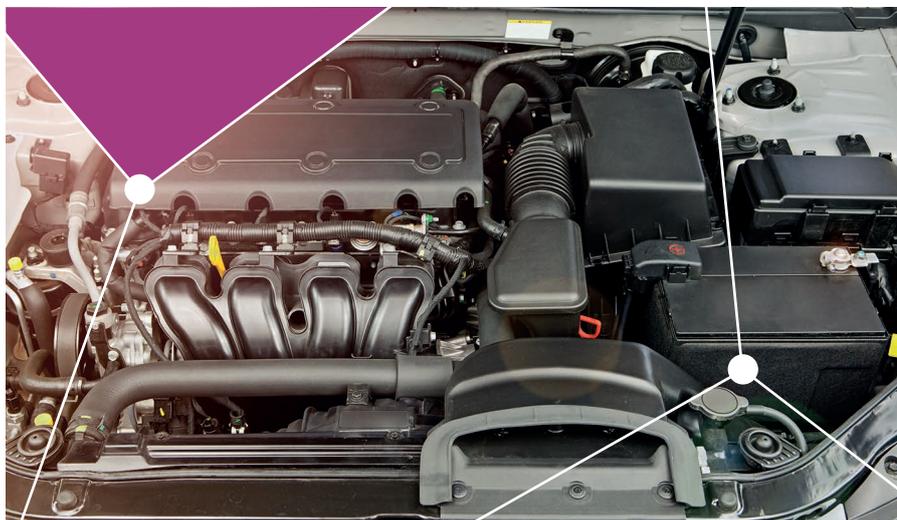
The TLE8110ED is equipped with 10 parallel input pins that are routed to each output channel. This allows control of the channels for loads driven by Pulse Width Modulation (PWM). The output channels can also be controlled by SPI.

The device is featured with a central clamping structure called CLAMPsafe(TM). This feature ensures a balanced clamping between the channels and allows in case of parallel connection of channels a high efficient usage of the channel capabilities. This parallel mode is additionally featured by optimized parameter and thermal matching of the channels and by adequate channel control.

The TLE8110ED is particularly suitable for engine management systems.

### Applications

- > Automotive and industrial systems: driver for solenoids, relays and resistive loads



### Performance TLE8110ED

The TLE8110ED is a 10 channel high current/energy low-side switch for various automotive powertrain, body and safety applications.

#### Key features

- > Overvoltage, overtemperature, ESD-protection
- > Direct parallel PWM control of all 10 channels
- > 16-bit SPI Interface
- > Daisy chain 8/16-bit capability
- > Reverse current protection
- > Blind time for unipolar stepper motors
- > Compatible with 3.3 and 5 V microcontroller I/O ports
- > Green product (RoHS compliant)
- > Completely lead free
- > AEC-Q100 and AEC-Q006 qualified

#### Key benefits

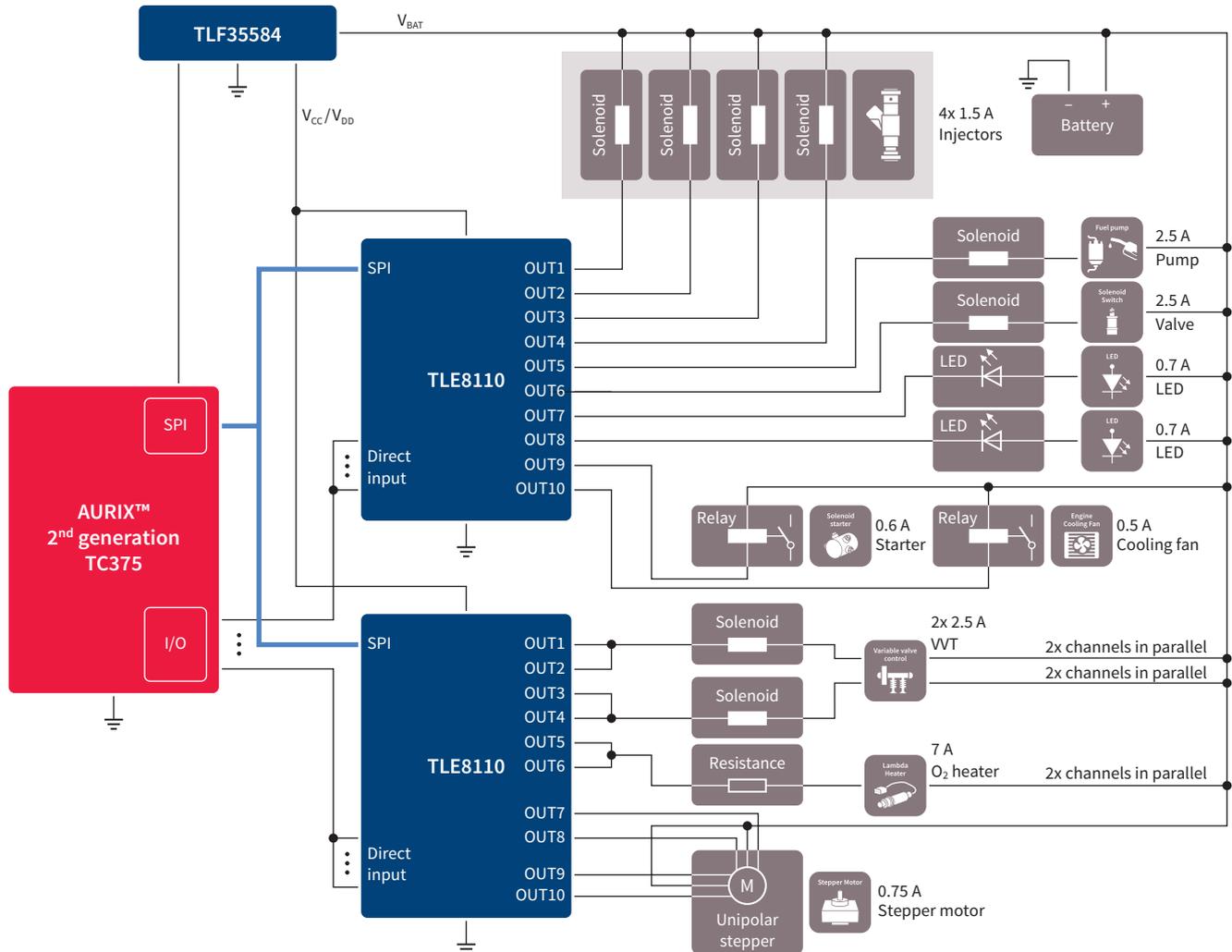
- > Flexible usage of all low-side switches
- > Inductive load clamping with  $V_{DS(CL)} = 45 \dots 60 \text{ V}$
- > Cost and size optimized package
- > Full protection and diagnosis
- > SPI communication



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### Block diagram



### The DSO-36 (Dual gauge) package

- > Small footprint (106 mm<sup>2</sup>)
- > 0.5 mm pitch
- > Unparalleled thermal performance R<sub>thJC</sub> of 1 K/W

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