



**THE DATASHEET OF
TLE75602EMDXUMA1**



Product Brief

SPIDER+ New SPI driver family

Low-side, high-side and flexible devices (9 products)

Infineon's new integrated SPIDER+ family comprises 9 value scalable products. The simplified portfolio includes 2 LS (8 + 4 ch), 2 HS (8 ch) and 5 flexible devices (8 ch) with up to 6 configurable channels. Hence, a broad range of applications is addressable. Above all, the new 8 ch HS device offers a very cost efficient solution to drive small HS loads, including open load at ON detection.

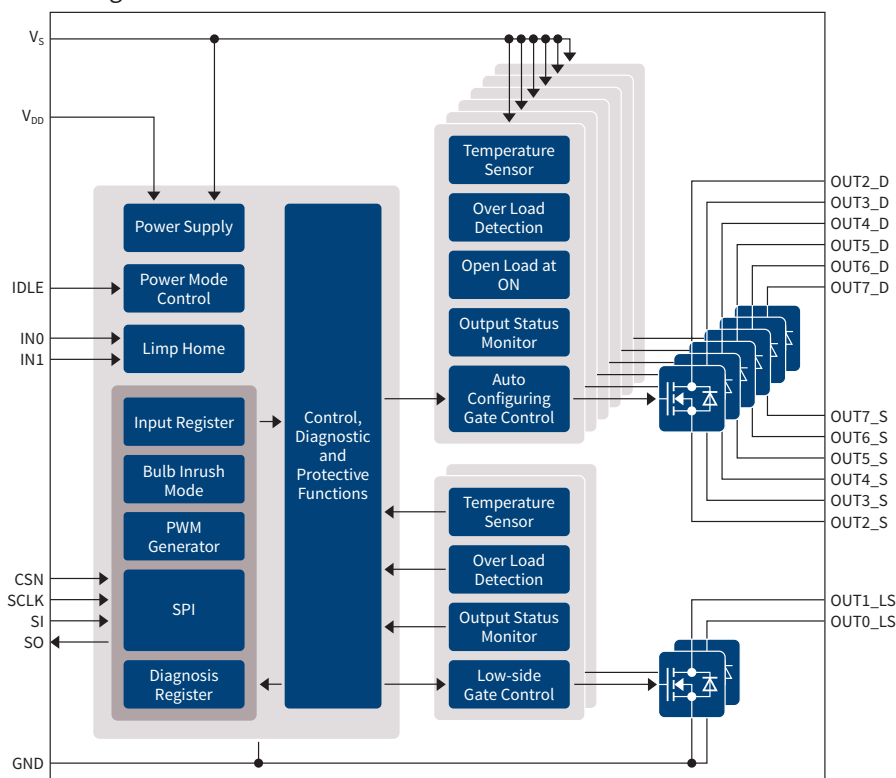
SPIDER+ devices have improved and additional functions, such as Limp Home and Cranking, very low current consumption, enhanced diagnosis features, excellent thermal performance (exposed pad packages) and an input mapping function for the 2 direct inputs. The family approach with consistent SPI registers, identical output stages for all channels and a comprehensive pin-to-pin compatibility reduce the design effort and offers cost down options/partitioning adjustments without a PCB re-design. Small 150 mil packages secures PCB space savings (= cost savings).

A so called **LED packet**, optional available for HS and flexible devices, provides additional functions to optimize the control of LEDs and small bulbs (open load detection @ ON state, a bulb inrush mode and 2 internal PWM generators).

Key features

- > Limp Home and Cranking functionality implemented for all products (down to 3 V battery)
- > Short circuit, overload and overtemperature protection
- > Paralleling of outputs
- > Very low current consumption in sleep mode
- > 16-bit SPI communication (5 MHz)
- > Enhanced diagnosis capability
- > 2 PWM inputs with mapping function
- > Optional LED packet for HS and flexible devices

Block diagram of TLE75602-ESH



Key benefits

- > Highest operational safety
- > Only one time design effort required (family concept)
- > High design flexibility: Up to 6 configurable channels
- > Cost down options without re-design
- > Entire path from microcontroller to loads trackable (supports ISO 26262)
- > Cost efficient HS driver available
- > PCB space savings (small packages)
- > Unique functions with LED packet
- > Value scalable product portfolio
- > Excellent perform./price relation

Applications

- > Automotive/industrial. relays & solenoids
- > Single LEDs and small bulbs
- > Unipolar stepper motors

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