

Product Brief

TLF502x1EL

Step-Down DC/DC-Family

Infineon offers a new automotive DC/DC-family with ultra low current consumption: TLF502x1EL.

The members of the TLF502x1-family are asynchronous DC/DCs with integrated power transistor providing 500mA output current at 5V ($\pm 2\%$). They can be operated with up to 100% duty-cycle in an input voltage range from 4.75V up to 45V. At low loads the ultra low current consumption of less than 45 μ A is achieved by a change from PWM- to PFM-mode. The adjustable switching frequency of up to 2.2MHz can be synchronized to an external clock. This high switching frequency allows the use of small and cost-effective inductors and capacitors, resulting in a low, predictable output voltage ripple and in minimized consumption of board space. The integrated compensation and soft-start function allows easy implementation and reduction of external components as well. The TLF502x1-family is covering features required in automotive applications like Enable, Reset with adjustable threshold, and Watchdog with adjustable timing. The family pin-out enables flexibility and reduction of design efforts. The devices include protection features such as a cycle-by-cycle current limitation, over-temperature shutdown and input under voltage lockout. The TLF502x1-family is coming in a small, thermal enhanced SSOP-14 exposed-pad package (RoHS).

Following family members are available:

TLF50201EL:	No features
TLF50211EL:	Enable
TLF50241EL:	Reset
TLF50251EL:	Enable, Reset
TLF50281EL:	Enable, Reset, Watchdog

At a Glance

Key Features

- Ultra low current consumption
- High switching frequency can be synchronized to an external clock
- Integrated soft-start and compensation
- Enable, Reset, Watchdog
- Protection functions
- Family pin-out
- PG-SSOP-14 EP
- AEC-qualified

Key Benefits

- Less external components
- Smaller filter elements
- Reduced design efforts and flexibility

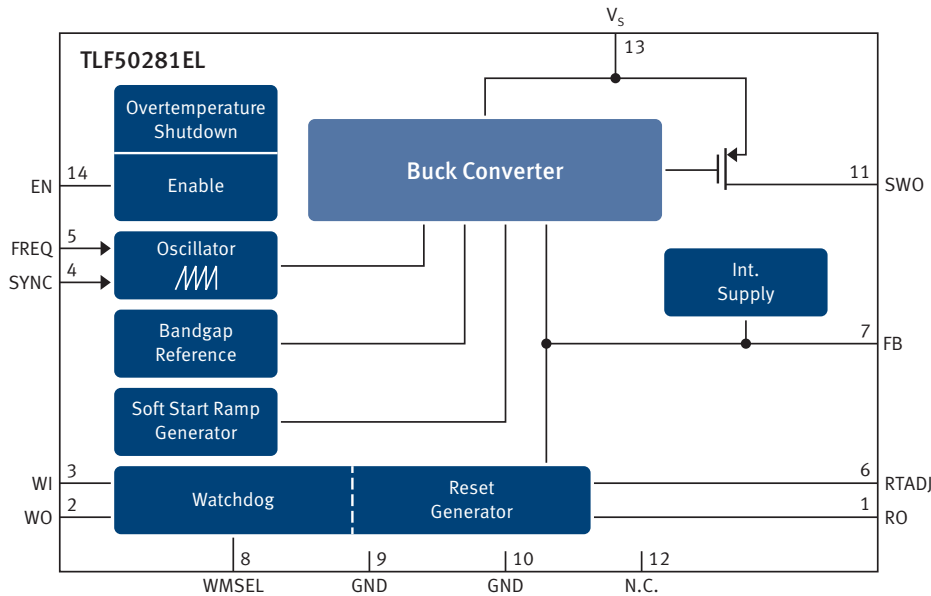
Applications

- Automotive Body
- Automotive General Purpose

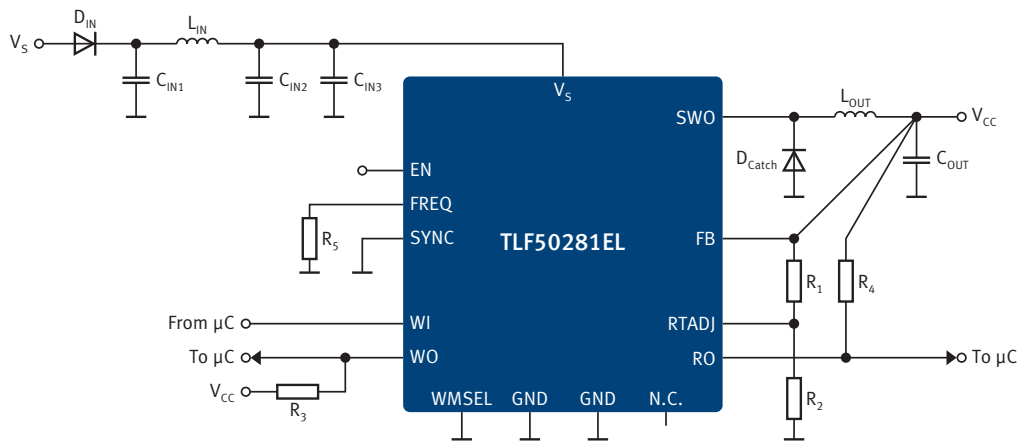
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Block Diagram TLF50281EL



Application Diagram TLF50281EL



L_{IN} , C_{IN1} and C_{IN3} recommended for suppression of EME
 D_{IN} depending on application

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