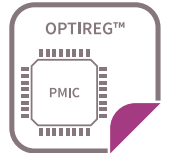


Product brief

TLF30682QVS01

OPTIREG™ PMIC



The TLF30682QVS01, member of the OPTIREG™ PMIC-family, is a multi-rail supply for ADAS-applications like 76-79 GHz Radar, multi-purpose camera, or other automotive applications such as gateway, Human Machine Interface (HMI) or in-cabin sensing applications.

It's using an efficient and flexible pre-/post-regulator concept over a wide input voltage range. The high switching frequency range of the battery connected, synchronous buck (3.3 V/3.5 A) with integrated switches allows optimization in usage of small filter components. An integrated synchronous SMPR-buck (Switch-Mode Post-Regulator) with high switching frequency enables supply for core or for memory (0.9 V-1.3 V/2.0 A). Additionally, an asynchronous SMPR-boost (5.0 V/0.25 A), running as well with high switching frequency, provides the 5 V-domain for transceiver. Integrated switches, compensation and the high switching frequency is both minimizing the number and the value of external components required.

Additional features are under-/over-voltage monitoring (via independent reference) of all integrated and up to two external rails as well as a flexible watchdog concept to supervise the μ C offers high flexibility for multiple applications.

The automotive qualified TLF30682QVS01 is coming in small, thermally enhanced VQFN-48 capable for automated optical inspection.

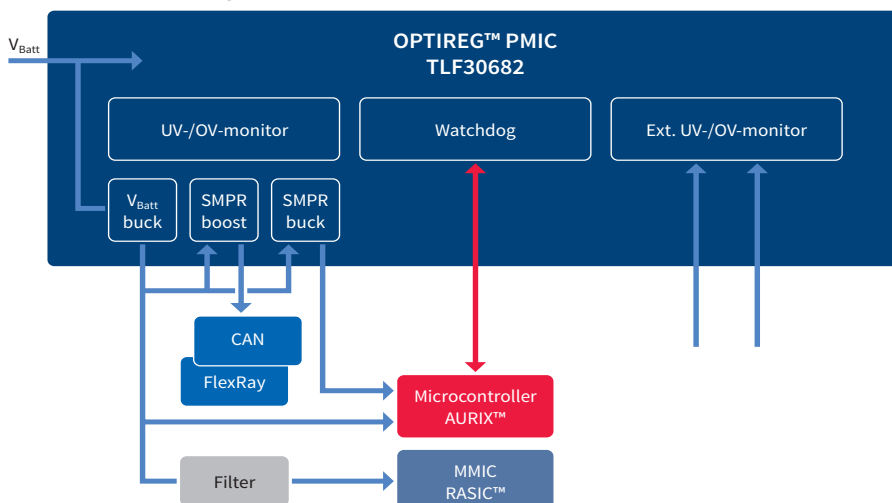
Key features

- > Pre-/post-regulator concept:
 - Buck/SMPR-Buck & SMPR-Boost
 - μ C or MMIC or DSP
 - Core or memory
 - Transceivers
- > UV/OV-monitoring for integrated rails
- > UV/OV-monitoring for external rails
- > Flexible watchdog

Key benefits

- > High efficiency and flexibility
- > Wide temperature range
- > Reduced number of external components for minimized PCB-area
- > Minimized values external components for cost optimization

TLF30682 – Block diagram



Applications

- > 76-79 GHz radar
- > Multi-purpose camera
- > Human machine interface



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The device is optimized for 76-79 GHz-radar applications within Infineon's radar chipset consisting of RXS8161PL MMIC, TC35xTA μ C, and CAN-transceiver TLE9250VLE.

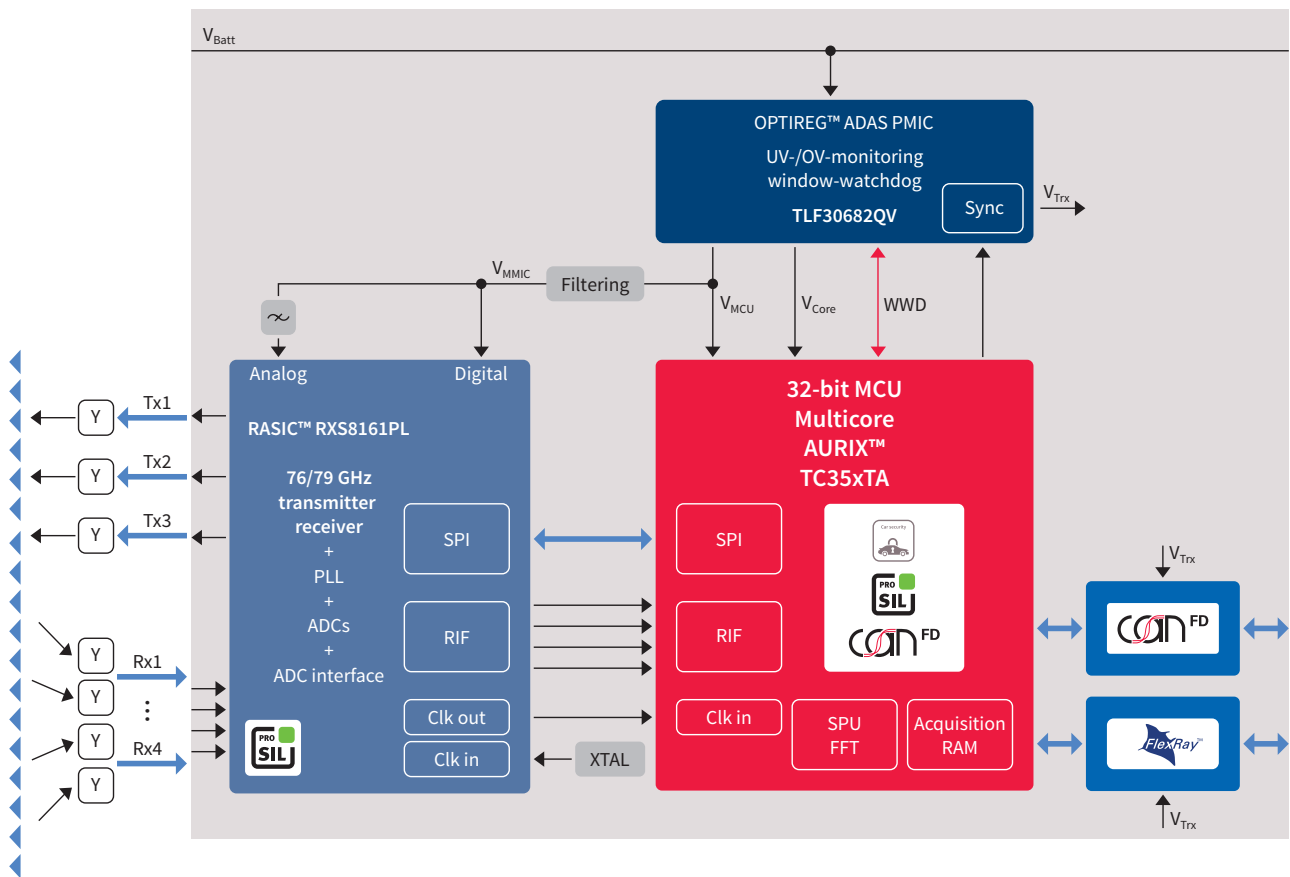
All features and functions are optimized to work together enabling easy, fast implementation. Functional safety documents are available on request

The device is part of the OPTIREG™ PMIC family TLF3068x providing optimum solutions for radar.

Additional family member is

- TLF30681, similar, pin-compatible device but with less current capability on the 2 buck rails optimized for short-range radar with RXS8156PLA and TC33xDA.

76-79 GHz radar – Application diagram



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