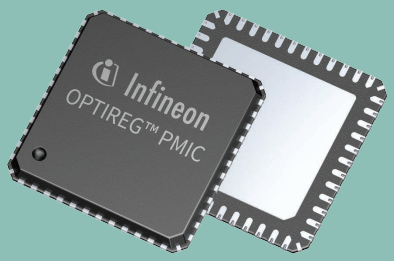


Product brief

TLF30682QVS01

OPTIREG™ PMIC

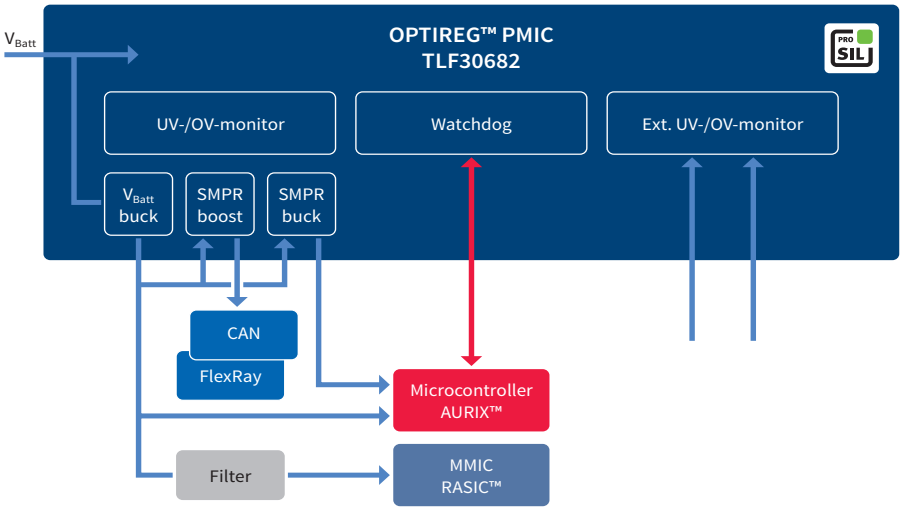
The TLF30682QVS01, member of the OPTIREG™ PMIC-family, is a multi-rail supply for ADAS-applications like 76-79 GHz Radar, multi-purpose camera, or other automotive applications such as gateway, Human Machine Interface (HMI) or in-cabin sensing applications.

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 µC offers high flexibility for multiple applications.

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

TLF30682 – Block diagram



www.infineon.com/OPTIREG

Key features

- Pre-/post-regulator concept: Buck/SMPR-Buck & SMPR-Boost
  - µC 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

Applications

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

PRO SIL ISO 26262 ready

TLF30682QVS01

OPTIREG™ PMIC

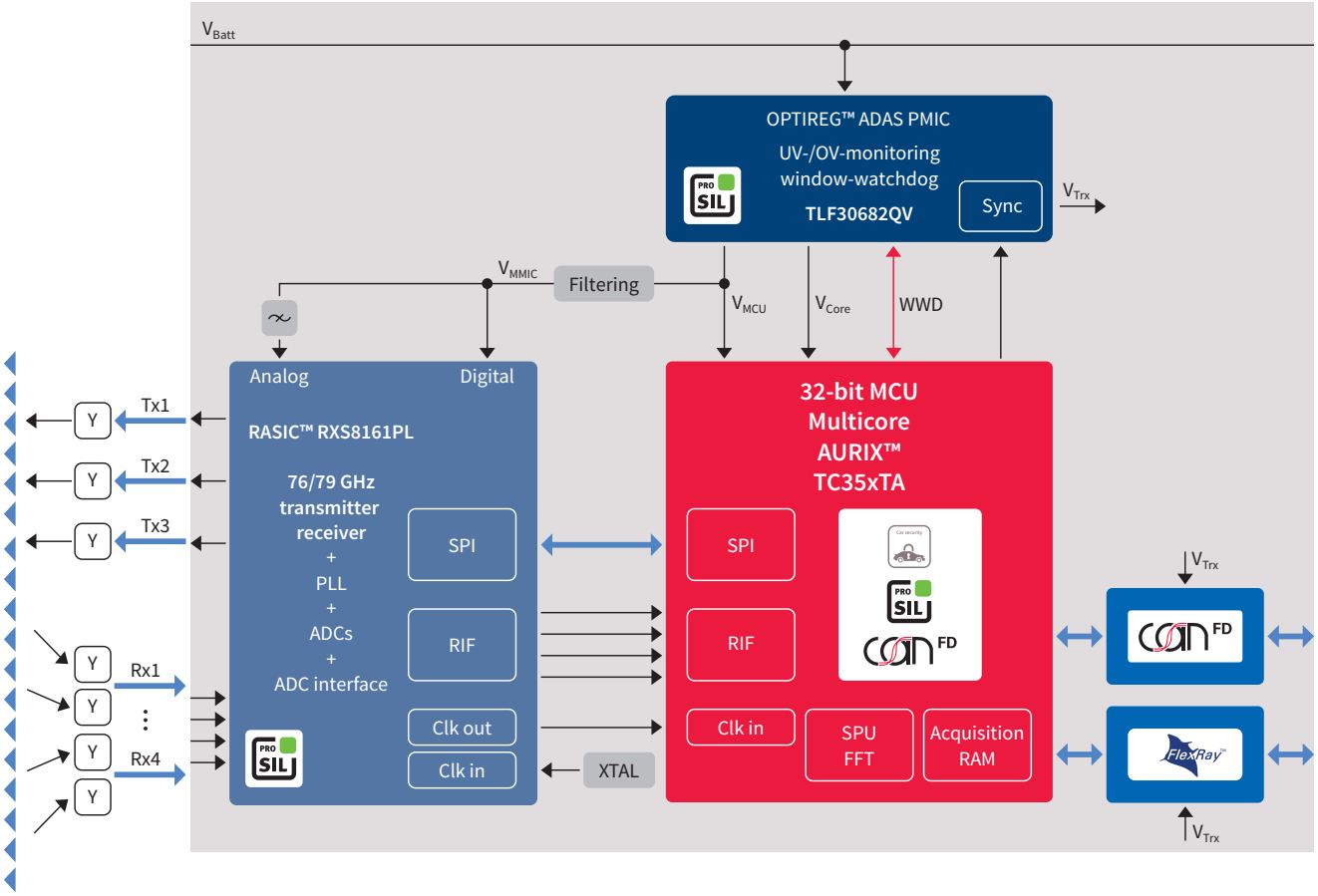
The device is optimized for 76-79 GHz-radar applications within Infineon's radar chipset consisting of RXS8161PL MMIC, TC35xTA µC, and CAN-transceiver TLE9250VLE.
All features and functions are optimized to work together enabling easy, fast implementation. The TLF30682QVS01 is PRO-SIL™ ISO26262-Ready, 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 will be

› 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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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).

Warnings
Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.