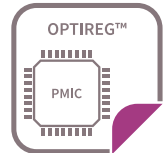




Product brief

TLF35584QVHSx

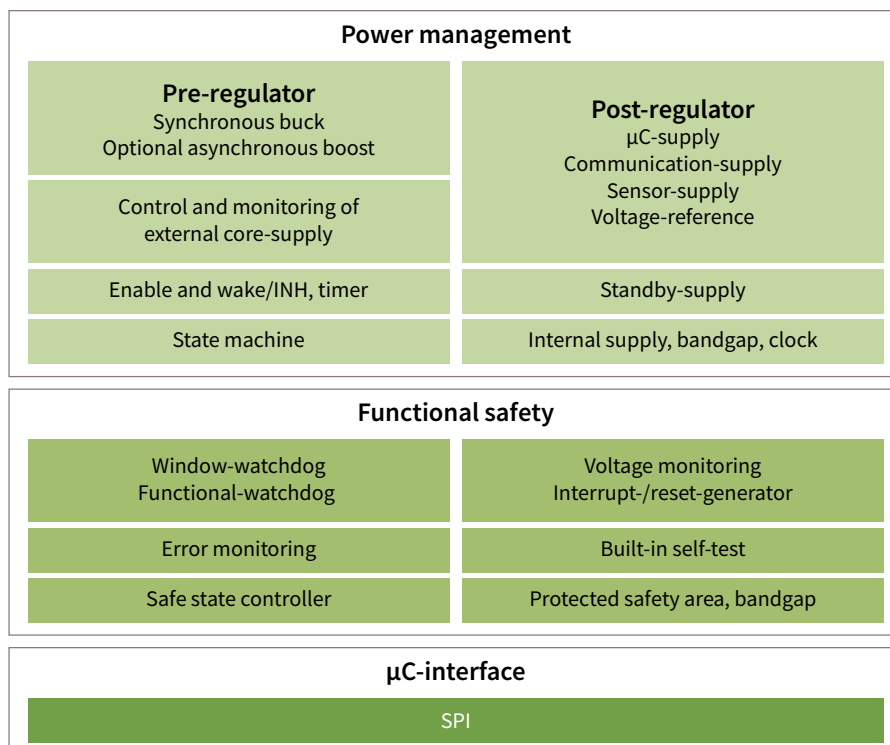
OPTIREG™ PMIC for safety-relevant applications



The TLF35584 is a multiple output system-supply for safety-relevant applications supplying 5 V or 3.3 V μ C, transceivers, and sensors by an efficient and flexible pre-/ post-regulator concept over a wide input voltage range. The wide switching frequency range allows optimization in respect of efficiency and usage of small filter components. A dedicated reference-regulator supplies the ADC independent from μ C-load steps and acts as tracking-source for the two independent sensor-supplies. The flexible state machine, wake-up concept including timer, and the stand-by-regulator favors the usage in numerous applications.

Multiple safety features enable easy realization of ASIL-D together with various μ Cs. The TLF35584 is coming in small, thermally enhanced VQFN-48 suitable for automated optical inspection: it is fully AEC-Q100 Grade 0 qualified and capable to go beyond Grade 0.

Functional block diagram



Performance TLF35584

Key features

- > Pre-/post-regulator supply for
 - μ C
 - Transceivers
 - Sensors
- > Integration of functional safety
 - Voltage monitoring
 - Flexible watchdogs
 - Error-monitoring
 - Safe State controller
 - BIST

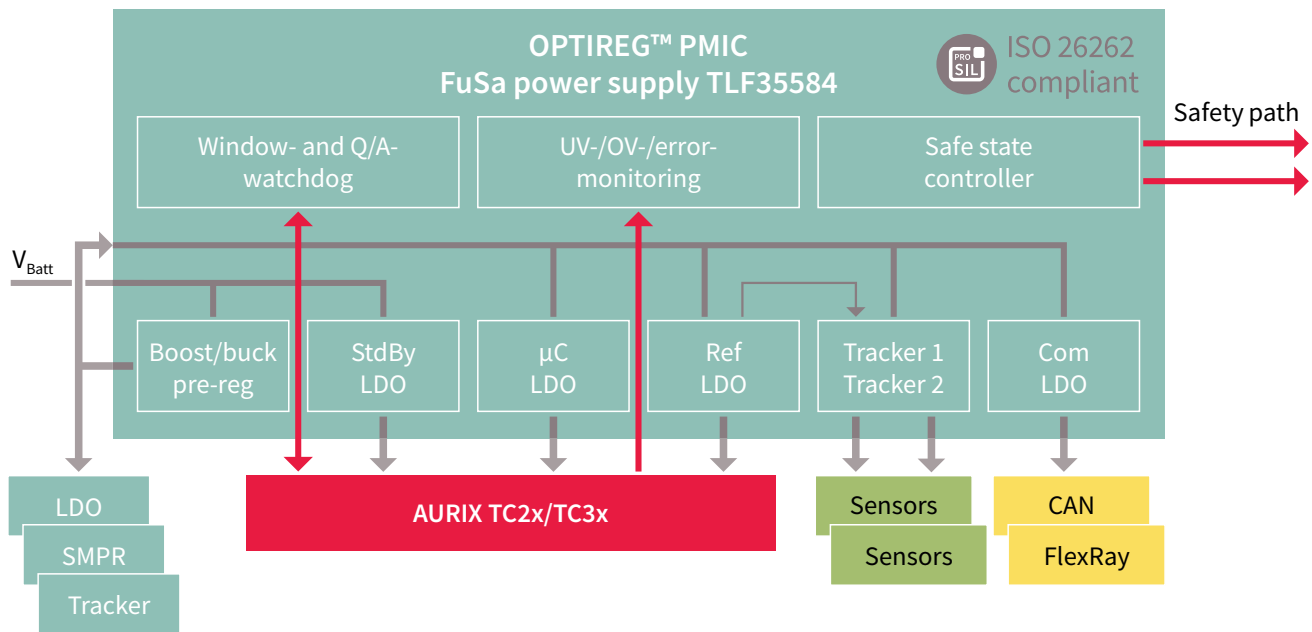
Key benefits

- > Suitable for harsh environments, extended driving profile and product life cycles
- > Efficiency and flexibility
- > Enables ASIL-D on system level

Key applications

- > xEV: Traction inverter, BMS, DC/DC, OnBoard-Charger
- > Chassis: Electric Power Steering, Braking
- > ADAS: Domain Controller, Sensor Fusion
- > Conventional powertrain: Engine Management, Transmission

Application diagram



Functional safety

The device is developed acc. ISO 26262. The applied processes, safety assessment, and provided documentation (Safety Manual, Safety Analysis Summary Report) are reducing efforts and time for the safety assessment on ECU-level. Required safety integrity functions for ASIL-D are already implemented: UV/OV-monitoring of all rails with independent reference, detecting dependent failures by flexible watchdog-concept, monitoring of μC's safety

management unit, and a safe state controller, providing secondary safety paths. A built-in-self-test is ensuring the proper function of the relevant safety features. All features are perfectly aligned to the Infineon's AURIX™-requirements, but are extended to support other μCs as well. All safety-relevant configurations are protected and can only be changed by special, successfully performed unlock/lock-sequence.

Product summary

Product type	Description	Package
TLF35584QVHS1	5 V for μC-supply	VQFN-48
TLF35584QVHS2	3.3 V for μC-supply	VQFN-48

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