

Product brief

TLE927xQX

DC/DC SBC family supporting CAN Flexible Data-rate (FD)

Infineon's highly integrated DC/DC System Basis Chip (SBC) family TLE927xQX offers best performance and scalability for various automotive applications. DC/DC SBC features a Switch Mode Power Supply (SMPS) voltage regulator with 5 V or 3.3 V output voltage, another 5 V low-drop voltage regulator, one CAN and up to four LIN transceivers complying with latest automotive standards and OEM requirements. The devices include fail-safe features to support ECU functional safety concepts, wake-inputs to monitor trigger signals, very low quiescent current in low power modes with full wake-up capability. All devices feature an exposed pad VQFN-48 (7 x 7 mm) power package. The entire family is software compatible (also to other Infineon SBC products) and pin-to-pin within the DC/DC SBC family

Key benefits

- › High efficiency SMPS buck and boost to supply high current even at low battery voltage
- › Low-drop voltage regulator for on- and off-board supply
- › CAN FD transceiver suitable for chokeless operation
- › Flexible number of integrated LIN transceivers
- › Very low quiescent current
- › Very small leadless package supporting AOI (Automated Optical Inspection)
- › Pin compatibility among all family members
- › Wide supply input voltage and temperature range
- › Reduced system cost through low component count and less PCB space
- › Excellent EMC and ESD performance meeting major car OEM requirements

Target applications

- › Body control modules
- › Gateway
- › Climate control

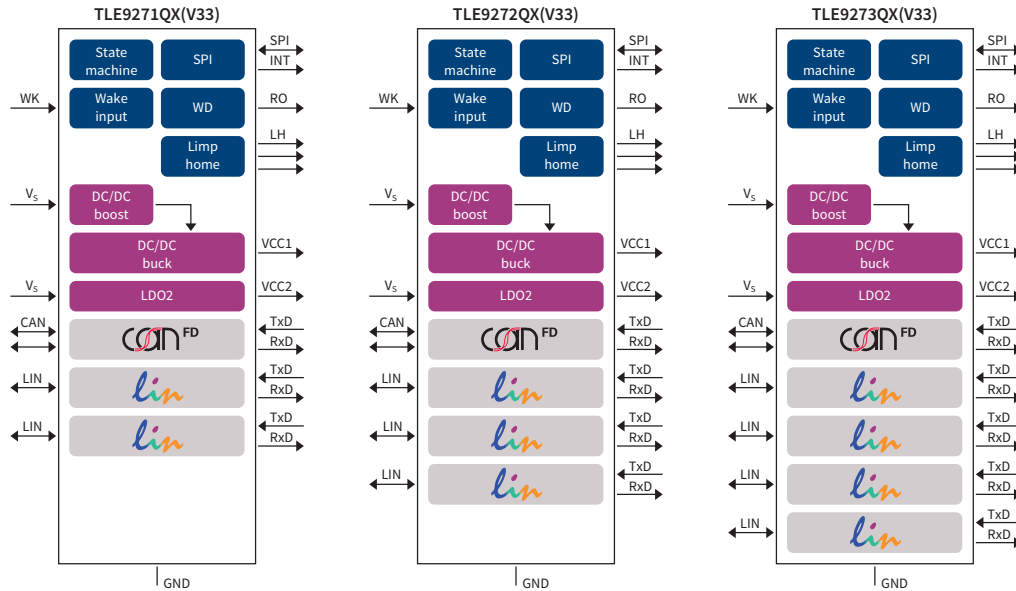
Main features

- › Integrated high efficiency SMPS buck converter with edge shaping for optimized EMC performance (5 V or 3.3 V up to 750 mA)
- › SMPS boost controller to ensure operation at low supply voltage ($V_{SUP} > 3 V$) with external power switching
- › Integrated low-drop voltage regulator (5 V up to 100 mA) protected for off-board usage
- › 1 high-speed CAN transceiver ISO 11898-2 supporting CAN Flexible Data-rate (CAN FD) up to 5 Mbps and suitable for chokeless operation up to 500 kbps
- › Up to 4 LIN transceivers LIN2.2/J2602
- › Fully compliant to "Hardware Requirements for LIN, CAN and FlexRay Interfaces in Automotive Applications" Rev 1.3, 2012-05-04
- › 1 HV wake input for wake status monitoring
- › Interrupt, reset output
- › Integrated fail-safe functions: 3 fail-safe outputs, 1 fail-safe input, watchdog, fail-safe operating modes
- › 16-bit SPI for configuration and diagnostics (compatible to all new generations of SBC TLE926x and TLE927x)
- › Voltage, current and temperature monitoring and protection

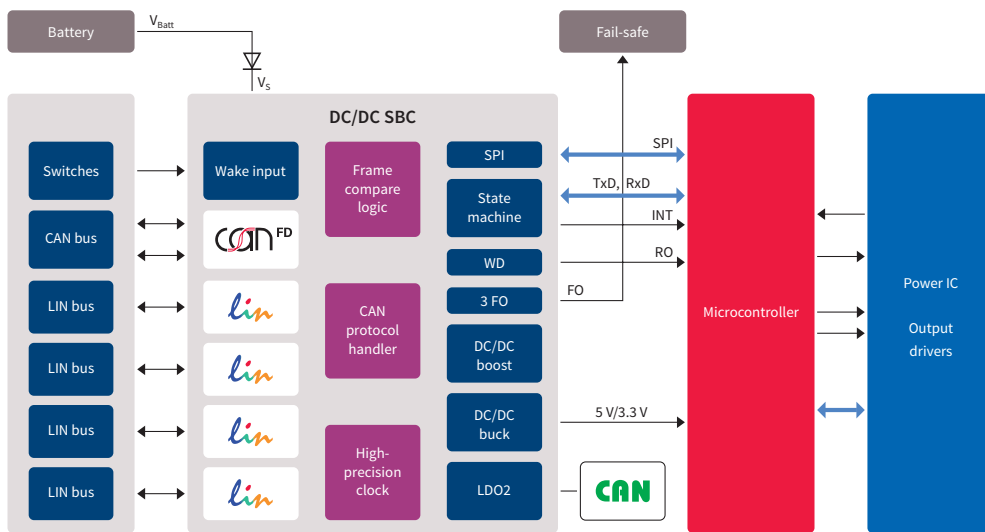
TLE927xQX

DC/DC SBC family supporting CAN Flexible Data-rate (FD)

TLE927xQX family overview



Application diagram



Published by
Infineon Technologies AG
81726 Munich, Germany

© 2018 Infineon Technologies AG.
All Rights Reserved.

Please note!

THIS DOCUMENT IS FOR INFORMATION PURPOSES ONLY AND ANY INFORMATION GIVEN HEREIN SHALL IN NO EVENT BE REGARDED AS A WARRANTY, GUARANTEE OR DESCRIPTION OF ANY FUNCTIONALITY, CONDITIONS AND/OR QUALITY OF OUR PRODUCTS OR ANY SUITABILITY FOR A PARTICULAR PURPOSE. WITH REGARD TO THE TECHNICAL SPECIFICATIONS OF OUR PRODUCTS, WE KINDLY ASK YOU TO REFER TO THE RELEVANT PRODUCT DATA SHEETS PROVIDED BY US. OUR CUSTOMERS AND THEIR TECHNICAL DEPARTMENTS ARE REQUIRED TO EVALUATE THE SUITABILITY OF OUR PRODUCTS FOR THE INTENDED APPLICATION.

WE RESERVE THE RIGHT TO CHANGE THIS DOCUMENT AND/OR THE INFORMATION GIVEN HEREIN AT ANY TIME.

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.