

Product brief

TLE935x

CAN flexible data-rate transceiver family for up to 5 MBit/s

The TLE935x transceiver family is designed for CAN FD networks in Automotive applications. As CAN FD networks will increase and replace classical CAN networks in future, the TLE935x transceiver family is providing the perfect match for future OEM requirements. The whole TLE935x family is fully compliant to the new ISO11898-2:2016 and the wakeup capable variants are fulfilling the worldwide OEM t-wake filter time requirement of 1.8 μ sec as well as 0.5 μ sec. As the new CAN FD family is also fulfilling the older ISO standards, it is backwards compatible and can also be used in classical CAN networks.

It is offered with 5 different pinout options and available in the standard DSO-8 package (SJ-suffix). The 5 different pinouts support 1to1, easy drop in replacement for existing market pinouts. The 3 variants without bus wake up capability are named TLE9350 and the 2 devices with bus wake-up capability start with TLE9351. These two draw a very low quiescent current in stand-by mode and with the TLE9351V (with VIO pin), VCC can even be switched off, while the device is still able to wake-up by signals on the CAN bus. Additionally, all TLE935x variants with VIO input pin can interface either with 3.3 V or 5 V micro controllers.

Based on the excellent symmetry of the CANH and CANL signals, the TLE935x transceivers have very low levels of electromagnetic emission (EME) over a wide frequency range. The TLE935x family is RoHS compliant and fulfills or exceeds the requirements of the ISO11898-2 (2016) standard. The different operation modes, additional fail-safe features like TxD time-out, and the optimized output slew rates on the CANH and CANL signals make the TLE935x family the perfect choice for large CAN networks with high data transmission rates as required in Automotive CAN FD networks.

Key applications

- › Electric power steering
- › Automated driving
- › Transmission control
- › Engine management

Key features

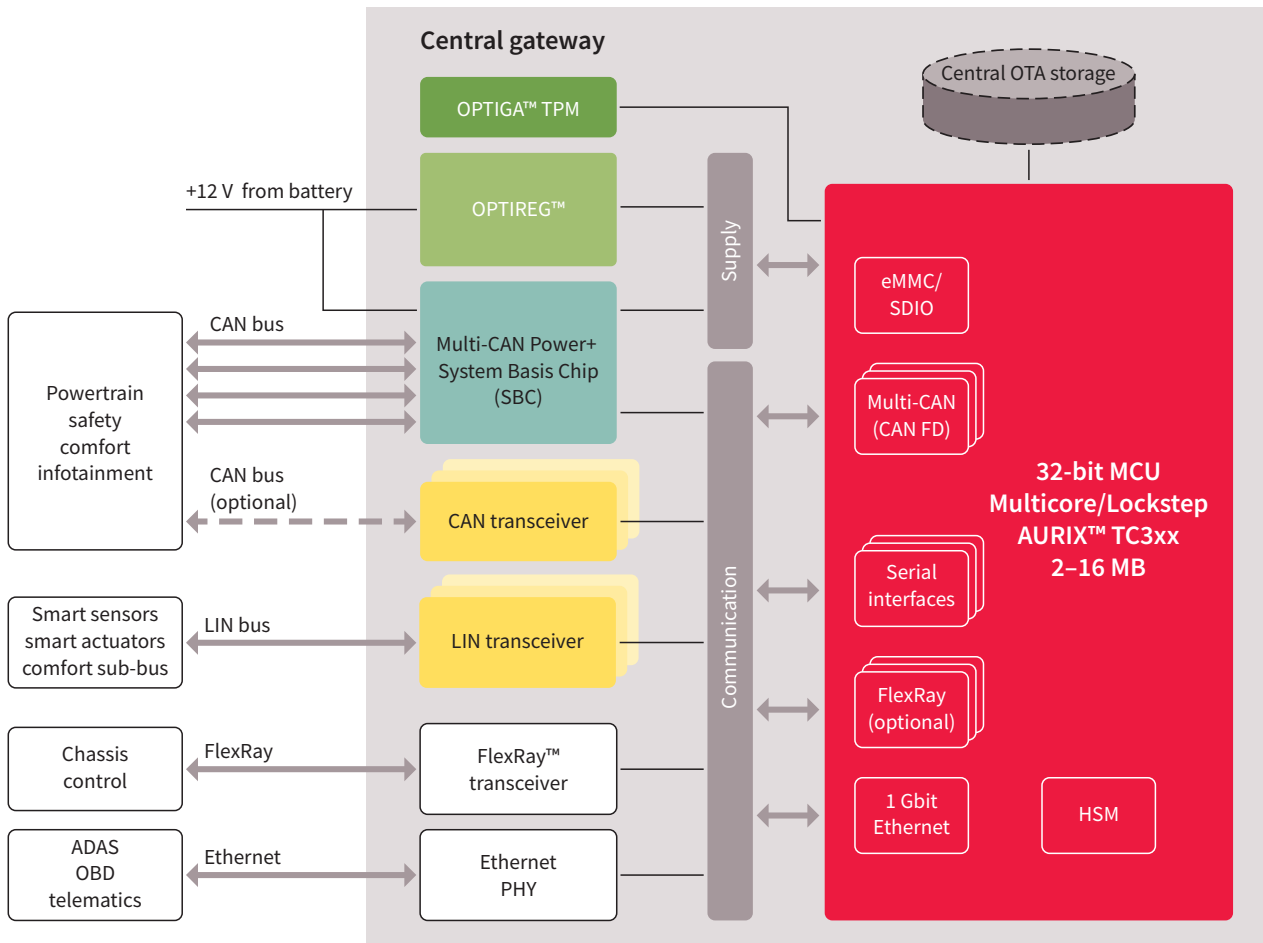
- › Fully compliant to ISO11898-2:2016
- › Guaranteed loop delay symmetry to support CAN FD up to 5 MBit/s
- › Variants with VIO input for voltage adaption to 3.3 V and 5 V MCUs
- › Bus wake-up capability for TLE9351, for TLE9351V even with the VCC supply switched off
- › Bus wake-up capability fulfills t-wake filter time requirement of 1.8 μ sec as well as 0.5 μ sec
- › TxD time-out safety feature
- › High electromagnetic immunity (EMI) and low electromagnetic emissions (EME)
- › Excellent ESD robustness of ± 9 kV at HBM and ± 8 kV according to IEC61000-4-2
- › Available in DSO-8
- › AEC Qualified

Key benefits

- › CAN FD 5 MB variant is backwards compatible to 1 MB and 2 MB
- › Compliant to Toyota conformance test (VeLIO – Vehicle LAN Interoperability and Optimization)
- › Released at all major OEMs



Application example: Central gateway module



Product table

Type	Description	SP number/orderable number
TLE9350SJ	CAN FD 5 MBit/s transceiver without bus wake	SP005574082/TLE9350SJXTMA1
TLE9350VSJ	CAN FD 5 MBit/s transceiver without bus wake, with Vio pin	SP005574085/TLE9350VSJXTMA1
TLE9350XSJ	CAN FD 5 MBit/s transceiver without bus wake, with Vio pin	SP005574087/TLE9350XSJXTMA1
TLE9351SJ	CAN FD 5 MBit/s transceiver with bus wake	SP005574088/TLE9351SJXTMA1
TLE9351VSJ	CAN FD 5 MBit/s transceiver with bus wake & Vio-pin	SP005346709/TLE9351VSJXTMA1

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