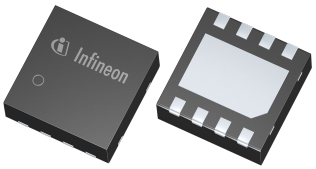
TLE9351BVLE

Datasheet

High-speed CAN FD transceiver

Features



- Fully compliant to ISO 11898-2:2024 and SAE J2284-4/-5
- Loop delay symmetry for *controller area network (CAN)* FD data frames up to 5 Mbit/s
- Certified according to VeLIO (Vehicle LAN Interoperability and Optimization) test requirements
- Very low *electromagnetic emission (EME)* allows the use without additional common mode choke
- V_{IO} input for voltage adaption to the microcontroller interface (3.3 V or 5 V)
- Bus *wake-up pattern (WUP)* function with optimized filter time for worldwide *original equipment manufacturer (OEM)* usage
- Standby mode with minimized quiescent current
- Transmitter supply V_{CC} can be disabled in standby mode to further minimize quiescent current
- Excellent *electrostatic discharge (ESD)* robustness
- TxD timeout function
- Very low CAN bus leakage current in power-down state
- Overtemperature protection
- Protected against automotive transients according to ISO 7637 and SAE J2962-2
- Green Product (RoHS compliant)

RoHS

Green

AEC Qualified

CAN FD

Potential applications

- Gateway modules
- Body control modules (BCM)

Product validation

Qualified for automotive applications. Product validation according to AEC-Q100.

Description

The TLE9351BVLE is a high speed *CAN* transceiver, used in HS CAN systems for automotive applications as well as for industrial applications. It is designed to fulfill the requirements of ISO 11898-2:2024 physical layer specification as well as SAE J1939 and SAE J2284.

The TLE9351BVLE is available in a *Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS)* compliant, halogen free PG-TSON-8 package.

As an interface between the physical bus layer and the HS CAN protocol controller, the TLE9351BVLE is designed to protect the microcontroller against interferences generated inside the network. A very high *ESD* robustness and the optimized RF immunity allows the use in automotive applications without additional protection devices, such as suppressor diodes or common mode chokes.

Based on the high symmetry of the CANH and CANL output signals, the TLE9351BVLE provides a very low level of *EME* within a wide frequency range. The TLE9351BVLE fulfills even stringent *electromagnetic compatibility (EMC)* test limits without an additional external circuit, such as a common mode choke.

The optimized transmitter symmetry combined with the optimized delay symmetry of the receiver enables the TLE9351BVLE to support CAN FD data frames. The device supports data transmission rates up to 5 Mbit/s, depending on the size of the network and the inherent parasitic effects.

Dedicated low-power modes, such as standby mode, provide very low quiescent current during power-up of the device. In standby mode the typical quiescent current on V_{IO} is less than 10 µA while the device can still wake up by a bus signal on the HS CAN bus.

Fail-safe features, such as overtemperature protection, output current limitation or the TxD timeout feature are designed to protect the TLE9351BVLE and the external circuitry from irreparable damage.

Type	Package	Marking
TLE9351BVLE	PG-TSON-8	9351BV

Trademarks

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