

## CAN FD signal improvement transceiver

### Features

- Compliant to ISO 11898-2:2024, SAE J2284-4/-5
- Loop delay symmetry for [controller area network \(CAN\)](#) FD data frames up to 8 Mbit/s
- Certified according to latest Toyota conformance test performed by VeLIO (Vehicle LAN Interoperability and Optimization)
- $V_{IO}$  input for voltage adaption to the microcontroller interface (3.3 V or 5 V)
- Standby mode with minimized quiescent current
- Transmitter supply  $V_{CC}$  can be turned off in standby mode for additional quiescent current savings
- Wake-up indication on the RxD output
- Very low [electromagnetic emission \(EME\)](#) allows the use without additional common mode choke
- Excellent [electrostatic discharge \(ESD\)](#) robustness  $\pm 8$  kV [human body model \(HBM\)](#) and IEC 61000-4-2
- CAN short circuit proof to ground, battery,  $V_{CC}$  and  $V_{IO}$
- 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)

### Potential applications

- Gateway module
- Body control module (BCM)
- Engine control unit (ECU)
- ADAS
- Radar

### Product validation

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

### Description

The TLE9371VLE is a first generation CAN FD signal improvement transceiver, used in HS [CAN](#) for automotive applications and also 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 TLE9371VLE is available in a halogen free and [Restriction of Hazardous Substances in Electrical and Electronic Equipment \(RoHS\)](#) compliant PG-DSO-8 package.

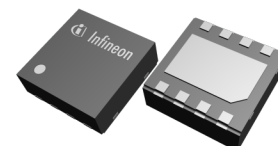
As an interface between the physical bus layer and the HS CAN, the TLE9371VLE protects the microcontroller against interference generated in the network. A very high [ESD](#) robustness and the optimized [residual fault \(RF\)](#) immunity allows the use in automotive applications without additional protection devices, such as suppressor diodes or common mode chokes.

While the TLE9371VLE is not supplied the transmitter is switched off and behaves passive with the lowest possible load to all other nodes of the HS CAN.

Based on the high symmetry of the CANH and CANL output signals, the TLE9371VLE provides very low [EME](#) within a wide frequency range. The TLE9371VLE fulfills stringent [electromagnetic compatibility \(EMC\)](#) test limits without additional external circuitry, such as a common mode choke.

Due to the excellent symmetry combined with the optimized delay symmetry of the receiver the TLE9371VLE supports CAN FD data frames. Depending on the size of the network and its parasitic effects the device supports a transmission rate up to 8 Mbit/s.

Dedicated low-power modes, like standby mode require very low quiescent current while the device is powered up. In standby mode the typical quiescent current on  $V_{IO}$  is below 10  $\mu$ A while the device can still wake up from a bus signal on the HS CAN bus.



RoHS



Green



**CAN FD**

CAN FD SIC

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**Edition 2025-08-01**

**Published by**

**Infineon Technologies AG**  
**81726 Munich, Germany**

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**Document reference**  
**IFX-asy1749063204094**  
**Z8F80809923**

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