



High-Speed CAN Transceiver with Standby Mode

TJA1042

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The TJA1042 high-speed CAN transceiver provides an interface between a Controller Area Network (CAN) protocol controller and the physical two-wire CAN bus. The transceiver is designed for high-speed CAN applications in the automotive industry, providing the differential transmit and receive capability to (a microcontroller with) a CAN protocol controller.

The TJA1042 belongs to the third generation of high-speed CAN transceivers from NXP Semiconductors, offering significant improvements over first- and second-generation devices such as the TJA1040. It offers improved ElectroMagnetic Compatibility (EMC) and ElectroStatic Discharge (ESD) performance, and also features:

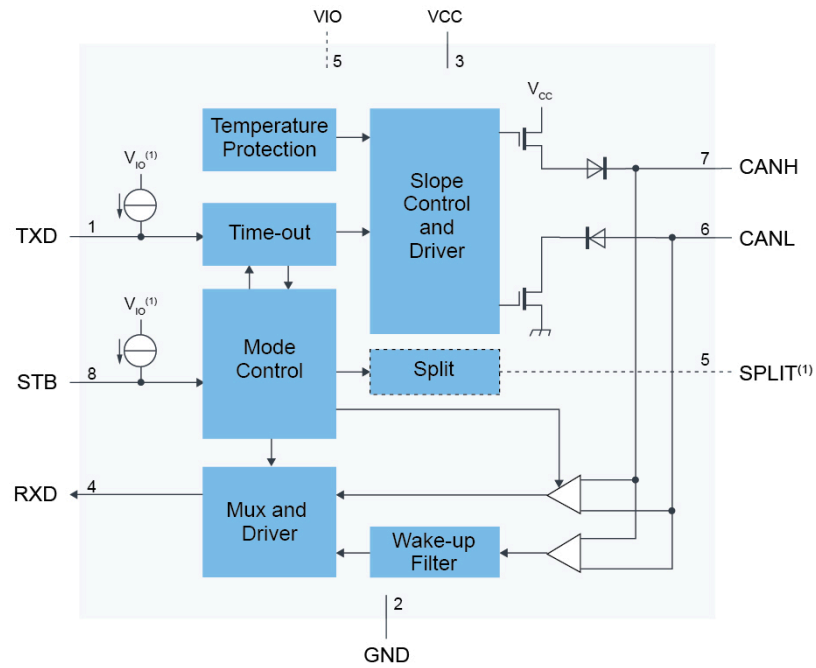
- Ideal passive behavior to the CAN bus when the supply voltage is off
- A very low-current Standby mode with bus wake-up capability
- TJA1042T/3 and TJA1042TK/3 can be interfaced directly to microcontrollers with supply voltages from 3 V to 5 V

The TJA1042 implements the CAN physical layer as defined in the current ISO11898 standard (ISO11898-2:2003, ISO11898-5:2007) and the pending updated version of ISO 11898-2:2016. Pending the release of the updated version of ISO11898-2:2016 including CAN FD and SAE J2284-4/5, additional timing parameters defining loop delay symmetry are specified. This implementation enables reliable communication in the CAN FD fast phase at data rates up to 5 Mbit/s.

These features make the TJA1042 an excellent choice for all types of HS-CAN networks, in nodes that require a low-power mode with wake-up capability via the CAN bus.

TJA1042 Block Diagram Block Diagram

TJA1042



⁽¹⁾ In a transceiver with a SPLIT pin, the V_{IO} input is internally connected to V_{CC}.

View additional information for [High-Speed CAN Transceiver with Standby Mode](#).

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