



High-Speed CAN Transceiver with Standby Mode - Mantis Family

TJA1044

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The TJA1044 is part of the Mantis family of high-speed CAN transceivers. It 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 TJA1044 offers a feature set optimized for 12 V automotive applications, with significant improvements over NXP's first- and second-generation CAN transceivers, such as the TJA1040, and excellent ElectroMagnetic Compatibility (EMC) performance. Additionally, the TJA1044 features:

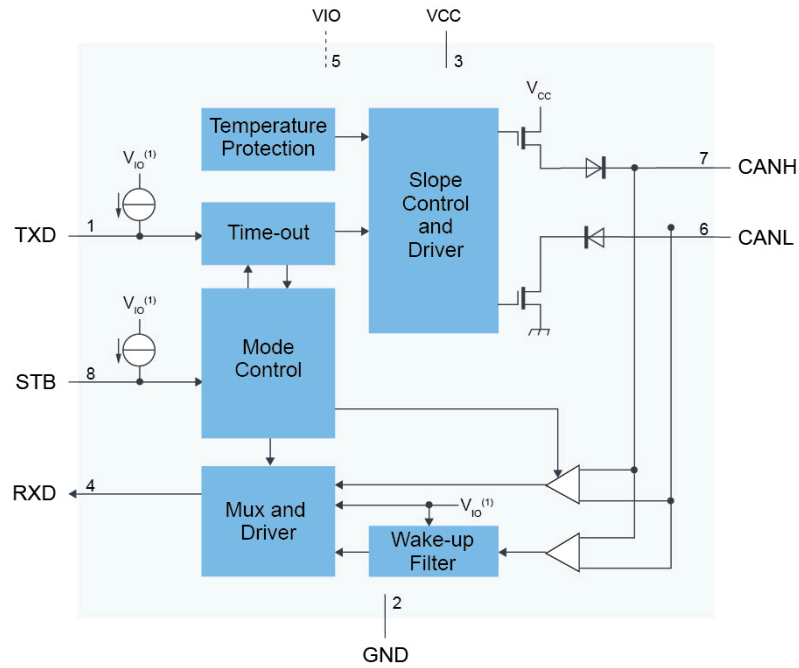
- Ideal passive behavior to the CAN bus when the supply voltage is off
- A very low-current Standby mode with bus wake-up capability
- Excellent EMC performance at speeds up to 500 kbit/s, even without a common mode choke

These features make the TJA1044 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.

The TJA1044 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). The TJA1044T is specified for data rates up to 1 Mbit/s. Pending the release of ISO11898-2:2016 including CAN FD and SAE-J2284-4/5, additional timing parameters defining loop delay symmetry are specified for the TJA1044GT and TJA1044GTK. This implementation enables reliable communication in the CAN FD fast phase at data rates up to 5 Mbit/s.

TJA1044 Block Diagram Block Diagram

TJA1044



⁽¹⁾ $V_{IO} = V_{CC}$ in non- V_{IO} product variants.

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