

TJA1421 – Single LIN Transceiver with 1.8 V VIO



NXP's TJA1421 LIN transceiver includes features such as support for 1.8 V MCUs and enhanced responder termination, offering design flexibility for LIN-based systems.

Overview

The TJA1421 is the interface between the local interconnect network (LIN) commander/responder protocol controller and the physical bus. It is primarily intended for in-vehicle sub-networks using data rates up to 20 kBd and is compliant with LIN 2.x, SAE J2602 and ISO 17987-4:2016 (12 V).

The TJA1421 is pin-to-pin compatible with TJA1021 (with INH and wake feature). In addition to supporting all functions of the TJA1021, the TJA1421 offers enhanced EMC and ESD performance in compliance with the latest IEC and SAE standards. It features tighter responder termination, enabling support for more than 15 LIN responder nodes on the same network. The device also supports 1.8 V VIO for compatibility with high-end MCUs and includes an MCU time-out fail-safe feature to minimize power consumption.

Key features

- ISO 17987/LIN 2.x/SAE J2602 compliant
- Data rate up to 20 kBd
- Input levels compatible with 1.8 V, 3.3 V and 5 V devices
- INH function and wake input
- Integrated and tighter termination resistor for LIN responder applications
- Very low ElectroMagnetic Emission (EME) and high ElectroMagnetic Immunity (EMI)
- MCU time-out feature
- Available in SO8 and HVSON8 packages
- Leadless HVSON8 package (3.0 mm × 3.0 mm) with improved Automated Optical Inspection (AOI) capability

Target applications

- Body and vehicle control
- HVAC
- eCockpit
- Electric pump
- Zonal controllers
- Heat meter
- Energy management and distribution
- Security and building control systems
- Home/Industrial automation

Enablement tools

Development hardware:

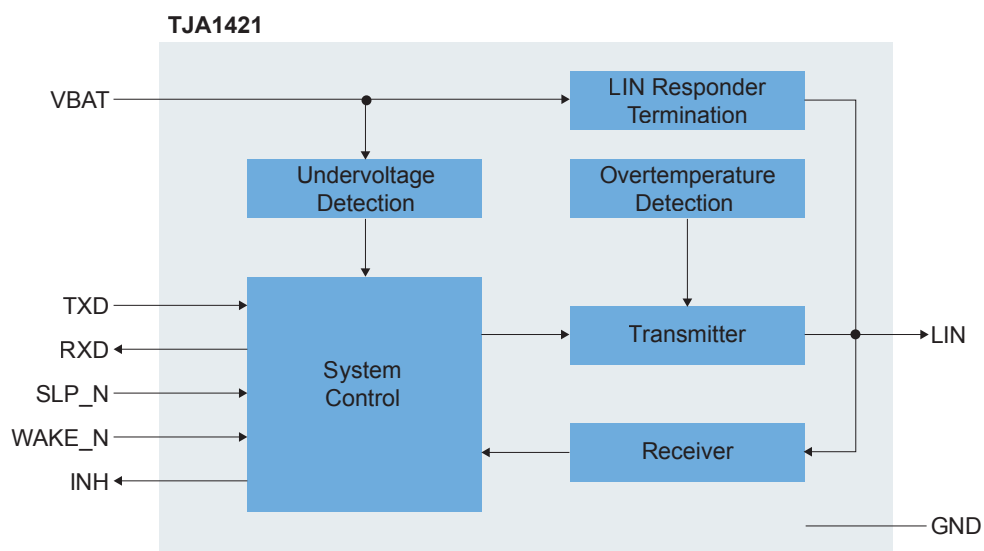
- NXP S32N reference design and EVB – under development
- AUTOSAR software driver – under development

Sampling now

Part number	Temp range	Other features	Package
TJA1421AT/0Z	Grade-1	CES samples	SO8
TJA1421ATK/0J	Grade-1	CES Samples	HVSON8

To order, please contact your NXP sales representative or distributor.

TJA1421 Block diagram



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