

# NXP TJA1128X: VERSATILE LIN MINI SYSTEM BASIS CHIP FAMILY

Cost effective, Space optimized. With its rich and customizable feature set, the TJA1128x LIN mini SBC family offers a high degree of design-in flexibility while significantly reducing design-in costs and complexity, bill of materials (BoM) and required board space.

## GENERAL DESCRIPTION

The TJA1128x LIN mini system basis chip (SBC) family's standard feature set includes a LIN transceiver, 5 V or 3.3 V LDO with 85 mA output current capability, WAKE input, high-voltage output and a general-purpose input. Optional features include a watchdog and a second WAKE input. Being a chip family, customers can switch smoothly between TJA1128x variants, shortening time-to-market. An overview of the TJA1128x family is given in the following table.

Most features and functions are customizable, allowing customers to adapt the device to meet specific application needs. This adaptability allows the TJA1128 to support a wide range of use cases. For example, sleep mode could be disabled in applications where the microcontroller runs continuously. The LIN transceiver and watchdog functions could be disabled when only the LDO function is needed (e.g., if the TJA1128x is being used as a stand-alone, automotive-grade voltage regulator).

## BENEFITS

1. Configurable features and functions allow for greater design-in flexibility, reducing complexity and lowering external component count
2. High hardware/software reuse (family of variants) helps shorten time-to-market and lowers development and qualification costs
3. Fewer external components and greater integration optimize the BoM and PCB area



## APPLICATIONS

- Seat heater/power controls
- Parking distance control
- Rain light sensor
- Alarm
- HVAC
- MF steering wheel
- Wiper

## TJA1128X LIN MINI SBC FAMILY MEMBERS

FAMILY MEMBER (TYPE NAME)	FEATURES AND OPTIONS							
	LIN Transceiver <sup>1</sup> ISO17987 (LIN2.x) / SAE J2602 compliant	Basic Features				Optional Features		
		LDO		GPI	HVMP0 <sup>1</sup>	Wake Inputs #1 <sup>1</sup>	Wake Inputs #2 <sup>1</sup>	Watchdog <sup>1</sup>
5V0	3V3							
TJA1128ATK	√	85 mA	–	√	√	√	–	–
TJA1128BTK	√	–	85 mA	√	√	√	–	–
TJA1128CTK	√	85 mA	–	√	√	√	√	–
TJA1128DTK	√	–	85 mA	√	√	√	√	–
TJA1128ETK	√	85 mA	–	√	√	√	–	√
TJA1128FTK	√	–	85 mA	√	√	√	–	√
TJA1128GTK	√	85 mA	–	√	√	√	√	√
TJA1128HTK	√	–	85 mA	√	√	√	√	√

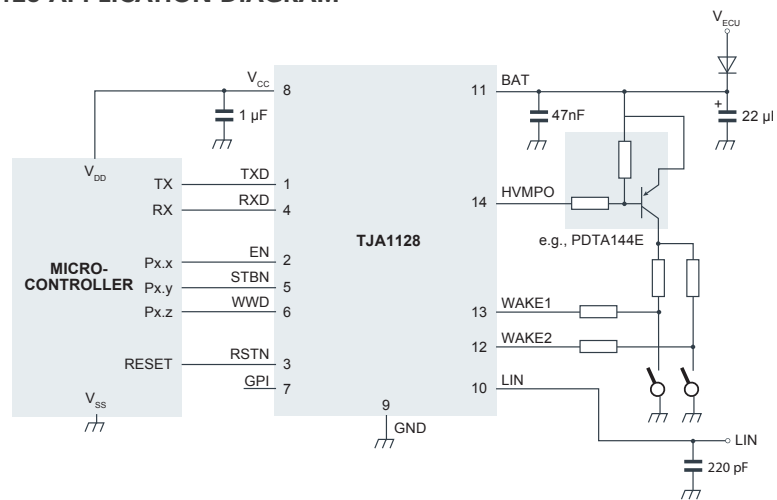
<sup>1</sup> Configurable via quasi one-time available (end-of-line) device configuration

For a complete overview of the features and functions that are configurable, please refer to the datasheet

### KEY FEATURES

- Customizable features and functions
- ISO 17987 (LIN2.x) and SAE J2602 compliant LIN transceiver
- LDO: 3.3 V / 5.0 V ( 2%) with 85 mA output current (CVCC = 1 μF; X7R)
- Configurable high-voltage multi-purpose output
- Configurable local wake-up via pins
- Configurable watchdog (period and mode)
- Leadless HVSON14 package (3 x 4.5 mm)

### TJA1128 APPLICATION DIAGRAM



### TJA1128 BLOCK DIAGRAM

