

NCN5121

KNX Transceiver for Twisted Pair Networks



Product Overview

For complete documentation, see the data sheet.

KNX transceiver twisted pair networks (KNX TP1-256) can use NCN5121 as a receiver-transmitter Integrated Circuit (IC). NCN5121 embeds both PHY and MAC layers and handles the transmission and reception of data on the bus. It generates from the unregulated bus voltage stabilized voltages for its own power needs as well as to power external devices. NCN5121 assures safe coupling to and decoupling from the bus. Various monitors (bus voltage, current, temperature...) are made available through an analog pin.

Features

- KNX certified TP transceiver with embedded PHY and MAC layers (TP1-256) . 9600 Bauds communication speed.
- Two high efficient DC-DC converters + one linear regulator :- DC-DC1 : fixed 3.3 V- DC-DC2 : adjustable between 1.2 and 21 V- 20V linear regulator
- Bus Current Consumption up to 24 mA
- Supervision of temperature, KNX bus voltage and current
- Control and monitoring of power regulators
- Buffering of sent data frames (extended frames supported)
- Selectable UART/SPI interface and baud rate to host controller.
- Comprehensive clocking system - Operates with industry standard low cost 16 MHz quartz - Can generate 8/16 MHz clock for the external MCU
- Extended ambient temperature range -40 C to +105 C

Benefits

- NCN5121 can be used in any TP1-256 application
- Most KNX applications can directly be supplied from the NCN5121 removing the need for external costly power supply. Best in Class overall system efficiency.
- Suitable for vast majority of the KNX applications

Applications

- Home Automation
- Smart Building

End Products

- Smart lighting & switches
- Ventilation and air conditioning
- Thermostats
- Alarms and smoke detectors
- Shutters and blinds

Part Electrical Specifications

| Product | Pricing (\$/Unit) | Compliance | Status | Data Transmission Standard | Data Rate | Number of Drivers | Number of Receivers | V _{CC} Min (V) | V _{CC} Max (V) | t _{PLH} Max (μs) | I _O Max (μA) | I _H Max (mA) | Package Type |
|--------------|-------------------|------------|--------|----------------------------|-----------|-------------------|---------------------|-------------------------|-------------------------|---------------------------|-------------------------|-------------------------|--------------|
| NCN5121MNTWG | 3.059 | | Active | KNX | 9600 baud | 1 | 1 | 3.13 | 3.47 | | | | QFN-40 |