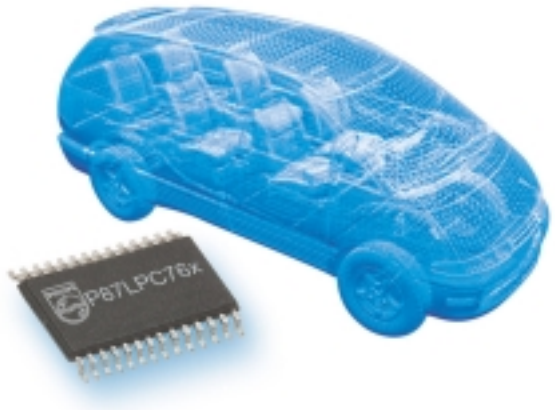
Philips 51LPC

Suited for LIN-Applications

51LPC is a family of universal microcontrollers with dedicated peripherals and low power consumption which are ideally suited for LIN-Applications



Semiconductors

Description

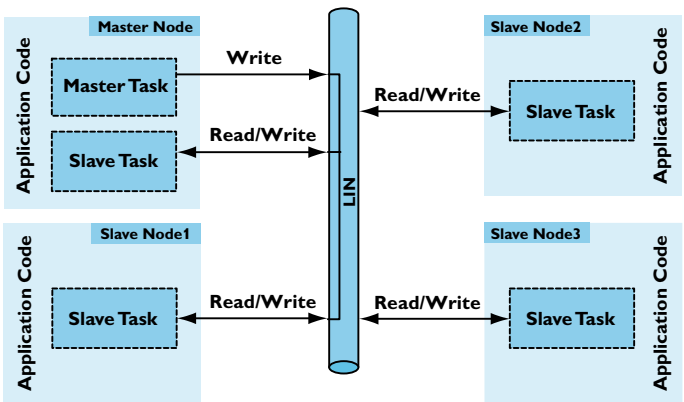
The LIN (Local Interconnect Network) bus sets a new standard to complement high-end automotive buses like CAN with lower-cost solutions.

Features

- Single-wire implementation
- Speed up to 20 kbit/s with single master and multiple slave-nodes
- Target areas are wired mechanical nodes in automotive applications like car door modules incl. power mirror, power window, power door locks, sun roof, HVAC, etc.

Solutions

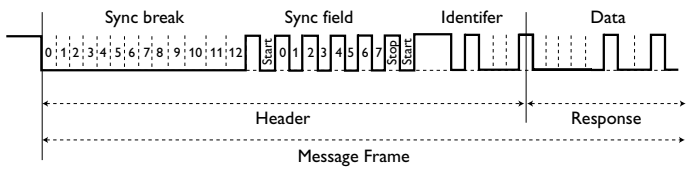
- P87C591 CAN-LIN Gateway CAN 2.0 B active Controller
  – Available in 44-pin PLCC or QFP packages
- 51LPC Family for LIN-Slaves
  – Low Power Consumption
  – Fast execution (2 x standard 80C51 devices)
  – Wide operating voltage range (2.7 to 6.0 V)
  – Configurable internal RC-oscillator or external crystal/resonator
  – -40° to +125°C option
  – Comparators, ADC, fast PWM and DAC, UART, I^2C, brown-out detection, power-on-reset
  – Growing family concept with dedicated LIN support features
  – Available in DIP20, SO20 and TSSOP20 packages



Applications

- A LIN-slave based on 51LPC only uses the internal UART and one external interrupt. Low software overhead and low power can be achieved. A LIN-Driver software with the following functions is available:
- LinServiceRoutine
  Handles LIN Communication
- LinSetToSleep
  Application specific code which sets node to sleep with minimal current consumption
- LinWakeUp
  Command to wake up the bus
- For more information on the LIN-bus please visit:
  www.lin-subbus.org

Example: LIN message frame



PHILIPS

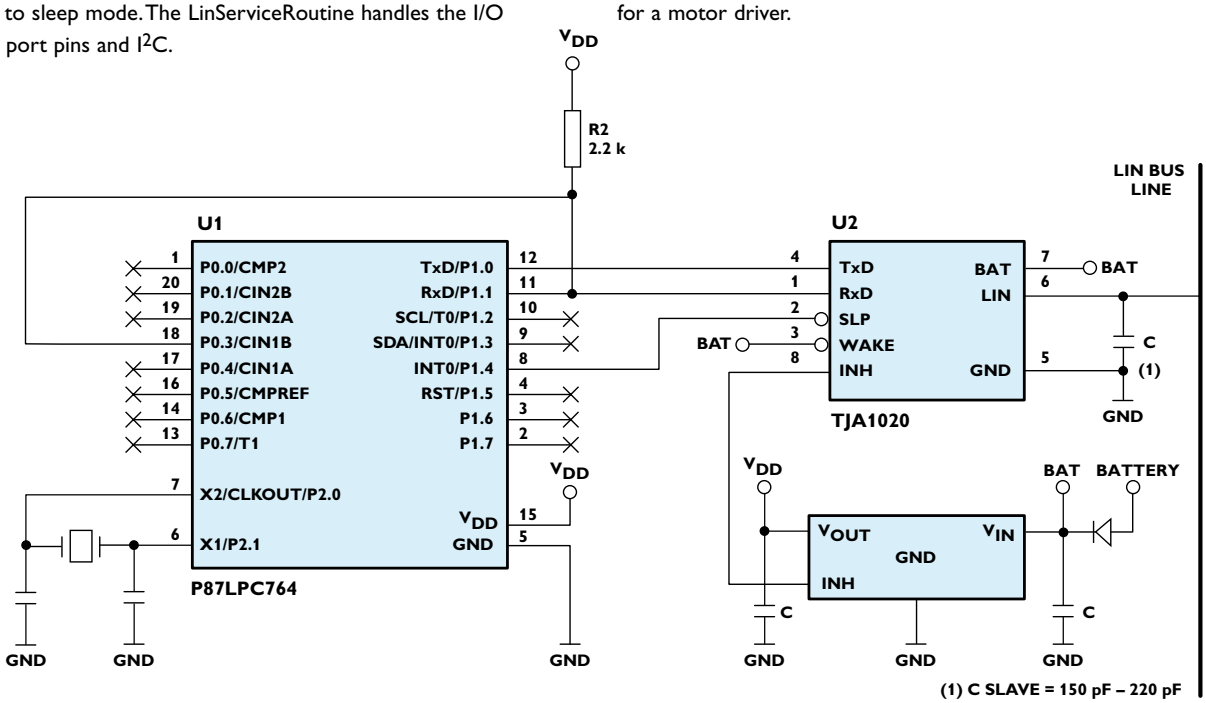
Philips 51LPC

Suited for LIN-Applications

Application example

The Philips P87LPC764 and the TJA1020 LIN-transceiver are used in a slave application. The LPC handles the LIN communication and can set the TJA1020 to sleep mode. The LinServiceRoutine handles the I/O functions via port pins and I^2C.

The UART can be programmed to the baud rates 2400, 9600 and 19200 bit/s and any other value depending on the crystal frequency. This module is used to read a keyboard and a temperature sensor to drive MOSFETs for a motor driver.



Order information

Type	ROM (OTP)	Special Features	Pins	Package Types
P87LPC760	1k	1 Comparator	14	TSSOP, DIP
P87LPC761	2k	2 Comparators	16	TSSOP, DIP
P87LPC762	2k	2 Comparators	20	TSSOP, DIP
P87LPC764	4k	2 Comparators	20	TSSOP, SO, DIP
P87LPC767	4k	2 Comparators, ADC	20	SO, DIP
P87LPC768	4k	2 Comparators, PWM, ADC	20	SO, DIP
P87LPC769	4k	2 Comparators, DAC, ADC	20	SO

Philips Semiconductors

Philips Semiconductors is a worldwide company with over 100 sales offices in more than 50 countries. For a complete up-to-date list of our sales offices please e-mail sales.addresses@www.semiconductors.philips.com.

A complete list will be sent to you automatically. You can also visit our website http://www.semiconductors.philips.com/sales

Date of release: April 2003
document order number: 9397 750 11339

Published in U.S.A.