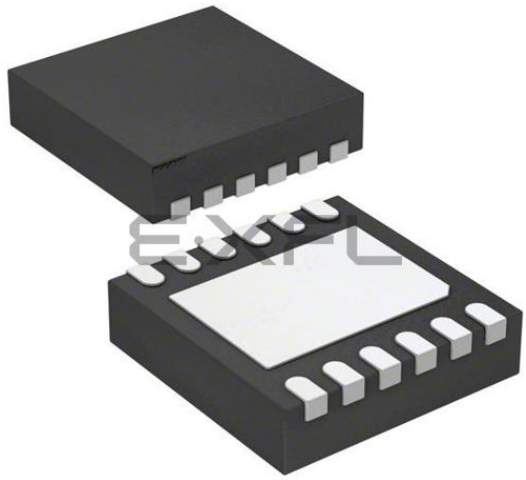


Welcome to E-XFL.COM

Embedded - Microcontrollers - Application Specific: Tailored Solutions for Precision and Performance

Embedded - Microcontrollers - Application Specific represents a category of microcontrollers designed with unique features and capabilities tailored to specific application needs. Unlike general-purpose microcontrollers, application-specific microcontrollers are optimized for particular tasks, offering enhanced performance, efficiency, and functionality to meet the demands of specialized applications.

What Are Embedded - Microcontrollers - Application Specific?

Application-specific microcontrollers are engineered to

Details	
Product Status	Active
Applications	LIN Controller
Core Processor	16-Bit RISC
Program Memory Type	FLASH (32kB), ROM (16kB)
Controller Series	-
RAM Size	2K x 8
Interface	UART
Number of I/O	4
Voltage - Supply	5.5V ~ 18V
Operating Temperature	-40°C ~ 125°C (TA)
Mounting Type	Surface Mount
Package / Case	12-VFDFN Exposed Pad
Supplier Device Package	12-DFN (4x4)
Purchase URL	https://www.e-xfl.com/product-detail/melexis/mlx81120klq-axx-000-re

Melexis
INSPIRED ENGINEERING

MLX81120

LIN-TO-LIN GATEWAY

AMBIENT LIGHTING SOLUTIONS

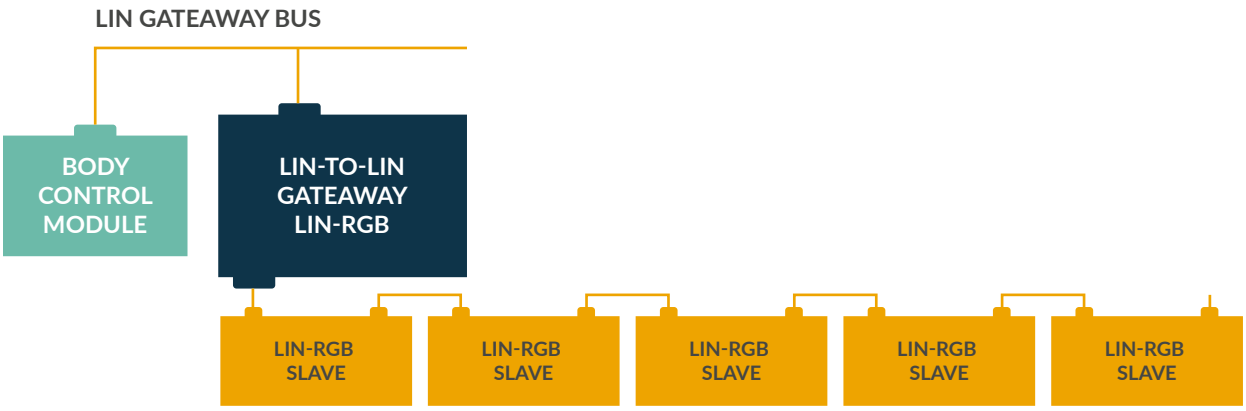
The MLX81120 is a fully integrated LIN Slave IC for ambient light applications. Thanks to four high voltage capable outputs it is possible to drive independently one RGB LED and additionally one white LED, if necessary. It is suitable for bus systems according to LIN 2.x, as well as SAE J2602. The MLX81120 also has an additional UART and LIN physical layer that allows the MLX81120 to act as Master to a private LIN Bus. The combination of two LIN physical layers, LIN protocol controller, microcontroller and easy to use IO configurations make it possible to develop in a short timeframe small BOM, low cost, but very powerful and flexible LIN Slave nodes.

KEY FEATURES

- Application Controller
  - 16-bit MCU with 32kB Flash with ECC + 16kROM , 2kByte RAM, 380 Byte EEPROM with ECC
  - ROM with LIN Driver, Bootloader, Library
- LIN PHY & LIN Slave Protocol Controller acc. to LIN 2.x and SAE J2602
  - Baudrate up to 19.2 kBaud
- 2nd LIN PHY & LIN UART for private LIN master functionality
- Frame processing, Low interrupt load to the application
- Autoconfig according bus shunt
- IO Configuration
  - 3 high voltage inputs/outputs
  - Programmable constant current outputs/high voltage open drain outputs
  - 16-bit PWM outputs
  - Interrupt capable Inputs
  - 10-bit ADC with integrated pre-divider
- Integrated battery monitor and temperature monitor
- Voltage Regulator
  - Low standby current consumption of typical 20µA in sleep mode
- Over-temperature shutdown, load dump protected
- Automotive Temperature Range of –40°C to 125°C
- DFN4x4 12 pin package

KEY APPLICATIONS

- Extension of LIN modules to pass limit of LIN standard
- Simplification of car architecture
- Segmentation/zoning of ambient light applications



BLOCK DIAGRAM WITH APPLICATION