Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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

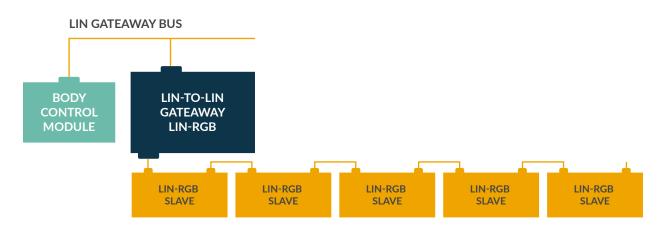- Autoconfig according bus shunt

- 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

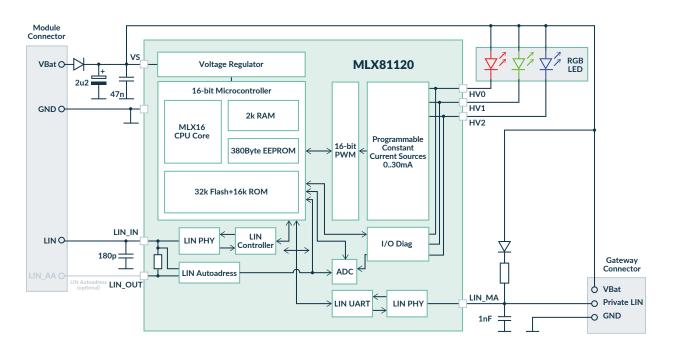- Automotive Temperature Range of −40°C to 125°C

- 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

LIN GATEAWAY BUS

```
BODY
CONTROL
MODULE

LIN-TO-LIN
GATEAWAY
LIN-RGB
```

| LIN-RGB SLAVE | LIN-RGB SLAVE | LIN-RGB SLAVE | LIN-RGB SLAVE | LIN-RGB SLAVE |

BLOCK DIAGRAM WITH APPLICATION

Module Connector

VBat

2u2   47n

GND

LIN

180p

LIN_AA

LIN Autoadress (optional)

LIN_IN

LIN_OUT

VS

MLX81120

Voltage Regulator

16-bit Microcontroller

MLX16 CPU Core

2k RAM

380Byte EEPROM

32k Flash+16k ROM

16-bit PWM

Programmable Constant Current Sources 0..30mA

LIN PHY → LIN Controller

LIN Autoadress

LIN UART → LIN PHY

ADC

I/O Diag

HV0
HV1
HV2

RGB LED

LIN_MA

1nF

Gateway Connector

VBat
Private LIN
GND