

LIN RGB LED DRIVER

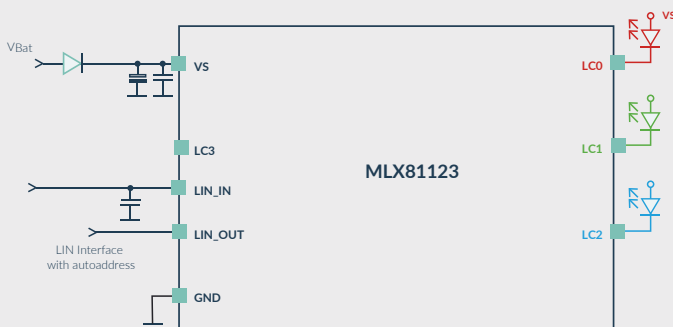
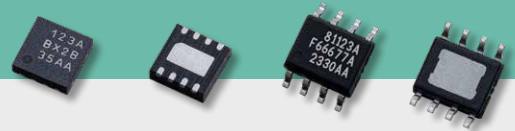
MLX81123

The MLX81123 is a fully integrated LIN responder for automotive ambient light applications. It drives RGB LEDs via LIN bus (according to LIN 2.x as well as SAE J2602). The MLX81123's integrated physical layer LIN transceiver, LIN protocol controller, and current-controlled outputs enable rapid development of straightforward yet effective and economical ambient light modules for LIN bus systems.



Key features

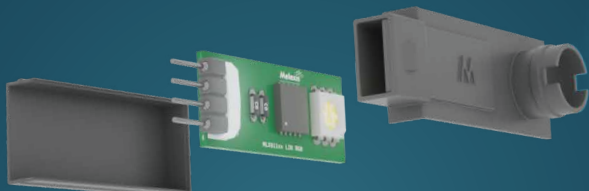
- ✓ Application controller
 - 16-bit microcontroller: 32 KB Flash, System ROM, 2 KB RAM, 512 B EEPROM
 - Math co-processor for 32-bit MUL/DIV operations
 - Two Watchdog timers with independent clocks
 - Internal RC oscillator (max 32 MHz)
- ✓ Transceiver compliant to ISO 17987-4 and SAE J2602
 - LIN physical Layer
 - LIN protocol controller
 - Support for auto-addressing
- ✓ Voltage regulator
 - Standby current of typ. 25 μ A (max 50 μ A) in sleep mode
 - Integrated battery monitor including over- and under-voltage detection
- ✓ 12 bit ADC with DMA
- ✓ Low Side Current Source
 - 4x high voltage I/Os with free configurable current sources (up to 60 mA) for RGB+W
 - 4x 16-bit PWM outputs with configurable resolution
- ✓ Automotive standard
 - Temperature range of -40 $^{\circ}$ C to 125 $^{\circ}$ C
 - 28 V jump start
 - Integrated temperature sensor
 - ASIL compliant (ISO 26262), supporting up to ASIL B
 - Diagnostic for connected LED (short, open, threshold)
 - AECQ-100 qualified
- ✓ Package RoHS compliant
 - SOIC8 (DC) package with exposed pad
 - DFN8 (LW) 3x3 package with exposed pad



Single-chip RGB LED controller

Applications

- Automotive ambient lighting
- Connected interior light



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