iND83209

Three-Way RGB LED Driver IC with Dual LIN Transceivers

The iND83209 is an automotive-grade LED lighting IC driver with an integrated 32-bit Arm® Cortex® M0 processor, 64kB of Flash and 16kB of SRAM, creating a single-chip solution for interior lighting systems. The IC includes a flexible power management system, 3x open-drain LED I/O drivers with programmable current and 16-bit PWM, as well as device monitoring features and external interfaces for control and expandability.

The iND83209 can be connected directly to the automotive supply and withstand up to 45V load dump from a car battery. The integrated power management unit implements two on-chip voltage regulators with only one requiring an external capacitor.

The 3x LED drivers can each support a maximum of 60 mA constant current with a 100uA resolution at high-voltage (up to VBAT). An integrated temperature sensor ensures the chip does not exceed its operating range of -40°C to +125°C. There are two LIN transceivers and controllers (master and slave, version 2.2) that provide LIN auto-addressing functionality by using the LIN Switch Method (LSM). The device also features an integrated 10-bit ADC for monitoring purposes.

The iND83209 integrates six GPIOs that enhance its functionality and flexibility, making the device suitable for general purpose microcontroller applications. For lighting applications, the device can be expanded to drive additional RGB LEDs by using external MUX switches to time-multiplex drive currents.

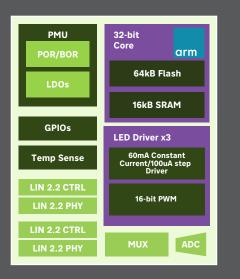Evaluation kits are available to enable rapid development and testing of advanced lighting prototypes.

iND83209 Features

- 3x 60mA high-brightness configurable LED drivers with 100uA steps
- 3x 16-bit PWM controllers
- 32-bit Arm® Cortex® M0 Processor
- 64kB Flash / 16kB SRAM
- Integrated LDOs
- 6 GPIOs
- 10-bit ADC
- Dual LIN 2.2 J2602 interface
- Optimized for Automotive applications

Applications

- Automotive interior lighting
- Consumer lighting products
- Industrial lighting

Ordering Information

Device Name	GPIO	Platform	Temp Range	Package	Pins
iND83209	6	Automotive	-40C to +125C	4x4 mm QFN	20 Pins @ 0.5 mm Pitch

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