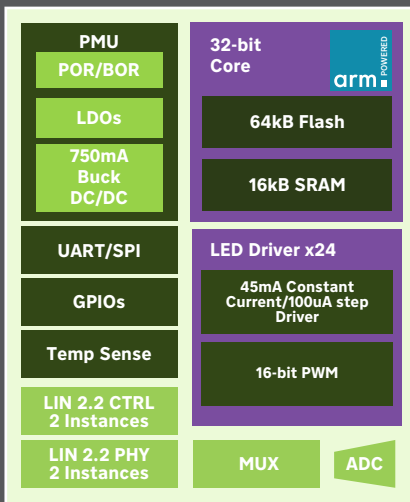


## iND83204-CSxx Family

Up to 24-way RGB(W) LED Driver IC with integrated Buck

### iND83204-CSxx Features

- Up to 24x LED drivers
- 32-bit Arm® Cortex® M0 Processor
- 64kB Flash / 16kB SRAM
- Integrated Buck converter and regulators
- Up to 24x 45mA configurable LED drivers with 100uA steps
- Up to 24x 16-bit PWM controllers
- Up to 9 GPIOs
- 10-bit ADC
- UART Interface
- SPI Interface
- Dual LIN 2.2 J2602 interface
- Optimized for Automotive applications



### Applications

- Automotive interior lighting
- Consumer lighting products
- Industrial Lighting

The iND83204-CSxx family consists of two automotive-grade LED lighting ICs that integrate a powerful 32-bit Arm® Cortex® M0 processor together with everything necessary to implement an interior lighting system. The ICs include a flexible power management system, up to 24x 5V programmable-current open-drain IOs with 16-bit PWM, plus specific monitoring features and external interfaces. The iND83204-CSxx family is designed to be connected directly to the automotive supply and can withstand a 45V load dump from the car battery.

The devices contain 64kB of Flash and 16kB of SRAM integrated on die.

The integrated power management unit implements a step-down buck converter and two on-chip voltage regulators with external capacitors.

Depending on the version the buck can supply enough current for the chip to power up to 8x RGB LEDs or 6x RGBW at a maximum of 45mA constant current with 100uA steps per LED diode. The buck converter is rated for a current load of up to 750mA. The integrated temperature sensor ensures the chip does not exceed its specifications.

There are three main differences between the two devices in the family (iND83204-CS02 and iND83204-CS01), the number of LED channels (18 vs 24), the buck converter power delivery rating (600mA vs 750mA), and the number of GPIOs (5 vs 9). Both devices integrate two LIN version 2.2 transceivers and controllers, a half-duplex UART, SPI master controller (iND83204-CS01), and an integrated 10-bit ADC for monitoring purposes. GPIOs are multiplexed with UART or SPI hardware for additional interface capabilities.

The devices are packaged in a low cost, 6x6mm 48-pin QFN package and is suitable for applications from -40C to +125C.

### Ordering Information

| Device Name   | LED Drivers | Max Buck Current | CPIOs | Temp Range    | Package Pins                            |
|---------------|-------------|------------------|-------|---------------|---|
| iND83204-CS02 | Automotive  | 600 mA           | 5     | -40C to +125C | 6x6 mm QFN<br>48 Pins @<br>0.4 mm Pitch |
| iND83204-CS01 | Automotive  | 750 mA           | 9     |               |   |