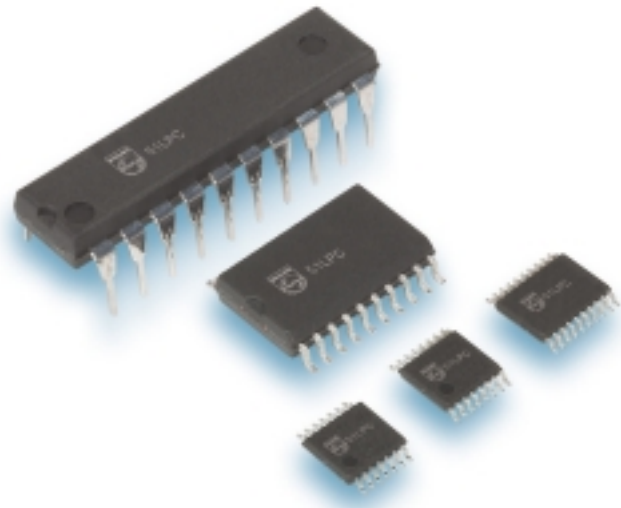


51LPC microcontrollers



Features

- Family approach to support different lighting concepts (UHP, CCFL, etc.)
- Fast execution—twice that of standard 80C51 devices
- Wide operating range (2.7V to 6.0V) and 125°C option
- User-configurable oscillator with crystal/resonator and RC, requires no external components
- Low-current operation
- Rich feature set includes UART and I²C serial communication, brown-out detection and power-on reset
- Two comparators
- In-System Programmability (ISP)
- Dedicated analog and digital peripherals
- ADC, fast PWM and DAC

Dedicated peripherals for specific control

- PFC (Power Factor Correction)
- Half- and full-bridge control with soft switching PWM
- Lamp supervision with ADC and comparators
- Interfacing to nearly any remote protocol (DALI, IR, RF etc.)
- Fast control loops with ballast ASICs, with DAC or PWM
- I²C interface to storage devices

In lighting applications

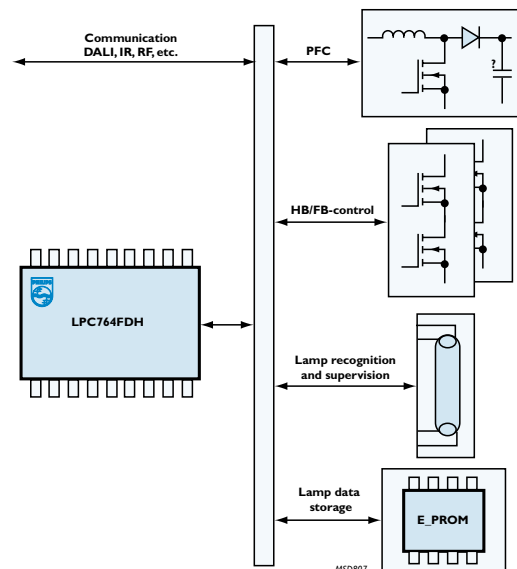


Description

As a leading supplier to the lighting market, Philips Semiconductors is continually expanding its product portfolio for all lighting applications, developing advanced solutions that offer greater functionality and efficiency, as well as ensuring faster design cycles. Microcontroller-based concepts provide the flexible, powerful control needed for the increasing number of complex lighting systems, and our 51LPC family delivers the right price/performance for any application.

The advanced functionality of our 51LPC microcontrollers allows them to perform almost any core function for lighting ballasts and their powerful control capability makes them ideal for all modern gas discharge lamps such as UHP (Ultra High Pressure), HID (High Intensity Discharge), CCFL (Cold Cathode Fluorescent Lamp), CFL (Compact Fluorescent Lamps) and HF-TL (High Frequency Tube Lighting) types.

Together with dedicated analog and digital peripherals, this family of 80C51-based devices enables designers to achieve their desired goals, while meeting today's and tomorrow's needs for innovative lighting applications. And as part of a complete system approach, Philips Semiconductors is optimizing all required peripherals to the performance of each new controller generation.



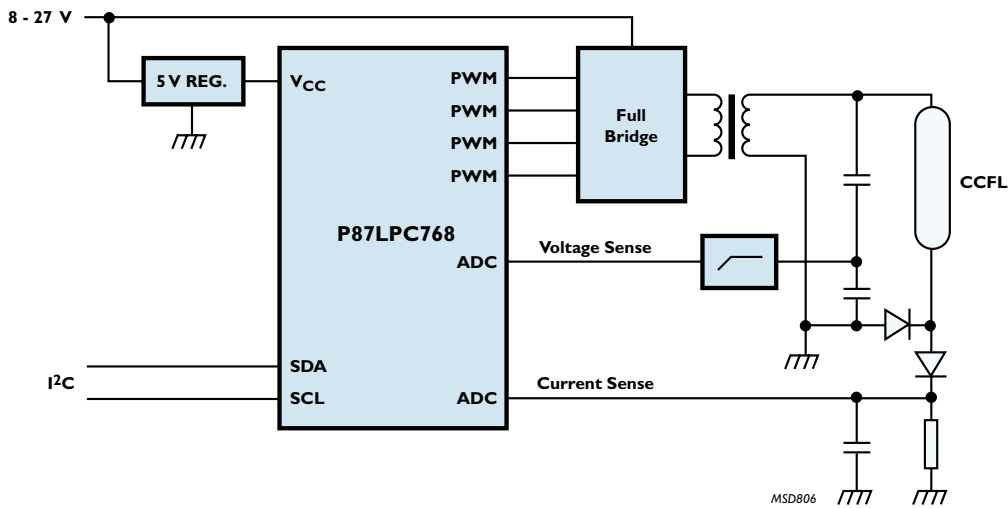
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51LPC microcontrollers

In lighting applications



Block diagram



Application example

The diagram above shows the LPC768 IC driving a CCFL full-bridge circuit for a PDA backlight application. Receiving commands such as dimming level and on/off via an I²C interface, the microcontroller controls luminance and supervises lamp current and voltage.

Additional information

- P87LPC768 leaflet—9397 750 11115
- P87LPC769 leaflet—9397 750 11116
- Application note—AN471
- www.semiconductors.philips.com/mcu

Ordering information

Type	ROM (OTP)	Special Features	Pins	Packages
P87LPC760	1 k		14	TSSOP DIP
P87LPC761	2 k		16	TSSOP DIP
P87LPC762	2 k		20	TSSOP DIP SO
P87LPC764	4 k		20	TSSOP DIP SO
P87LPC767	4 k	ADC	20	DIP SO
P87LPC768	4 k	ADC PWM	20	DIP SO
P87LPC769	4 k	ADC DAC	20	SO



Purchase of Philips I²C components conveys a license under the Philips' patent to use the components in the I²C system provided the system conforms to the I²C specification defined by Philips.

www.semiconductors.philips.com/microcontrollers

Philips Semiconductors

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