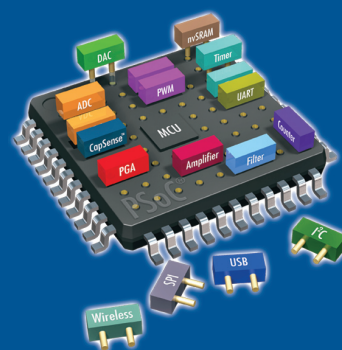CYPRESS
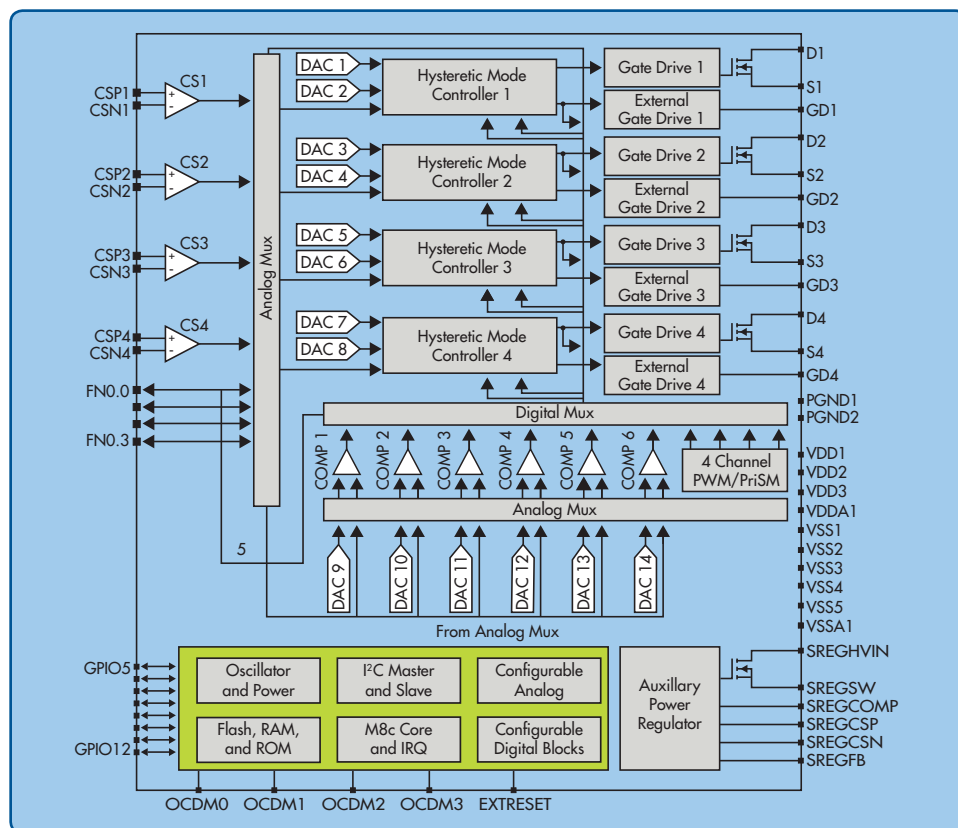
PowerPSoC®
Embedded Power Controller

WORLD'S FIRST EMBEDDED POWER CONTROLLER INTEGRATES STANDARD HIGH POWER ANALOG COMPONENTS TO SIMPLIFY DESIGN

PowerPSoC is the first device to combine the power of an embedded controller with integrated high-power peripheral functionality. This includes four internal 32V, 1A rated low-side n-channel MOSFETs, four 32V, 6 MHz rated current sense amplifiers with adjustable gain settings, four 2 MHz hysteretic controllers that can be configured as either buck, boost, or buck-boost, and a 32V input voltage regulator. Due to the flexibility of working with the already integrated power of PSoC®, PowerPSoC offers additional functionality including Cypress's CapSense™, and additional digital (PWMs, timers, counters), analog (ADCs, PGAs), and communication (DMX512, DALI, SPI, RS-232) options. The ability to reconfigure power with this level of integration can simplify hardware design, lower testing time, and decrease bill-of-materials costs.

PowerPSoC Embedded Power Controller

ADVANTAGES

INTEGRATED HIGH QUALITY POWER PERIPHERALS SIMPLIFY DESIGN AND REDUCES BOM COSTS

- Four low-side 32V n-channel MOSFETs
- Four 32V, 6 MHz current sense amplifiers
- Four 2 MHz hysteretic controllers
- Six fast-response (100 ns) voltage comparators
- Fourteen 8-bit reference DACs
- 32V input voltage regulator

RECONFIGURABLE POWER LEVELS FOR UNPARALLELED FLEXIBILITY WITHOUT MODIFYING HARDWARE

- Adjustable gain on current sense amplifiers
- Buck, boost, or buck-boost options on hysteretic controllers
- Adjustable hysteresis levels

POWERFUL PSoC ARCHITECTURE PROVIDES ADDITIONAL HARDWARE INTEGRATION

- Eight configurable 8-bit digital blocks (PWMs, counters, and timers)
- Six configurable analog blocks (PGAs, ADCs)
- 16k Flash
- 1k SRAM

PSOC FLEXIBILITY ALLOWS MULTIPLE USER OPTIONS

- Communication options (RS-232, SPI, I²C, DMX512, DALI)
- CapSense capacitive touch sensing
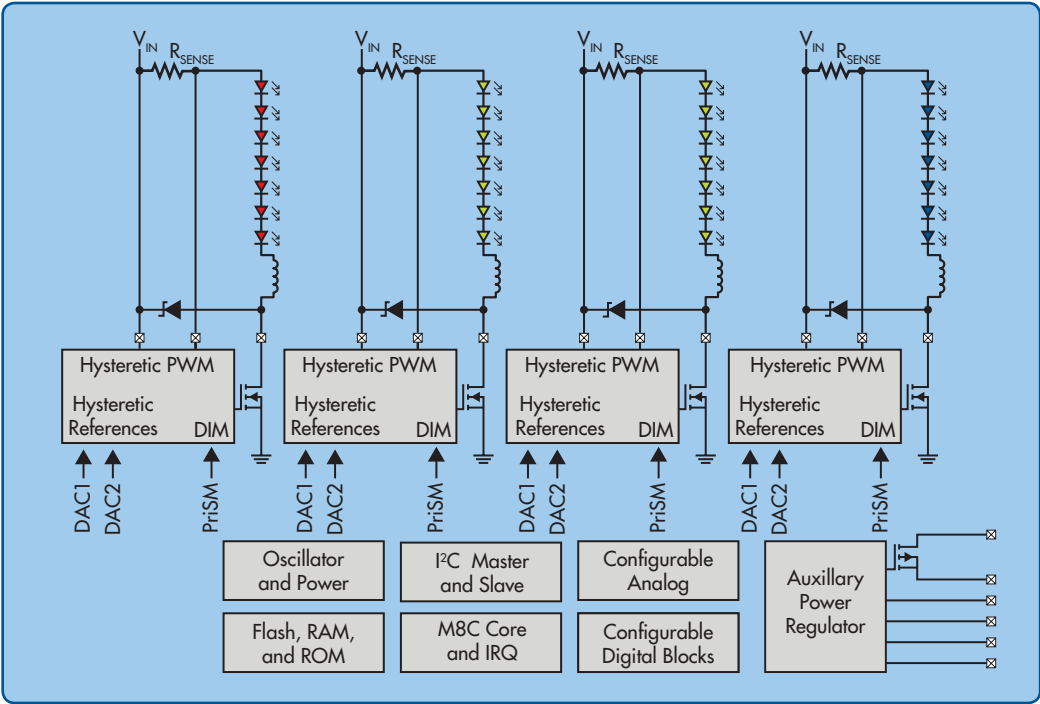
CYPRESS

PERFORM

APPLICATIONS

• LED Ballasts • General Illumination • Architectural Lighting • Stage Lighting • Automotive Lighting • Relay/Solenoid Drive • Fan Control

CYPRESS POWERPSoC® EMBEDDED POWER CONTROLLER

Solid state (LED) lighting applications are a perfect fit for the PowerPSoC family. The onboard power peripherals integrate much of a standard dimming circuit for an LED system. Cypress's PrISM™ modulation technique can reduce radiated EMI from the system, reducing visible flicker, and can utilize up to 16 bits of dimming from 100% to 0%. There are two methods to begin a design. Getting started with PowerPSoC is simple—evaluation can be done utilizing the CY3268 PowerPSoC Lighting Starter Kit. Full design activity is supported with the CY3267 PowerPSoC Lighting Evaluation Kit. Both kits are available today from Cypress and major distributors. www.cypress.com/powerpsoc

POWERPSoC PRODUCT LINE

Part Number	Description	Modulator Capability	# of FETs	Max Output Current	Max Output Voltage	Input Voltage	Flash
CY8CLED03D01-56LTXI	Three Channel with internal FETs	3x16-bit	3	1A	32V	32V	16K
CY8CLED03D02-56LTXI	Three Channel with internal FETs	3x16-bit	3	0.5A	32V	32V	16K
CY8CLED03G01-56LTXI	Three Channel with no internal FETs	3x16-bit	—	—	—	32V	16K
CY8CLED04D01-56LTXI	Four Channel with internal FETs	4x16-bit	4	1A	32V	32V	16K
CY8CLED04D02-56LTXI	Four Channel with internal FETs	4x16-bit	4	0.5A	32V	32V	16K
CY8CLED04G01-56LTXI	Four Channel with no internal FETs	4x16-bit	—	—	—	32V	16K

Floating Load Buck Driver for LED System

GET STARTED NOW.

Go to www.cypress.com/powerpsoc for more information on PowerPSoC and all Cypress products. To purchase PowerPSoC parts or kits, visit us at www.cypress.com/buyonline

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