cypress PSoC® 4 MCU Portfolio

Industy's Most Flexible and Lowest-Power ARM® Cortex-MO/MO+ Mixed Signal Architecture

PSoC® 4 is Cypress's ARM-based PSoC, featuring the low-power Cortex-MO and Cortex-MO+ cores combined with PSoC's unique programmable mixed-signal hardware IP and CapSense, resulting in the industry's most flexible and scalable low-power mixed-signal architecture. The PSoC 4 products include the PSoC 4000, the PSoC 4100 and the PSoC 4200 portfolios.

Customizable

You can now build a custom mixed-signal SoC with programmable analog and digital blocks combined with flexible routing and interconnects. PSoC® 4 lets you redesign and rebuild your project as many times as your rapidly changing requirements.

Programmability

PSoC 4 architecture includes intelligent analog integration through Programmable Analog Blocks. Programmable Analog Blocks are hardware modules which can be configured to create custom Analog Front Ends (AFEs) and signal conditioning circuits with opamps and filters

Also unique to the PSoC 4 portfolio are the Programmable Digital Blocks. Programmable Digital Block feature Universal Digital Blocks which can be configured to implement custom peripherals and glue logic with flexible CPLD functionality.

Scalability

PSoC 4 offers a wide variety of compatible memory and footprint sizes parts, ranging from 16KB to 256KB and from a 20 GPIO up to 98 GPIOS.





PRODUCT OVERVIEW

THE PSOC 4 PRODUCT FEATURES INCLUDE:

- ARM Cortex M0/M0+
- CapSense[™]
- USB
- Smart IO
- BLE
- CAN
- DMA

PSoC CREATOR

- Hardware design and schematic capture
- Over 200 certified Components
- Full communications library
- Tools to develop components using Verilog or State Machine diagrams
- Compatibility with the Peripheral Driver Library
- Integrated C source code compiler and editor
- Built-in debugger

TARGET MARKETS / APPLICATIONS INCLUDE:

- Home Appliances
- Wearables
- Internet of Things (IoT)
- Gaming
- Medical
- Home Automation
- Audio
- Motor Control
- Industrial Automation



PSoC 4000 parts are cost-optimized, entry-level PSoC 4 devices with an ARM[®] Cortex[™]-MO and MO+ cores providing 32-bit performance along with PSoC value added features such as CapSense[®] and flexible peripherals to an evolving market. These include the PSoC 4 S-Series (4000S) and the basic PSoC 4000.

PSoC 4100 adds to the basic PSoC 4 architecture, intelligent analog integration through Programmable Analog Blocks. Programmable Analog Blocks are hardware modules which can be configured to create custom Analog Front Ends (AFEs) and signal conditioning circuits with opamps and filters. Parts in this family include PSoC 4 BLE-Series (4100BL), PSoC 4 M-Series (4100M), PSoC 4 S-Series (4100S) and the basic PSoC 4100.

PSoC 4200 parts boost the flexibility and performance of the PSoC 4 portfolio, by adding Cypress's unique Programmable Digital Blocks. Programmable Digital Block feature Universal Digital Blocks which can be configured to implement custom peripherals and glue logic with flexible CPLD functionality. Parts in this family include PSoC 4 L-Series (4200L), PSoC 4 M-Series (4200M), PSoC 4 BLE-Series (4200BL) and the basic PSoC 4200.

UNIQUE PSOC 4 FEATURES

various peripherals and UDB sources

access the underlying hardware via the stack.

CapSense is the industry's unrivaled leader in capacitive touch sensing.

With PSoC 4, you get the industry's most advanced capacitive sensing

algorithm, SmartSense™ Auto-Tuning, and superior Signal-to-Noise Ratio.

Smart IOs provides a programmable logic fabric interposed between a

General Purpose Input/Output (GPIO) port and the connections to it from

Bluetooth Low Energy (BLE) Component provides a comprehensive

GUI-based configuration window to facilitate designing applications

requiring BLE connectivity. The Component incorporates a Bluetooth

Core Specification v4.2 and provides APIs to enable user applications to



PSoC 4 L-Series Block Diagram

PSoC CREATOR

PSoC Creator[™] is a free, easy to use, powerful graphical system design-based IDE. It enables designers to drag-and-drop precharacterized, production-ready analog and digital IP blocks – PSoC Components[™] – into a single PSoC device to create customized, feature-rich, and highly differentiated products.

GET STARTED NOW



Download the PSoC Creator™ Integrated Design Environment www.cypress.com/Creator



Buy a PSoC 4 Evaluation Kit www.cypress.com/CY8CKIT-041 www.cypress.com/CY8CKIT-042 www.cypress.com/CY8CKIT-044 www.cypress.com/CY8CKIT-046



Download the Getting Started with PSoC 4 Application Note and watch the PSoC 101 Videos

www.cypress.com/AN79953 www.cypress.com/PSoC101



Register for a free PSoC 4 workshop in your area www.cypress.com/workshops



Cypress Semiconductor Corporation

198 Champion Court, San Jose CA 95134 phone +1 408.943.2600 fax +1 408.943.6848 toll free +1 800.858.1810 (U.S. only) Press "1" to reach your local sales representative

© 2016 Cypress Semiconductor Corporation. All rights reserved. All other trademarks are the property of their respective owners. 001-88144 Rev*B