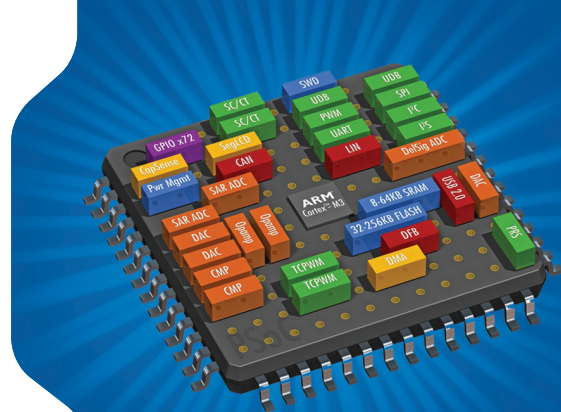


CYPRESS

# PSoC® 5LP

UNMATCHED PARALLEL PROCESSING PERFORMANCE WITH AN ARM® CORTEX®-M3 CPU, DIGITAL COPROCESSOR, HIGH PRECISION ANALOG AND CPLD-BASED LOGIC IN A ONE-CHIP SOLUTION



## PRODUCT OVERVIEW

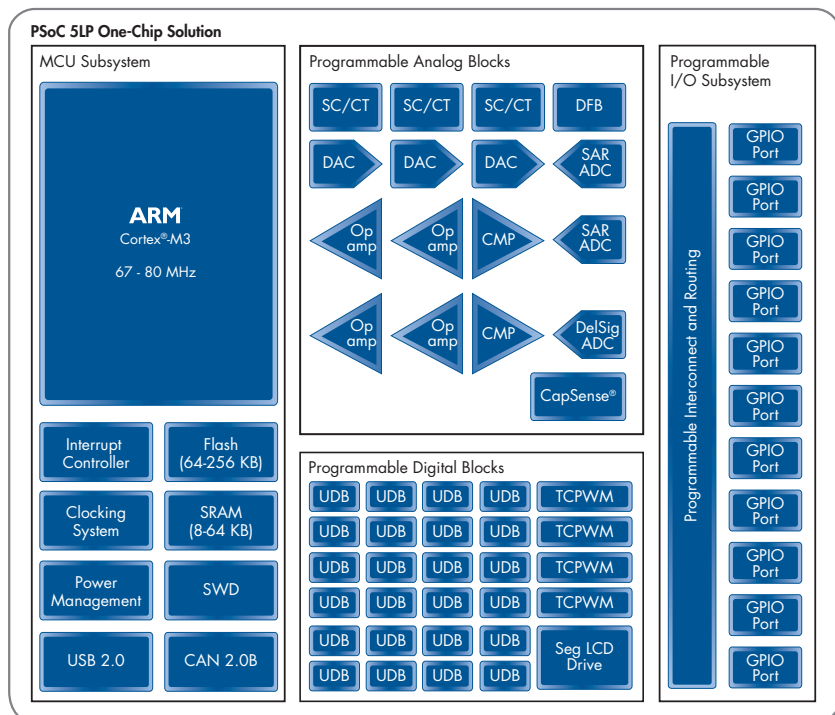
PSoC® 5LP delivers unmatched parallel processing performance by integrating a high-performance 32-bit ARM® Cortex®-M3 CPU with a hardware coprocessor, CPLD-based digital fabric, programmable analog blocks and a peripheral-to-peripheral DMA controller – all in an easy-to-use and flexible one-chip solution.

### Unmatched Parallel Processing

Process sensor signals with the independent 24-bit hardware digital filter coprocessor, offload traditional CPU tasks to the 24 independent CPLD-based Universal Digital Blocks and increase system performance with a 24-Channel DMA Controller.

### Integrated High Precision Analog

Integrate custom 20-bit Analog Front Ends with the Programmable Analog Blocks and implement sophisticated user interfaces with the industry's best CapSense® touch-sensing solution.



PSoC 5LP Block Diagram

## FEATURES

### 32-BIT ARM® CORTEX®-M3 CPU

- Up to 80-MHz Clock Speed
- Up to 256KB Flash , 64KB SRAM
- 24-Channel DMA Controller
- 24-bit, 64-tap Digital Filter Block
- Controller Area Network (CAN 2.0)
- LCD Segment Drive

### CAPSENSE® WITH SMARTSENSE® AUTO-TUNING

- Capacitive Sigma-Delta (CSD) Controller
- CapSense on up to 62 I/Os

### PROGRAMMABLE ANALOG BLOCKS

- 1x 8- to 20-bit Delta-Sigma ADC
- 2x 12-bit SAR ADCs
- 4x 8-bit DACs
- 4x Comparators
- 4x Opamps
- 4x Programmable Analog Blocks (SC/CT)
- 1.024 V ±0.1% Voltage Reference

### PROGRAMMABLE DIGITAL BLOCKS

- 4x Timer/Counter/PWM Blocks
- 24x Universal Digital Blocks (UDBs)
- Serial Communication over I2C, SPI, UART

### SUPPLY VOLTAGE

- 1.2 - 5.5 V
- 4x Power Domains

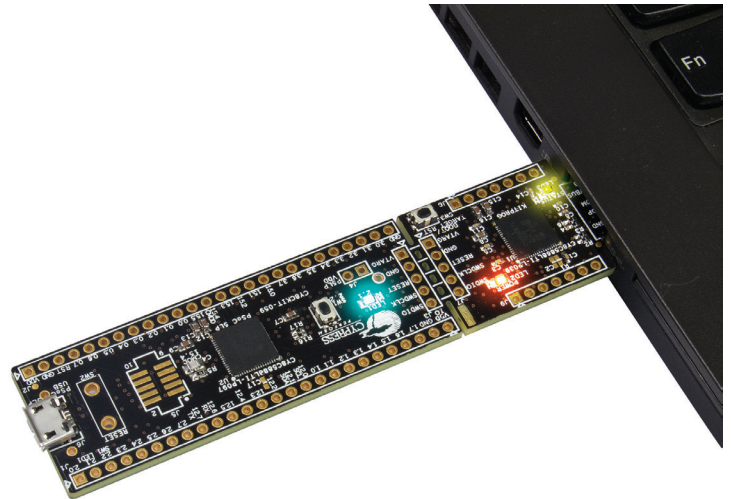
### PACKAGES

- 68-QFN
- 100-TQFP

## PSOC 5LP PROTOTYPING KIT (CY8CKIT-059)

## Features

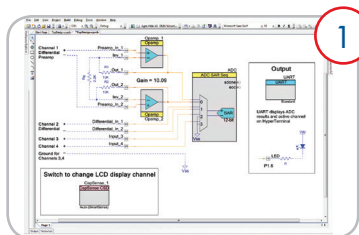
- PSoC 58xx device
- Access to all device GPIOs
- USB Micro-B Peripheral Connector
- On-board LED and Switch Button
- On-board USB Programmer and Debugger with Unique Snap-Away Design
- Breadboard-Compatible Pin Spacing



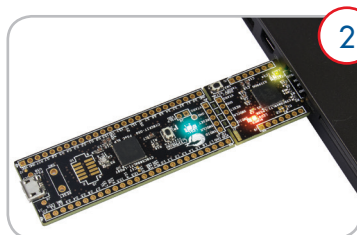
## PSOC 5LP FAMILY PORTFOLIO

Family Features	CPU (MHz)	Flash (KB)	SRAM (KB)	EEPROM (KB)	Comparators	Opamps	UDB	CSD	ADC, Vref Accuracy	Programmable Analog Blocks (SC/CT)	VDAC	TCPWM	Segment LCD Drive	Digital Filter Block	Full-Speed USB	CAN	GPIO	SIO
CY8C52xx-LP	67 - 80	128 - 256	32 - 64	2	0 - 2	0	20 - 24	Y	1x 12-bit SAR, $\pm 1\%$	0	1	4	Y	N	Y	N	38 - 62	8
CY8C54xx-LP	67 - 80	128 - 256	32 - 64	2	4	2	20 - 24	Y	1x 12-bit SAR, $\pm 1\%$	2	2	4	Y	N	Y	Y	38 - 62	8
CY8C56xx-LP	67 - 80	64 - 256	16 - 64	2	4	4	20 - 24	Y	2x 12-bit SAR, 1x 12-bit $\Delta\Sigma$ , $\pm 0.1\%$	4	4	4	Y	Y	Y	Y	38 - 62	8
CY8C58xx-LP	67 - 80	64 - 256	16 - 64	2	4	4	20 - 24	Y	2x 12bit SAR, 1x 20-bit $\Delta\Sigma$ , $\pm 0.1\%$	4	4	4	Y	Y	Y	Y	38 - 62	8

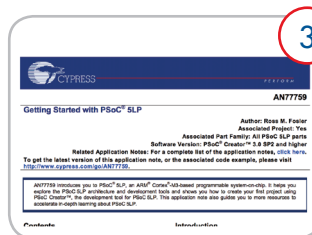
## GET STARTED NOW



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