

CYPRESS PRODUCT SELECTOR GUIDE

CAPSENSE SOLUTIONS

SEPTEMBER 2009

AUTOMOTIVE • CAPSENSE™ CAPACITIVE TOUCH SENSING • CLOCKS AND BUFFERS • LIGHTING AND POWER CONTROL • MEMORIES • OPTICAL AND IMAGE SENSING • PHYSICAL LAYER DEVICE • PSoC® PROGRAMMABLE SYSTEM-ON-CHIP • TRUETOUCH™ TOUCH SCREEN SOLUTIONS • USB SOLUTIONS • WEST BRIDGE® PERIPHERAL CONTROLLERS • WIRELESS/RF



CAPSENSE SOLUTIONS—POWERED BY PSoC

CapSense is available in three families. CapSense Express solutions (CY8C201xx) support simple button/slider designs with up to 10 capacitive buttons and 1 slider. CapSense solutions (CY8C20x34) are a fully-programmable platform supporting up to 25 capacitive buttons and 5 sliders. In addition, 2-dimensional trackpad solutions are also supported. The CapSensePLUS family is the most full-featured family in the CapSense portfolio. It can support up to 44 capacitive buttons and 8 sliders. CapSensePLUS also provides support for advanced functionalities such as proximity detection, 2-dimensional trackpads and analog/digital design integration. The newest 8C20xx6 family adds 1.8V and best in class current consumption with up to 33 CS buttons

CAPSENSE™ CAPACITIVE TOUCH-SENSING

CapSense™ Express

Part Number	Voltage (VDD)	GPIO	Capacitive I/O	Buttons	PWMs	Slider	Slider Segments	Prox. Sens.	Comm. I/F	Package
CY8C20111-SX11	2.4V-5.25V	1*	1*	1	N	N	N/A	N	I ² C	8 SOIC
CY8C20121-SX11	2.4V-5.25V	2*	2*	2	N	N	N/A	N	I ² C	8 SOIC
CY8C20140-LDX21	2.4V-5.25V	4	4	4	N	N	N/A	N	I ² C	16 QFN
CY8C20140-SX21	2.4V-5.25V	4	4	4	N	N	N/A	N	I ² C	16 SOIC
CY8C20142-SX11	2.4V-5.25V	4	4	4	N	N	N/A	N	I ² C	8 SOIC
CY8C20160-LDX21	2.4V-5.25V	6	6	6	N	N	N/A	N	I ² C	16 QFN
CY8C20160-SX21	2.4V-5.25V	6	6	6	N	N	N/A	N	I ² C	16 SOIC
CY8C20180-LDX21	2.4V-5.25V	8	8	8	N	N	N/A	N	I ² C	16 QFN
CY8C20180-SX21	2.4V-5.25V	8	8	8	N	N	N/A	N	I ² C	16 SOIC
CY8C201A0-LDX21	2.4V-5.25V	10	10	5	N	Y	5 or 10	N	I ² C	16 QFN
CY8C201A0-SX21	2.4V-5.25V	10	10	5	N	Y	5 or 10	N	I ² C	16 SOIC
CY8C20110-LDX21	2.4V-5.25V	10	10	10	Y	N	N/A	N	I ² C	16 QFN
CY8C20110-SX21	2.4V-5.25V	10	10	10	Y	N	N/A	N	I ² C	16 SOIC

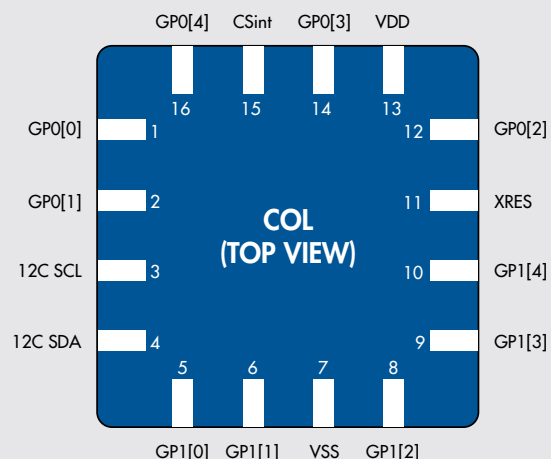
*GPIO and Capacitive I/O pins are dedicated and fixed and function simultaneously, i.e. a finger on the Capacitive I/O pin triggers the state change on the pre-assigned GPIO pin.

CY8C20110—CAPSENSE EXPRESS

Features:

- Supports up to 10 CapSense buttons
- Provides “disappearing buttons” using sleep and LED dimming features
- 2.4 to 5.25 V operating range
- Once configured (in-system or through 3rd party programming), device does not require I2C communications
- Available in 16-pin SOIC and QFN packages

Applications: Ideal for use in notebooks, LCD monitors/TVs, digital photo frames, PMPs and industrial interface solutions.



CapSense™

Part Number	Voltage (VDD)	GPIO	Capacitive I/O	Buttons	Sliders	PWMs	Touchpads	Prox. Sens.	Analog Blocks	Digital Blocks	Flash (Bytes)	RAM (Bytes)	Comm. I/F	Package
CY8C20234-12LKXI	2.4V-5.25	13	10	10	2	SW	Y	N	0	0	8K	512	I ² C, SPI	16 QFN
CY8C20334-12LQXI	2.4V-5.25V	20	17	17	3	SW	Y	N	0	0	8K	512	I ² C, SPI	24 QFN
CY8C20434-12LKXI	2.4V-5.25V	28	25	25	5	SW	Y	N	0	0	8K	512	I ² C, SPI	32 QFN
CY8C20534-12PVXI	2.4V-5.25V	24	21	21	4	SW	Y	N	0	0	8K	512	I ² C, SPI	28 SSOP
CY8C20236A-24LKXI - NEW	1.71V-5.5V	13	10	10	2	SW	Y	Y	0	0	8K	1K	I ² C, SPI	16 QFN
CY8C20336A-24LQXI - NEW	1.71V-5.5V	20	17	17	3	SW	Y	Y	0	0	8K	1K	I ² C, SPI	24 QFN
CY8C20436A-24LQXI - NEW	1.71V-5.5V	28	25	25	5	SW	Y	Y	0	0	8K	1K	I ² C, SPI	32 QFN
CY8C20536A-24PVXI - NEW	1.71V-5.5V	34	31	31	6	SW	Y	Y	0	0	8K	1K	I ² C, SPI	48 SSOP
CY8C20636A-24LQXI - NEW	1.71V-5.5V	36	33	33	6	SW	Y	Y	0	0	8K	1K	I ² C, SPI	48 QFN

CapSense Plus™

Part Number	Voltage (VDD)	GPIO	Capacitive I/O	Buttons	Sliders	PWMs	Touchpads	Prox. Sens.	Analog Blocks	Digital Blocks	Flash (Bytes)	RAM (Bytes)	Comm. I/F	Package
CY8C24794-24LFXI	3.0V-5.25V	50	44	44	8	HW	Y	Y	6	4	16K	1K	I ² C, SPI, UART, USB	56 QFN
CY8C24894-24LFXI	3.0V-5.25V	49	43	43	8	HW	Y	Y	6	4	16K	1K	I ² C, SPI, UART, USB	56 QFN
CY8C24994-24BVXI	3.0V-5.25V	56	44	44	8	HW	Y	Y	6	4	16K	1K	I ² C, SPI, UART, USB	100 VFBGA
CY8C24994-24LTXI	3.0V-5.25V	56	44	44	8	HW	Y	Y	6	4	16K	1K	I ² C, SPI, UART, USB	68 QFN
CY8C21234-24SXI	2.7V-5.25V	12	8	8	1	HW	Y	Y	4	4	8K	512	I ² C, SPI, UART	16 SOIC
CY8C21334-24PVXI ^{2/3}	2.7V-5.25V	16	12	12	2	HW	Y	Y	4	4	8K	512	I ² C, SPI, UART	20 SSOP
CY8C21434-24LCXI	2.7V-5.25V	28	24	24	4	HW	Y	Y	4	4	8K	512	I ² C, SPI, UART	32 QFN (0.4 mm thin)
CY8C21434-24LTXI	2.7V-5.25V	28	24	24	4	HW	Y	Y	4	4	8K	512	I ² C, SPI, UART	32 QFN (1.0 mm thin)
CY8C21434-24LKXI	2.7V-5.25V	28	24	24	4	HW	Y	Y	4	4	8K	512	I ² C, SPI, UART	32 QFN (0.6 mm thin)
CY8C21534-24PVXI ^{2/3}	2.7V-5.25V	24	20	20	4	HW	Y	Y	4	4	8K	512	I ² C, SPI, UART	28 SSOC
CY8C21634-24LTXI	2.7V-5.25V	26	22	22	4	HW	Y	Y	4	4	8K	512	I ² C, SPI, UART	32 QFN
CY8C20246A-24LKXI - NEW	1.71V-5.5V	13	10	10	2	SW	Y	Y	0	0	16K	2K	I ² C, SPI	16 QFN
CY8C20346A-24LQXI - NEW	1.71V-5.5V	20	17	17	3	SW	Y	Y	0	0	16K	2K	I ² C, SPI	24 QFN
CY8C20396A-24LQXI - NEW	1.71V-5.5V	19	15	15	3	SW	Y	Y	0	0	16K	2K	I ² C, SPI, USB	24 QFN
CY8C20446A-24LQXI - NEW	1.71V-5.5V	28	25	25	5	SW	Y	Y	0	0	16K	2K	I ² C, SPI	32 QFN
CY8C20496A-24LQXI - NEW	1.71V-5.5V	25	22	22	5	SW	Y	Y	0	0	16K	2K	I ² C, SPI	32 QFN
CY8C20546A-24PVXI - NEW	1.71V-5.5V	34	31	31	6	SW	Y	Y	0	0	16K	2K	I ² C, SPI	48 SSOP
CY8C20646A-24LQXI - NEW	1.71V-5.5V	36	33	33	6	SW	Y	Y	0	0	16K	2K	I ² C, SPI, USB	48 QFN
CY8C20466A-24LQXI - NEW	1.71V-5.5V	28	25	25	5	SW	Y	Y	0	0	32K	2K	I ² C, SPI	32 QFN
CY8C20566A-24PVXI - NEW	1.71V-5.5V	34	31	31	6	SW	Y	Y	0	0	32K	2K	I ² C, SPI	48 SSOP
CY8C20666A-24LTXI - NEW	1.71V-5.5V	36	33	33	6	SW	Y	Y	0	0	32K	2K	I ² C, SPI, USB	48 QFN

CY3218-CAPEXP2—CAPSENSE EVALUATION KITS

Features:

- Replace mechanical buttons and sliders in minutes
- Drag and drop visual embedded system design, configuration, and monitoring
- Tuning for up to 10 buttons, sliders, LEDs and other general purpose I/Os



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