



## PSoC® Express Development Kit

**CY3210-ExpressDK:** The PSoC Express development kit provides a feature-rich hardware platform for developing and testing designs created with PSoC Express. This kit contains a complete PSoC Express development environment including a large, full featured development board, fan modules, proto modules, 28-DIP samples, and a MiniProg Programmer.

**Kit Includes:** • Development Board • Four Fan Modules • Two Proto Modules • MiniProg Insystem Programmer • MiniEval PCB Evaluation Board • Power Supply • PSoC Express CD-ROM • Jumper Wire Kit • Cables • PSoC DIP Samples

428-1636-ND	PSoC Express Development Kit .....	\$772.00
428-1637-ND	Fan Module Kit .....	\$200.00
428-1638-ND	Proto Module Kit .....	\$100.00

## PSoC® Express II Evaluation Kit

**CY3210-PSOCEXPEVAL1:** The PSoC Express Evaluation Kit is an all-in-one evaluation kit for experiencing first-hand the speed and depth of design offerings with PSoC Express, the code-free embedded development environment.

**Kit Includes:** • Two PSoC Evaluation boards • MiniProg USB Programmer • Cables • Software

428-1906-ND	Evaluation Kit for PSoC Express .....	\$97.00
428-2025-ND	Evaluation Kit for PSoC Express II .....	\$122.00

## PSoC® with USB Evaluation Kit

Special features of the board include both USB and capacitive touch sense development and debugging support. The evaluation board also includes an LCD module, Potentiometer, LEDs, an annunciator, and plenty of bread boarding space to meet all of your evaluation needs.

The PSoCEvalUSB board features an on-chip debugger and can be connected directly to an ICE-Cube (available in the CY3215-DK) for full-featured, in-circuit emulation and debugging.

**Kit Includes:** • PSoCEvalUSB Board • LCD Module • MiniProg1 programmer • USB mini cable • Documentation and Software

428-1650-ND	Evaluation Kit for CY8C24794-24LFX1 .....	\$98.99
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## CY3202-C IMAGEcraft C-Compiler

The CY3202-C IMAGEcraft C-Compiler is fully integrated into the PSoC® Designer IDE. PSoC Designer supports C source level debugging. In order to activate the compiler, you must enable and upgrade.

**Features:** • ANSI C-Compiler • Supports In-line Assembly and can Interface with Assembly Modules • Stack-Based • 7 Basic Data Types • Assemble and Linker • Math and String Libraries • C-Interrupt Service Routines • Librarian

428-1413-ND	IMAGEcraft C-Compiler .....	\$168.00
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## PSoC® ISSP (In-System Serial Programming) Programmer

The ISSP Programmer programs PSoC ICs with .hex files created with Cypress Semiconductor PSoC Designer™ software. The programmer programs a PSoC chip mounted on your PCB, one at a time. It connects to your PCB with a 5-wire cable and to your PC with a USB cable. Programming operation can be automated by incorporating the programmer into a PC-based test system. The tester software communicates with the programmer-control software through a command-line interface. The ISSP programmer can also be operated manually using the supplied Windows® GUI software.

**Functions:** • Program • Verify • Read • Flexible Connections to Target PSoC Devices: Devices can be inserted directly into ISSP, using an on-board 48-ZIF socket, connected via a test fixture or programmed in-system on a product circuit board.

**System Requirements:** • Windows® NT, ME, 2000 or XP • CD-ROM • USB Port • 128 MB RAM  
**Kit Includes:** • ISSP Programmer • ISSP Software CD-ROM • 6-Foot USB Cable • 2-Foot Programming Cable • 9V Power Supply • In-System Serial Programming (ISSP) CY3207ISSP User Guide

428-1495-ND	PSoC USB In-System Programmer .....	\$354.00
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## PSoC® SD Card Module Evaluation Kit

**CY3210-SDCARD:** The SD Card Module Evaluation Kit assesses the PSoC SD Card user module's ability to quickly and easily write to, read from and seamlessly integrate an SD card module into an embedded design. SD flash memory technologies are quickly becoming the preferred solution for portable, consumer and industrial electronic devices around the world for storing a large amount of information in a small, durable, portable form factor. Note: The SD Card user module and the example projects for this evaluation kit require the use of a C compiler.

**Kit Includes:** • CY3210-PSOCEVAL • SD Card Adapter Board • SD Memory Card • USB to SD Card Reader • MiniProg1 • USB Cable • Power Supply • Software

428-1907-ND	Evaluation Kit for PSoC SD Card .....	\$260.00
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## LIN Bus Reference Design Kit

**CY3220LINBUS-RD:** The design kit includes the necessary software, hardware, and example projects for designers to implement all of the functions of the LIN specifications without having to generate any new code. The LIN Protocol Specification is a low-speed communications standard used in many automotive applications, including body control, driver information, multimedia, climate control, safety equipment, cockpit electronics and Human Machine Interface (HMI).

**Kit Includes:** • LIN Bus Reference Design Board • Three pre-programmed and pre-installed PSoC devices (two bus slaves one CY8C27143-24PXI LIN and one CY8C27443-24PXI LIN and one bus master CY8C27443-24PXI LIN) • Software CD with Documentation, Example Projects, and Reference Design IP • 12V Power Supply • International Supply Adapter • DB9 Serial Cable

428-1926-ND	LIN Bus Reference Design Kit .....	\$308.00
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## PIR Motion Detection Evaluation Kit

The CY3236A-PIRMOTION EVK allows you to evaluate Cypress' PSoC® device's ability to control a Pyroelectric Infrared (PIR) sensor to implement motion sensing applications such as automatic lighting controls, automatic door openers, security systems, kiosk wake-up and activating wireless cameras. The CY3236A-PIRMOTION EVK includes all of the software, hardware, example projects and documentation you need to implement all of these PIR sensing control functions in one flexible and powerful PSoC device, the CY8C27443.

**Kit Includes:** • PIR Motion Sensor Board • Power Supply • Software • Design Files

428-2022-ND	PIR Motion Evaluation Kit .....	\$129.00
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## CapSense™ Proximity Detection Demonstration Kit

**CY3235-PROXDET:**

The CapSense Proximity Detection Demonstration Kit allows quick and easy demonstration of a PSoC® CapSense-enabled device (CY8C21434) to accurately sense the proximity of a hand or finger along the length of a wire antenna. The kit also includes the I2C to USB Bridge, which allows hardware and software debugging of PSoC applications by seamlessly connecting your PC's USB port to your application's I2C interface.

**Kit Includes:** • Proximity Detection Demo Board with Antenna • I2C to USB Debugging/Communication Bridge • USB Cable • Software • Quick Start Guide

428-1909-ND	Evaluation Kit for PSoC Proximity Detection .....	\$73.34
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## PSoC® CapSense™ Kits

**CY3220-FPD:**

This PSoC Demonstration Kit features a discrete button demonstration board for the Cypress CapSense solution. The board features eight CapSense buttons that control an LCD Module in a car radio configuration. The board is built using the CY8C21534-24PVXI PSoC, the only component necessary for sensing. The PSoC senses the presence of a finger or other capacitive element through 3mm ABS plastic.

**Kit Includes:** • Demonstration Board • User Guide • Documentation and Software CD • Power Supply

**CY3212-CAPSENSE:**

This PSoC Training Kit includes software, hardware and example projects to help designers learn how to implement PSoC CapSense in their own design. A training board is included that is hard wired for buttons and sliders as well as LCD control and I2C communication.

**Kit Includes:** • Training board • PSoC Designer and Example Project CD • CSR User Module • Mini Programmer unit • LCD Module • USB Cable

428-1652-ND	PSoC CapSense Demo Kit (CY3220-FPD) .....	\$102.00
428-1705-ND	PSoC CapSense Training Kit (CY3212-CAPSENSE) .....	\$117.00

## NEW! CapSense™ Express Evaluation Kits

The CapSense Express evaluation kits enable designers to replace mechanical buttons by implementing touch sensing designs in minutes with the newest CapSense Touch Sensing Family, CapSense Express. With Cypress's PSoC Express™ visual embedded system design tool and CapSense Express configuration tool, designers configure, monitor, and tune up to 10 I/O's for buttons, LEDs and other general purpose I/O's over I2C in a real time using a graphical user interface.

**CY3218-CAPEXP1 Kit Includes:** • CapSense Evaluation Board with CY8C20110-LDX2I • CY3240-I2USB Bridge Board • USB Cable • Battery

**CY3218-CAPEXP2 Kit Includes:** • CapSense Slider Evaluation Board with CY8C201A0-LDX2I • CY3240-I2USB Bridge Board • USB Cable • Battery

**CY3218-CAPEXP3 Kit Includes:** • CapSense Evaluation Board with CY8C20142-SX2I • CY3240-I2USB Bridge Board • USB Cable • Battery

428-2043-ND	CapSense Evaluation Board Kit (CY3218-CAPEXP1) .....	\$52.50
428-2044-ND	CapSense Slider Evaluation Board Kit (CY3218-CAPEXP2) .....	\$52.50
428-2045-ND	CapSense Evaluation Board Kit (CY3218-CAPEXP3) .....	\$52.50

## Universal CapSense™ Controller Kit

**CY3280-BK1:**

Designed for easy development and debugging of any CapSense design. It includes pre-defined control circuitry and plug-in hardware, along with controller boards for both the CY8C20x34 and CY8C21x34 PSoC devices. It also offers a breadboard module and a module for implementing up to five buttons and a slider with sample overlays to encompass a wide variety of designs.

**Kit Includes:** • Universal CapSense Controller Boards • CapSense Linear Slider Module • CapSense Prototyping Module • CY3240-I2USB Board • CY3210 MiniProg1 Programmer • Software

428-2033-ND	Universal CapSense Controller Kit .....	\$177.00
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## PSoC® I2C to USB Bridge Kit

**CY3240-I2USB:**

The I2C to USB Bridge is a quick and easy link from any design or application's I2C bus to a PC via USB for design testing, debugging and communication. The bridge is based on 1 of Cypress' CY8C24894, which contains 6 analog blocks supporting ADCs, DACs and filters, 4 digital blocks supporting PWMs, timers and counters, and a Full-Speed USB 2.0 peripheral.

**Kit Includes:**

• I2C USB Bridge • I2C Slave Demonstration Board • USB Mini B Cable • Software CD

428-1910-ND	Evaluation Kit for PSoC I2C to USB .....	\$78.01
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## PSoC® I2C Port Expander Evaluation Kits

The I2C Port Expander Evaluation Kit allows you to easily assess the following value propositions of Cypress' I2C port expander ICs from other vendors and flexibly integrates I/O expansion, PWM functions and user EEPROM. The kit also includes the I2C to USB Bridge, which allows hardware and software debugging of PSoC applications by seamlessly connecting your PC's USB port to your application's I2C interface.

**CY3242-IOX Kit Includes:**

• Port Expander Demo Board using containing CY8C9520/40/60 Port Expanders • I2C to USB Bridge • USB Cable • Documentation

**CY3242-IOXLITE Kit Includes:**

• I2C Port Expander Demo Board using CY8C9520 Port Expander • USB Cable • Documentation

428-1911-ND	CY3242-IOX Evaluation Kit .....	\$645.00
428-2023-ND	CY3242-IOXLITE Evaluation Kit .....	\$129.00

More Product Available Online: [www.digkey.com](http://www.digkey.com)

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## Emulation Kits and Accessories

For use with the 428-1583-ND (CY3215-DK) PSoC® Development Kit

### Emulation Kits

**Function:** Provides Connection Between ICE-Cube and Target  
**Contents:** 1 Flexcable, 1 Pod, 2 Pod Feet

For Use With	Digi-Key Part No.	Price Each
CY8C21x23	428-1886-ND	198.99
CY8C21x23 QFN Package	428-1871-ND	198.99
CY8C21x34	428-1887-ND	198.99
CY8C21x34 QFN Package	428-1872-ND	198.99
CY8C24x23A	428-1883-ND	198.99
CY8C24x23A QFN Package	428-1868-ND	198.99
CY8C24x94 QFN Package	428-1867-ND	198.99
CY8C27xxx	428-1884-ND	198.99
CY8C27xxx QFN Package	428-1869-ND	198.99
CY8C29xxx	428-1885-ND	198.99
CY8C29xxx QFN Package	428-1870-ND	198.99
CY8C20334 QFN Package	428-1955-ND	231.00
CY8C20434 QFN Package	428-1957-ND	231.00

◆ RoHS Compliant

### Evaluation Pods

**Function:** Allows evaluation of a device family using 28-DIP connector



Family	Digi-Key Part No.	Price Each
C48C20x34	428-1994-ND	123.00
C48C21x23	428-1995-ND	123.00
C58C21x34	428-1996-ND	123.00

Family	Digi-Key Part No.	Price Each
CY8C24x23	428-1997-ND	123.00
CY8C24x94	428-1998-ND	123.00
CY8C27x43	428-1999-ND	123.00
CY8C29x66	428-2000-ND	123.00

### Foot Kits

**Function:** Replacement Pod Feet **Contents:** 4 Pod Feet

Package	Digi-Key Part No.	Price Each
8-DIP	428-1890-ND	94.99
20-DIP	428-1888-ND	109.00
28-DIP	428-1889-ND	94.99
8-SOIC	428-1894-ND	109.00
16-SOIC	428-1891-ND	109.00
20-SOIC	428-1892-ND	109.00
28-SOIC	428-1893-ND	94.99
20-SSOP	428-1895-ND	94.67
28-SSOP	428-1896-ND	94.99
48-SSOP	428-1897-ND	94.66
44-TQFP	428-1899-ND	109.00
100-TQFP	428-1898-ND	256.25
24-QFN	428-1873-ND	197.00
32-QFN	428-1874-ND	169.99
48-QFN	428-1875-ND	169.99
56-QFN	428-1876-ND	169.99

### Pod Kits

**Function:** Replacement Pod Kit  
**Contents:** 2 Pods

For Use With	Digi-Key Part No.	Price Each
CY8C21x23	428-1904-ND	131.00
CY8C21x23 QFN Package	428-1881-ND	131.00
CY8C21x34	428-1905-ND	113.34
CY8C21x34 QFN Package	428-1882-ND	131.00
CY8C24x23A	428-1901-ND	131.00
CY8C24x23A QFN Package	428-1878-ND	131.00
CY8C24x94 QFN Package	428-1877-ND	131.00
CY8C27xxx	428-1902-ND	113.32
CY8C27xxx QFN Package	428-1879-ND	131.00
CY8C29xxx	428-1903-ND	131.00
CY8C29xxx QFN Package	428-1880-ND	131.00
CY8C20334 QFN Package	428-1956-ND	131.00
CY8C20434 QFN Package	428-1958-ND	131.00
Replacement Flex Cable for CY3250 Pod Kits	428-1866-ND	99.99

◆ RoHS Compliant

## CPLDs

Cypress offers a wide range of Programmable Logic Devices From PALs with 10 macrocells and 200 gates up to CPLDs with 3072 macrocells and 200,000 gates. Cypress also provides voltages ranging from 2.5V up to the typical 5.0V.

The Ultra37000™ family of CMOS CPLDs provides a range of high-density programmable logic solutions with unparalleled system performance. The Ultra37000 family is designed to bring the flexibility, ease of use, and performance of the 22V10 to high-density CPLDs. The architecture is based on a number of logic blocks that are connected by a Programmable Inter-connect Matrix (PIM). Each logic block features its own product term array, product term allocator, and 16 macrocells. The PIM distributes signals from the logic block outputs and

all input pins to the logic block inputs. All of the Ultra37000 devices are electrically erasable and In-System Reprogrammable (ISR).

The Delta39K™ ISR™ CPLD Family based on a 0.18 μm, six-layer metal CMOS logic process, offers a wide range of high-density solutions at unparalleled system performance. The Delta39K family is designed to combine the high speed, predictable timing, and ease of use of CPLDs with the high densities and low power of FPGAs. With devices ranging from 15,000 to 200,000 usable gates, the family features devices ten times the size of previously available CPLDs. Even at these large densities, the Delta39K family is fast enough to implement a fully synthesizable 64-bit, 66-MHz PCI core.

Voltage	Memory Type	Tpd (ns)	Macrocells	Gates	Option Power	I/O	Package	Digi-Key Part No.	Price Each			Cypress Part No.
									1	25	100	
<b>ULTRA 37000 CPLDs</b>												
5.0	Flash	6	64	2,000	Standard	69	100-TQFP	428-1722-ND	9.83	8.85	7.85	CY37064P100-125AXC
		6	64	2,000	Standard	37	44-TQFP	428-1723-ND	8.00	6.40	5.40	CY37064P44-125AXC
		7.5	192	5,700	Standard	125	160-TQFP	428-1724-ND	22.65	21.14	19.63	CY37192P160-125AXC
		7.5	256	7,700	Standard	133	160-TQFP	428-1725-ND	32.40	30.24	28.08	CY37256P160-125AXC
		6	64	200	Standard	69	100-TQFP	428-1936-ND	10.75	9.68	8.58	CY37064P100-125AXI
3.3	Flash	8.5	64	200	Standard	37	44-TQFP	428-1937-ND	8.00	6.40	5.40	CY37064VP44-100AXC
<b>DELTA 39K ISR CPLDs</b>												
2.5 - 3.3	Flash	7.2	512	30K	Lp	136	208-PQFP	428-1939-ND	49.14	45.87	42.59	CY39030V208-125NTXC

## Delta39K/Ultra37000 ISR Programming Kit

The Delta39K/Ultra37000 ISR Programming Kit enables users to program Ultra37000, Ultra37000V, Delta39K, and PSI CPLDs on board with our ISR Programming Software, the USBISR Programming Cable, and a personal computer. The USBISR Programming Cable connects to a USB 1.1/USB 2.0 of a PC into a standard 10-pin male connector mounted on the user's board. The ISR software provides an easy-to-use Graphical User Interface that accepts JEDEC or hex files as input. The JEDEC/hex files are used to compose platform independent STAPL.SVF files. STAPL/SVF files contain all the information needed to program the device. The ISR software is used to define how many devices are in the daisy chain and what operation is to be done on each Cypress device. The same chain can be used with other JTAG-compliant devices. The ISR User's Guide describes the operation of the ISR software. The application notes included with the kit describe all system design considerations for programming with this Programming Kit.

**Features:** • Supports Cypress' Ultra37000™, Ultra37000V™, Delta39K™, and PSI™ families of products • STAPL (chain dependent and chain independent) programming language support • SVF programming language support • Standard JTAG programming interface • Multi-device programming • Easy to use interface that is compatible with Windows XP™, Windows 2000™, Windows ME™, Windows 98™, and Windows NT™ • Elimination of programming insertion which improves manufacturing efficiency, ability to program in the lab, on the manufacturing floor and at remote sites • Automatic test equipment (ATE) support via STAPL on ATE platforms.

**CY3950L Includes:** UltraISR™ Programming Cable for use with Ultra37000, Delta39K, and PSI CPLD families, ISR Programming, ISR Application Notes, and a Delta39K/Ultra37000™ Prototype Board.

428-2019-ND ISR Programming Kit ..... \$103.00

## FTG Programming Kits

### CY3670

The CY3670 FTG programming kit provides users with a PC the ability to program Cypress EPROM Field-Programmable Clock Generators quickly and easily. The two setup requirements are a power connection and a serial port connection with the PC.

**Features:** • Supports multiple Cypress EPROM Field Programmable Clock Generators: CY2071AF, CY2291F, CY2292F, CY2292FZ, CY2907F8, and CY2907F14 • Separate device-specific socket adapters • Allows quick and easy prototyping • Compact design for ease of portability • Easy to use interface: Windows compatible • User-friendly CYClocks™ software for JEDEC file development

**Kit Includes:** • Programmer Unit • Serial Port Cable • AC/DC Adapter • CD containing • CyClocks Software • CY\_FTG\_V2 Programmer Software • Data sheets of supported devices • Device-specific socket adapters for the CY2071AF and CY2292F (socket adapters for the other devices are ordered separately)

428-1457-ND FTG Programming Kit ..... \$385.00  
 428-2042-ND **NEW!** Socket Adapter for CY2071AF ..... \$131.00

### CY3672-USB

The CY3672 programming kit enables any user with a PC the ability to program Field Programmable Clock generators quickly and easily. The only two setup requirements are a power connection and a parallel port connection with the PC.

**Features:** • Supports Field Programmable Clock Generators: CY2077F5, CY2077FZ, CY22050F, CY22150F, CY22381F, CY22392F, CY22393F, CY22394F, and CY22395F • Allows quick and easy prototyping • Compact design for ease of portability • Easy to use Windows 95, 98, NT, 2K, ME, XP compatible interface • User friendly CYClocksRT™ software for JEDEC file development

**Kit Includes:** • Parallel Port cable • AC/DC adapter • CD containing: CyClocksRT, CY3672 programmer interface software, and data sheets

428-1918-ND FTG Programming Kit ..... \$385.00

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