

## PSoC® 1 Kit Selector Guide

Cypress has many evaluation and development kits that enable you to:

- Evaluate the capabilities of PSoC® 1 programmable system-on-chip devices
- Develop and debug applications using PSoC 1 devices to accelerate product development

The table below gives available kit options for different PSoC 1 families. A brief description of each kit is provided later in this document:

| Family    | Kit for Development/Evaluation                                       | Debugging        |                     |
|-----------|----------------------------------------------------------------------|------------------|---------------------|
|           |                                                                      | Debugger         | POD                 |
| CY8C29x66 | CY3210-PSOCEVAL1<br><br>CY8CKIT-001 + CY8CKIT-008 <sup>3</sup>       | CY3215-DK<br>ICE | CY3210-29X66        |
|           |                                                                      |                  | CY3250-29XXX        |
|           |                                                                      |                  | CY3250-29XXX-POD    |
|           |                                                                      |                  | CY3250-29XXXQFN     |
|           |                                                                      |                  | CY3250-29XXXQFN-POD |
| CY8C28xxx | CY8CKIT-001 <sup>3</sup><br><br>CY3210-PSOCEVAL1 + CY3210-28XXX(POD) | CY3215-DK<br>ICE | CY3210-28XXX        |
|           |                                                                      |                  | CY3250-28XXX        |
|           |                                                                      |                  | CY3250-28XXX-POD    |
|           |                                                                      |                  | CY3250-286XXQFN     |
|           |                                                                      |                  | CY3250-286XXQFN-POD |
| CY8C27x43 | CY3210-PSOCEVAL1<br><br>CY3236A-PIRMOTION                            | CY3215-DK<br>ICE | CY3210-27X43        |
|           |                                                                      |                  | CY3250-27XXX        |
|           |                                                                      |                  | CY3250-27XXX-POD    |
|           |                                                                      |                  | CY3250-27XXXQFN     |
|           |                                                                      |                  | CY3250-27XXXQFN-POD |

|             |                                                                |               |                      |
|-------------|----------------------------------------------------------------|---------------|----------------------|
| CY8C24x94   | CY3210-PSOCEVAL1 + CY3210-24X94                                | CY3215-DK ICE | CY3210-24X94         |
|             | CY3214-PSOCEVALUSB <sup>3</sup>                                |               | CY3250-24X94QFN      |
|             | CY3280-24x94 UCC <sup>3</sup>                                  |               | CY3250-24X94QFN-POD  |
| CY8C24x23/A | CY3210-PSOCEVAL1 + [CY3210-24X23(EVALPOD) or CY8C24423A-24PXI] | CY3215-DK ICE | CY3210-24X23         |
|             |                                                                |               | CY3250-24X23A        |
|             |                                                                |               | CY3250-24X23A-POD    |
|             |                                                                |               | CY3250-24X23AQFN     |
|             |                                                                |               | CY3250-24X23AQFN-POD |
| CY8C22x45   | CY3280-22X45                                                   | CY3215-DK ICE | CY3250-22345         |
|             |                                                                |               | CY3250-22545-POD     |
| CY8C21x34   | CY3210-PSOCEVAL1 + CY3210-21X34(POD)                           | CY3215-DK ICE | CY3210-21X34         |
|             | CY3280-BK1 Universal CapSense Controller - Basic Kit 1         |               | CY3250-21X34QFN-POD  |
| CY8C21x23   | CY3210-PSOCEVAL1 + CY3210-21X23(POD)                           | CY3215-DK ICE | CY3210-21X23         |
|             |                                                                |               | CY3250-21X23         |
|             |                                                                |               | CY3250-21X23-POD     |
|             |                                                                |               | CY3250-21X23QFN      |
|             |                                                                |               | CY3250-21X23QFN-POD  |

**NOTE:**

- 1) All the Kits can be programmed using CY3217-MiniProg1, CY8CKIT-002 PSoC MiniProg3.
- 2) CY3240-I2CUSB and MiniProg3 can be used as interfacing computer and PSoC device to test, tune and debug.
- 3) Kit can interface with CY3215-DK ICE, no separate POD is required

**Starter Kit**

**CY3270 PSoC FirstTouch Starter Kit:** This is a starter kit that provides a quick, easy, and affordable way to evaluate the power of PSoC 1. This kit demonstrates CapSense Touch & Proximity Sensing, Temperature Sensing and Light Sensing.

## Development/Evaluation Kits

**CY3210-PSoCEval1:** This PSoC 1 evaluation kit includes an LCD module, potentiometer, LEDs, and plenty of breadboard space to meet all of your evaluation needs. The MiniProg programming unit is also included with the kit and will program PSoC 1 devices directly on the evaluation board, or on other boards via a 5-pin header. Either a 28-pin PDIP part or CY3210-xxxx POD is required to develop a solution using this kit. Two 28-pin PDIP samples, one each of CY8C29466-24PXI and CY8C27443-24PXI are included along with the kit.

**CY3214-PSoCEvalUSB:** This PSoC 1 CapSense PLUS Evaluation Kit features a development board for the CY8C24794-24LFXI PSoC device. Special features of the board include both USB and capacitive touch sense development and debugging support. This evaluation board also includes an LCD module, potentiometer, LEDs, an enunciator and plenty of bread boarding space to meet all of your evaluation needs. The CY3214-PSoCEvalUSB board features an on-chip debugger and can be connected directly to an ICE-Cube (CY3215-DK, sold separately) for full featured in-circuit emulation and debugging. A MiniProg1 programming unit is also included in this kit for programming PSoC device.

**CY3280-22x45 Universal CapSense Controller Board:** The CY3280-22x45 Universal CapSense Controller Board provides customers with hardware to understand capacitive sensing and a software tool to set up and tune their project with minimal iterative code updates. This kit includes a MiniProg1 for programming and CY3240-I2USB Bridge for tuning and debugging, hardware and software of a PSoC application by bridging the USB port to I2C using Bridge Control Panel (included with PSoC Programmer) GUI. This kit can interface with CY3280 expansion boards (sold separately).

**CY3280-BK1 Universal CapSense Controller - Basic Kit 1:** The CY3280-BK1 Universal CapSense Controller Kit is designed for easy prototyping and debug of CapSense designs with pre-defined control circuitry and plug-in hardware. CY3280-21x34 Universal CapSense Controller Board is shipped along with CY

### **CY3236A-PIRMOTION - Pyroelectric Infrared (PIR) Motion Detection Evaluation Kit (EVK)**

The CY3236A-PIRMOTION EVK allows you to evaluate the CY8C27443-24PVXI 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 wakeup and activating wireless cameras.

**CY3280-24x94 Universal CapSense Controller Board:** The Universal CapSense Controller Kit is designed for easy prototyping and debug of CapSense designs with pre-defined control circuitry and plug-in hardware.

### **Programmer/Debugger/Bridge**

**CY3217-MiniProg1:** This kit is the programming tool for all the PSoC 1 devices. This kit is shipped with all the development/evaluation kits of PSoC 1 (except CY3236A-PIRMOTION).

**CY8CKIT-002 MiniProg3:** This kit can be used to program all PSoC 1 devices and also as a USB to I2C Bridge for interfacing computer and PSoC devices to test, tune and debug.

**CY3240-I2USB:** This kit enables a USB to I2C interface between computer and PSoC devices to test, tune and debug.

**CY3215-DK ICE:** This PSoC Development Kit includes an In-Circuit Emulator (ICE) which consists of a base unit, USB 2.0 cable, and power supply. The base unit is connected to the host PC via the USB port. The ICE is driven by the Debugger subsystem of PSoC Designer. This software interface allows the user to run, halt, and single step the processor. It also allows the user to set complex event points. Event points can start and stop the trace memory on the ICE, as well as break the program execution. In addition to the Development Kit, different Emulation Pods are available to support a range of devices in the PSoC family. They plug into (or are soldered onto) the user's circuit board to provide the physical interface. Pods are

available for low-cost expansion of the ICE-Cube capability. This supports debugging of all PSoC 1 family of devices except CY8C25/26xxx devices.

Application Note [AN-73212 Debugging with PSoC 1](#) introduces the hardware and software debugger elements available in PSoC 1 and describes several common debugging techniques.

**Debugging Hardware:** For debugging PSoC 1 devices, the following hardware is required:

- In-Circuit-Emulator (ICE), and
- Debugging POD with OCD part.

The PODS of PSoC 1 family are mainly of two types: CY3210-xxx and CY3250-xxx. For debugging, ICE + CY3210 POD + RJ-45 ICE adapter + RJ45 Cable or ICE + CY3250 POD + Mask + POD Feet is required. The kits with the OCD device can interface with the debugger directly. To properly mount CY3250 style pods on a board, a foot kit and mask are required. A foot kit allows a pod to be mounted to a specific package footprint, enabling a single pod to be mounted to almost any board. A mask, which fits between the pod and the foot kit, aligns the pins from the foot kit to the appropriate holes in the pod and masks unused pins. Not all feet and pod combinations require a mask, because some pods fit only into a foot kit in one orientation. If required, the appropriate mask is supplied with the CY3250 pod or foot kit and does not need to be purchased separately.

**“POD Selector Guide”** is an Excel database to map between PSoC 1 devices, POD and POD Feet.

Note: The CY3250 POD suffixed with “-POD” is a Replacement POD (contains 2 PODs) and without the suffix is a POD Kit (contains one POD and Flex Cable to interface with ICE).

PSoC 1 is a registered trademarks of Cypress Semiconductor Corp. All other trademarks or registered trademarks referenced herein are the property of their respective owners.



|                         |                                                               |
|-------------------------|---------------------------------------------------------------|
| Cypress Semiconductor   | Phone: 408-943-2600                                           |
| 198 Champion Court      | Fax: 408-943-4730                                             |
| San Jose, CA 95134-1709 | Website: <a href="http://www.cypress.com">www.cypress.com</a> |

© Cypress Semiconductor Corporation, 2012. The information contained herein is subject to change without notice. Cypress Semiconductor Corporation assumes no responsibility for the use of any circuitry other than circuitry embodied in a Cypress product. Nor does it convey or imply any license under patent or other rights. Cypress products are not warranted nor intended to be used for medical, life support, life saving, critical control or safety applications, unless pursuant to an express written agreement with Cypress. Furthermore, Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress products in life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

This Source Code (software and/or firmware) is owned by Cypress Semiconductor Corporation (Cypress) and is protected by and subject to worldwide patent protection (United States and foreign), United States copyright laws and international treaty provisions. Cypress hereby grants to licensee a personal, non-exclusive, non-transferable license to copy, use, modify, create derivative works of, and compile the Cypress Source Code and derivative works for the sole purpose of creating custom software and or firmware in support of licensee product to be used only in conjunction with a Cypress integrated circuit as specified in the applicable agreement. Any reproduction, modification, translation, compilation, or representation of this Source Code except as specified above is prohibited without the express written permission of Cypress.

Disclaimer: CYPRESS MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Cypress reserves the right to make changes without further notice to the materials described herein. Cypress does not assume any liability arising out of the application or use of any product or circuit described herein. Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress' product in a life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Use may be limited by and subject to the applicable Cypress software license agreement.