



CY3280-BMM Universal CapSense™ Matrix Button Module Kit Quick Start

Doc. # 001-51788 Rev. *A

Cypress Semiconductor
198 Champion Court
San Jose, CA 95134-1709
Phone (USA): 800.858.1810
Phone (Intl): 408.943.2600
<http://www.cypress.com>

1. Kit Contents

Each CY3280-BMM Universal CapSense™ Matrix Button Module Kit contains:

- CY3280-BMM Universal CapSense Module Board
- CY3280-BMM Universal CapSense Module Board CD/DVD
- CY3280-BMM Quick Start
- 1.5 mm Acrylic Overlay with adhesive

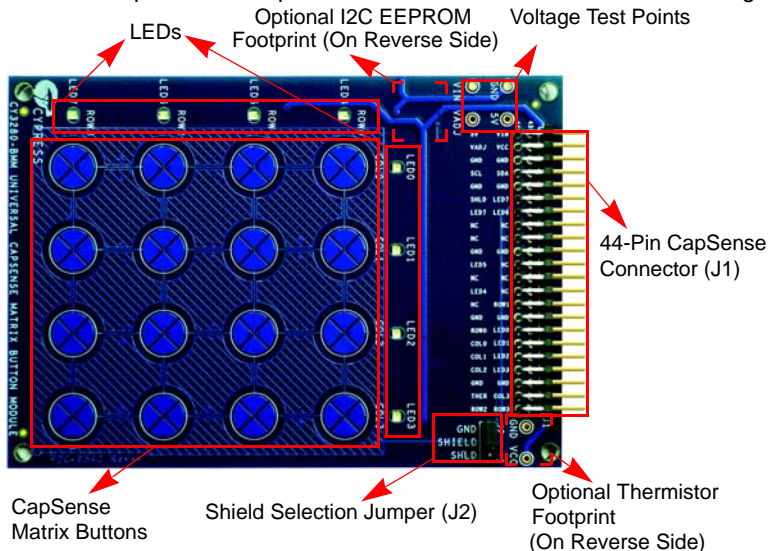
Universal CapSense Module boards are available for purchase separately, or as part of combination kits. Do visit www.cypress.com/shop for more information.

Prerequisites:

- Universal CapSense Controller Board
- PSoC MiniProg
- I2CUSB Bridge
- USB Mini-B Cable

2. Module Hardware

This module is comprised of components and sensors detailed in the following figure.



The module consist of eight CapSense buttons organized in a 4x4 matrix format to form 16 physical buttons and eight LEDs. These are interfaced to the CapSense controller board via 44 pin receptacle connector (J1). A three pin jumper (J2) is provided for selection between shield electrode and ground. The board also incorporates an optional I2C EEPROM and thermistor that are not populated by default.

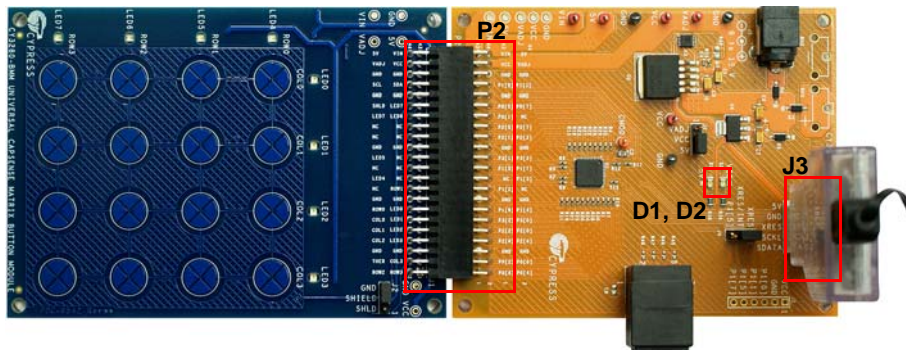
3. Getting Started

The CY3280-BMM board can be used with any of the UCC (Universal CapSense controller) boards. The example firmware is available on the CD/DVD. Insert the CY3280-BMM Kit CD/DVD into the CD/DVD drive of your PC, and follow the instructions on the screen to complete the installation.

4. Setup the Board

This section demonstrates the setup of CY3280-BMM with CY3280-20x34 Universal CapSense Controller. Similar procedure is used for all UCC boards.

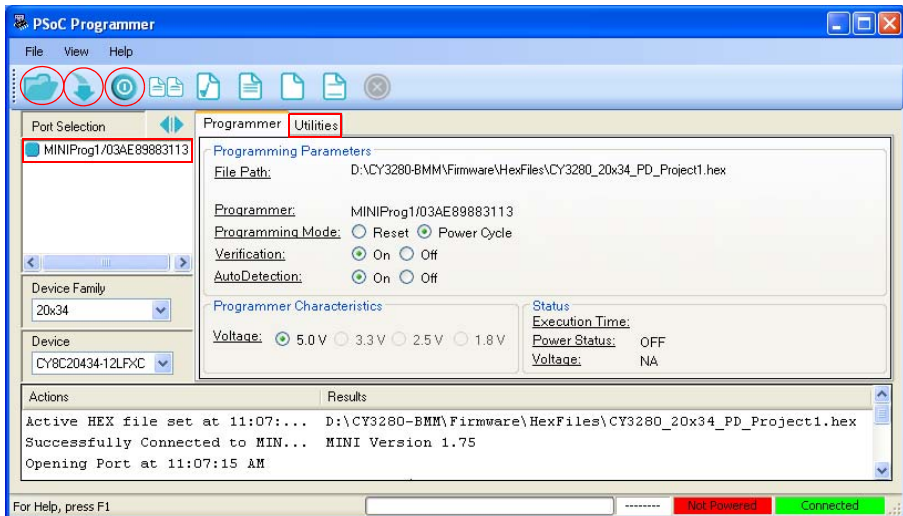
- Connect the CY3280-BMM board to the CY3280-20x34 Universal CapSense Controller board's P2 receptacle connector.



- In CY3280-20x34 UCC board place shunts on pins 2 and 3 of J1 and pins 1 and 2 of J4.
- In CY3280-BMM board place shunts on pins 2 and 3 of J2.
- Connect your computer to the CY3280-20x34 Universal CapSense Controller board's ISSP connector (J3) using a PSoC MiniProg and a USB cable.
- Open **PSoC Programmer** by going to **Windows Start > All Programs > Cypress > PSoC Programming 3.05 > PSoC Programmer**.
- Select **MiniProg 1** from **Port Selection** view in the **Programmer** window.
- Message *Successfully Connected to MINIProg.....MINI Version 1.75* appears in the **Actions** pane.

Note: If MiniProg Version is older than 1.75, go to **Utilities** and click on **Update Firmware** icon.

- Confirm that the Programming Parameters are as shown in the figure on page 4.
- Click **File Load**, navigate to, and open the *CY3280_20x34_PD_Project1.hex* file on CD/DVD at: *Firmware\HexFiles*
- Click the **Program** icon. After the programming is complete **Programming Succeeded** appears in the **Actions** pane.



- Click **Toggle Device Power** button. The Power LEDs D1, D2 on the CY3280-20x34 UCC board lights up. Corresponding LEDs on other UCC board's lights up.

5. Test the Board

- Touch one button at a time with your finger. Each button touch lights up corresponding row and column LED, indicating the button you are touching. If you touch more than one button, all the LEDs are turned OFF as multi touch is not supported.
- To monitor the CapSense parameters refer to readme file on CD/DVD at: *Vfirmware\20x34_CSAIPSoC Designer\PD project1\Readme.pdf*

6. Design Support and Resources

A wealth of information about PSoC® Designer, and CapSense™ Best Practices is available on the www.cypress.com web site, and more is frequently added. For knowledge base articles, customer forums, and online application support, visit www.cypress.com/go/support.

©2009 Cypress Semiconductor Corporation. CapSense™ and Programmable System-on-Chip™ are trademarks, and PSoC® is a registered trademark of Cypress Semiconductor Corp. All other trademarks or registered trademarks referenced herein are property of the respective corporations.



Cypress Semiconductor Corporation
198 Champion Ct., San Jose, CA 95134 USA
www.cypress.com



If you have questions, call
Cypress Customer Support
+1 (800) 541-4736 Ext. 8 (in the USA),
+1 (408) 943-2600 Ext. 8 (International),
or visit www.cypress.com/go/support
Doc. # 001-51788 Rev. *A