dsPIC33F and PIC24H mTouch™ Capacitive Touch Evaluation Boards Information Sheet

The dsPIC33F and PIC24H mTouch™ Capacitive Touch Evaluation Boards (AC333026 or AC243026) are designed to facilitate the development of capacitive touch-based applications using dsPIC33F Digital Signal Controllers and PIC24H Microcontrollers. These boards are intended to supplement the motherboards portfolio already included in the mTouch Capacitive Touch Evaluation kit (PN: DM183026-2). These evaluation boards include an on-board PICkit™ serial interface, an ICSP™ header, a USB connector (for power only) and a 16-bit LED display. The board also includes a 24-pin header that can be used to interface the 2-channel and 4-channel slider plug-in boards, the 12-matrix key plug-in board and the 8-direct key plug-in board. These plug-in boards are included in the mTouch™ Capacitive Touch Evaluation Kit (purchased separately).

Getting Started

Everything you need to get started can be found at http://www.microchip.com/mtouch. Click **Buttons, Keys & Sliders** and click the **Getting Started** tab.

Installing MPLAB® IDE and C Compilers

The MPLAB® Integrated Development Environment (IDE) should be installed prior to using the dsPIC33F or PIC24H mTouch™ Capacitive Touch Evaluation Board. While MPLAB provides the assembler tools for development, most of the code examples are written in C language and require a C compiler to be installed. Microchip's MPLAB C compiler seamlessly integrates into MPLAB IDE. Both the MPLAB IDE and C Compiler are free (see the note below) and are available for download at http://www.microchip.com/MPLAB and http://www.microchip.com/compilers, respectively.

> **Note:** Standard Evaluation (Free) – All optimization levels are enabled for 60 days, but then revert to optimization level 1 only.

Code Examples and More Information

Visit the Microchip web site at: www.microchip.com. Enter either AC333026 or AC243026 in the Search box and press Enter. From the resulting list, select either **dsPIC33F Capacitive Touch Evaluation Board** or **PIC24H Capacitive Touch Evaluation Board**. Download and extract the appropriate Capacitive Touch Evaluation Kit Software archive file (.zip), and start the .exe file for the desired capacitive touch demonstration (there are four demonstrations for each evaluation board).

Running and Debugging Applications

After downloading the code example and installing the development tools and desired demonstration, use the following procedure to build, run, and debug your software:

1. Load the desired code example into MPLAB by double-clicking the *.mcp project file.
2. Connect the appropriate plug-in board to the 24-pin connector of the evaluation board. Make sure the pin numbers of the plug-in board are aligned with the pin numbers on the evaluation board.
3. Connect a PICkit™ 3 In-Circuit Programmer/Debugger (PG164130) directly to the program header labeled J1, or use the RJ-11 to ICSP™ Adaptor (AC164110) to connect a MPLAB REAL ICE™ In-Circuit Emulator (DV24405) to the program header, J1.
4. Connect the USB port on the evaluation board to a USB port on the development computer using a USB cable, or power the evaluation board using the +3.3V and GND or +5.5V and GND test points.
5. Choose the appropriate debugger/emulator tool in MPLAB IDE by selecting *Debugger > Select Tool*.
6. Build the project by selecting *Project > Build All*.
7. Download your code into the evaluation board microcontroller by selecting *Debugger > Program*.
8. Run the application previously downloaded by selecting *Debugger > Run*.

Touching the appropriate keys on the plug-in board will cause the LEDs on the evaluation board to respond as previously programmed.