**MICROCHIP**

DS51280C DS51280C

Universal Programming Module

Overview

The Universal Programming Module (UPM) is a handy, low-cost board that supports the programming of devices using Microchip in-circuit debuggers. The UPM can also be used with the MPLAB® PM3 to ICD Adapter (AC164111) for in-circuit programming with the MPLAB PM3. The ZIF (Zero Insertion Force) socket in the UPM supports the programming of devices in DIP packages up to 40 pins with the aforementioned development tools.

Jumper Configuration

ICD input at J1 is mapped to J3. There are seven jumpers (flying leads) located at J3 that represent the program mode, power supply, ground, clock and data lines needed for programming. These lines must be connected to pins marked 1 through 40 on the two 20-pin headers (J4 and J5). These header pins map directly to the 40 pins of the device socket U1. For devices with less than 40 pins, J5 numbering will not match the device numbering, e.g., for a 20-pin device, J5 pin 40 will be device pin 20, J5 pin 39 will be device pin 19, etc. Consult the device data sheet for the proper jumper configuration. Further, the Release Notes for the tool in use may also offer other detailed information about programming the device. Release Notes can be found under the Help menu in the MPLAB IDE.
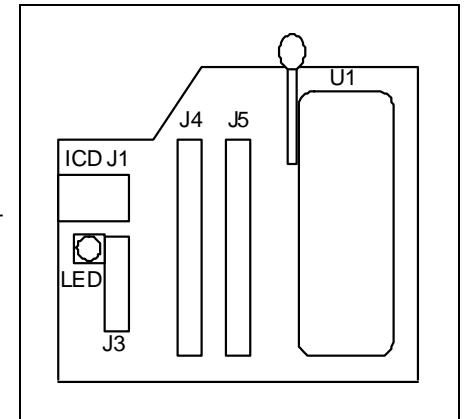
The UPM does not have a separate power source. Power is supplied to the UPM by the development tool in use. MPLAB ICD 2 uses a 9V DC power supply (AC162039). The MPLAB PM3 uses a 3V/5V DC power supply (ACICE0401).

Loading/Programming a Device

The ZIF socket (U1) will support up to 40-pin DIP packaged devices. Be sure power is removed prior to inserting the device into the ZIF socket. Also, the handle for the ZIF socket should be in the down position. The device should drop in with zero force. Insert the device so that the top is aligned with the top of the ZIF socket (i.e., pin 1 to pin 1). Once the device is inserted, raise the handle on the socket 90 degrees to the full locked position.

LED

The LED will illuminate whenever programming activity occurs.

Removing a Programmed Device

After MPLAB IDE or the MPLAB PM3 in Stand-Alone mode acknowledges that communication is complete, lower the arm (unlock) on the ZIF socket. The device should lift out without any resistance.

Resolving Programming/Connection Issues

This issue is caused by too much current drawn by the LED circuitry. To resolve it, remove the LED. You may also need to place a capacitor (0.1 uF to 10 uF) between V_{DD} and V_{SS}.

Important Notes

1. The UPM cannot program dsPIC® DSC devices except with MPLAB PM3.

2. The UPM does not have a jumper for low-voltage programming.

3. The ZIF Socket Handle must be in the Up (locked) position prior to programming the device or it will not program properly.

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