

PIC18F87K22 Plug-in Module for PICDEM™ PIC18 Explorer Board

Overview

The PIC18F87K22 Plug-in Module (PIM) is an accessory to the PICDEM™ PIC18 Explorer Board that allows users to easily experiment with the PIC18F87K22 family of microcontrollers. PIC18F87K22 is the superset member of the family and this PIM can be used to evaluate and develop with the PIC18F87K22 products. The PIM takes the place of the on-board PIC18F8722 device, and changes the output of the voltage regulator on the board to the proper voltage level for these parts. This enables users to quickly evaluate the new PIC18FK Flash devices without having to buy a completely new demo board.

Getting Started with the PIM

1. Make sure the on-board PIC18F87K22 is programmed to allow the $\overline{\text{MCLR}}$ Reset pin to function as a Reset pin. If the $\overline{\text{MCLR}}$ is configured to be used for general purpose I/O, the on-board PIC18F8722 may interfere with PIM usage, even when the board is switched to ICE mode.
2. Verify that the PICDEM PIC18 Explorer Board is not powered.
3. Set switch, S4, to the “ICE” position. This will hold the on-board PIC18F8722 in Reset, allowing the PIM to function instead.
4. Line up the PIM so its 3-pin female header aligns with the 3-pin riser on the PICDEM PIC18 Explorer Board, then plug the PIM into the demo board.
5. Apply power to the demo board. Be sure that V_{DD} is correct for the device being used (5V for PIC18F87K22). If it is not correct, disconnect power and check that the 3-pin female header is aligned properly with the demo board’s 3-pin riser.

Changes to PICDEM PIC18 Explorer Board Configuration

The difference of available I/O pins between the PICDEM PIC18 Explorer Board’s PIC18F8722 device and the PIM’s PIC18F87K22 device causes some changes in the operation of the PICDEM PIC18 Explorer Board.

1. Most I/O lines connected to the PICDEM PIC18 Explorer Board’s PICtail connector, J3/J5/J7/J11 silkscreen, will map 1:1 with PIC18F87K22 I/O pins.
2. Port I/O pin, RF0, will be left unconnected because this pin does not exist on the PIC18F87K22 devices.
3. The PIC18F87K22 can operate between 1.8V and 5V. The supplied voltage can be adjusted by populating the PIM board’s R101 and R102 resistors. For more detailed information on varying the device voltage, see “PICDEM™ PIC18 Explorer Demonstration Board User’s Guide”, Section 2.3.3 “Calculating Other VDD Values”.

Bootloader Firmware

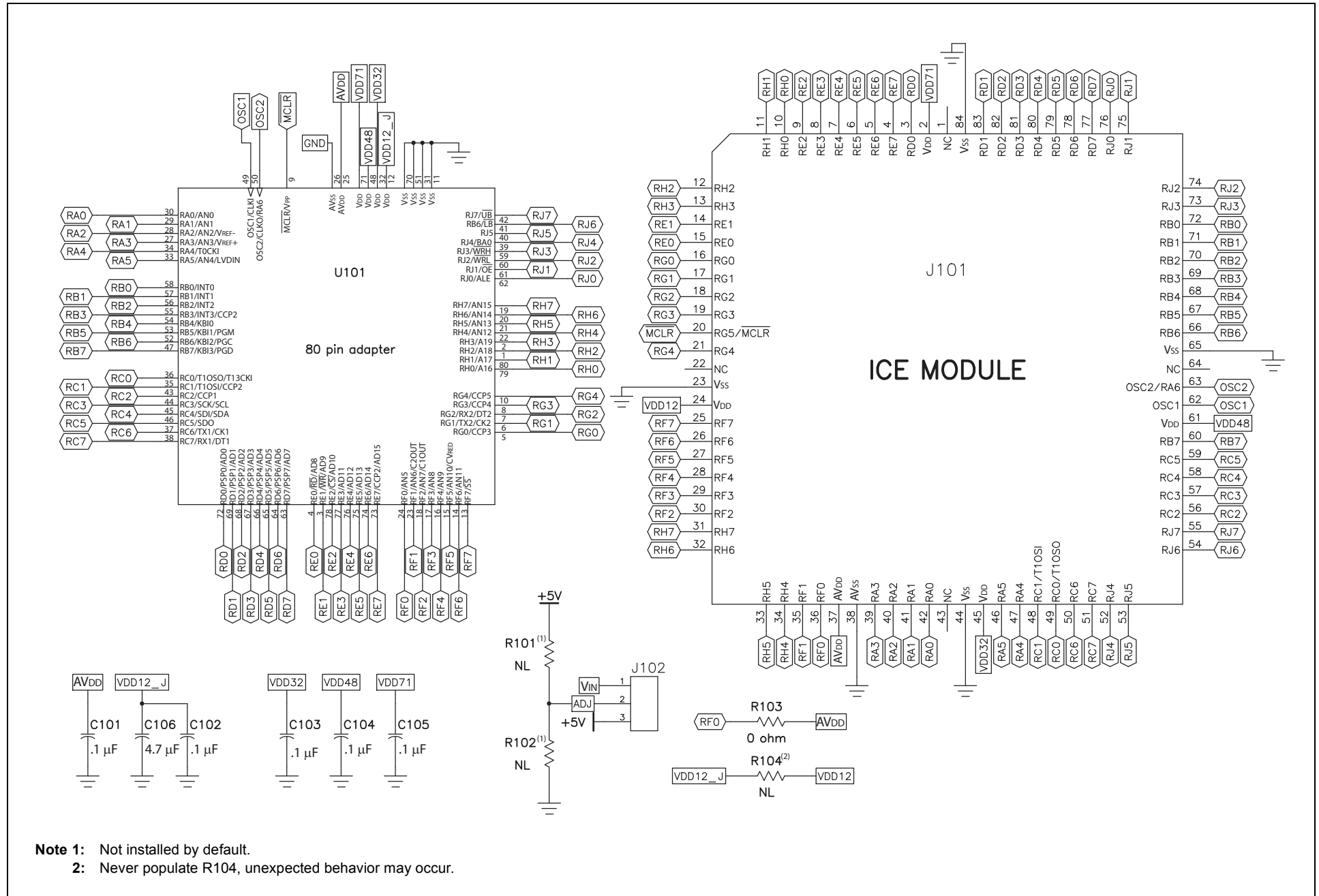
This PIM comes preprogrammed with firmware from the “High-Speed Serial Bootloader for PIC16 and PIC18 Devices” (AN1310), which can be used to reprogram the device without requiring a dedicated PIC® MCU programmer. The host software installation package and AN1310 application note documentation may be downloaded from the Microchip web site.

Demonstration Firmware

Additionally, the PIM is programmed with firmware demonstrating basic features on the PIC18 Explorer Board. The source for the PIC18F87K22 PIM demo code may be downloaded from the Microchip web site.

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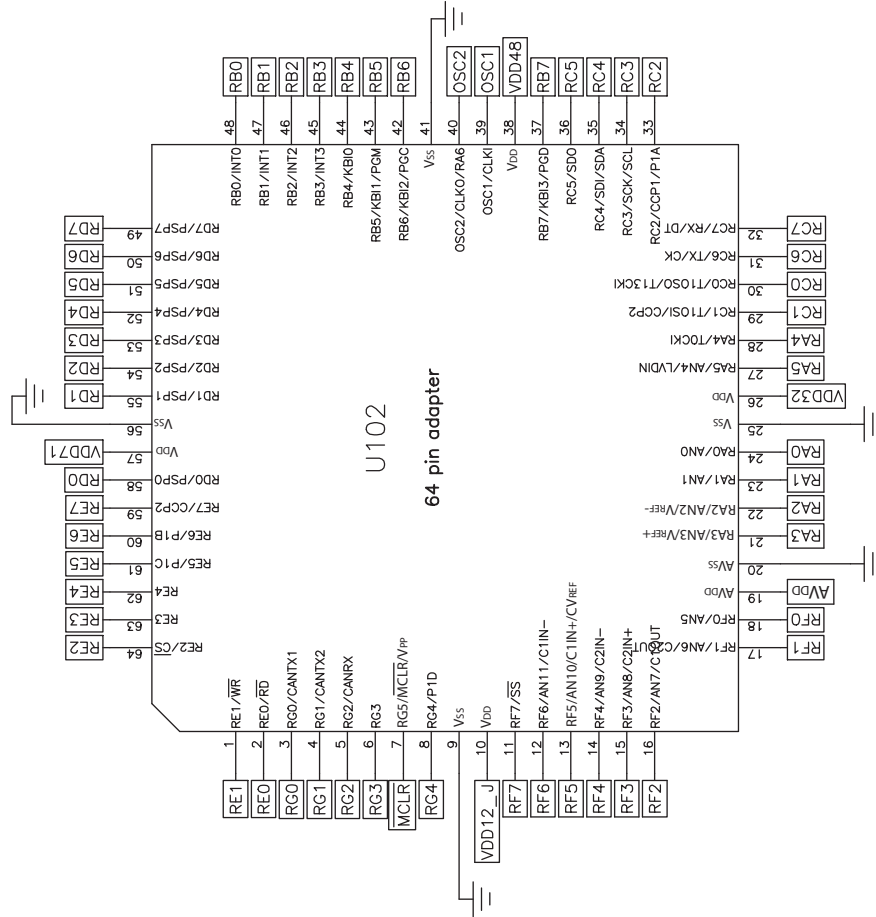
Board Schematic



- Note 1:** Not installed by default.
Note 2: Never populate R104, unexpected behavior may occur.

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Board Schematic



For More Information

The complete schematic and user's guide for the PICDEM PIC18 Explorer Board, as well as the data sheet for the PIC18F87K22 family of microcontrollers are available on the Microchip web site: <http://www.microchip.com/PIC18K>

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