

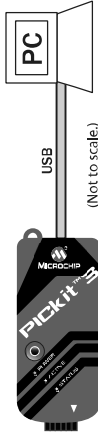
USING PICkit™ 3 IN-CIRCUIT DEBUGGER

1 Install the Latest Software

Install the MPLAB® IDE software onto your PC using the MPLAB IDE CD-ROM or download the software from the MPLAB IDE page of the Microchip web site (www.microchip.com/MPLAB). Check the latest Release Notes for additional information.

2 Configure PC USB Communications

Connect the PICkit™ 3 in-circuit development debugger/programmer to a PC USB port via a USB cable. PICkit 3 uses the standard HID USB Windows® driver. Note: If a USB hub is used, the hub must be powered with its own power supply.



3 Build Your Project

1. Launch MPLAB IDE.
2. Load your project or use the Project Wizard to create a new one.
3. Build your project based on your configurations and options.
4. Select the PICkit 3 as either a debugger (**Debugger>Select Tool>PICkit 3**) or as a programmer (**Programmer>Select Programmer>PICkit 3**).

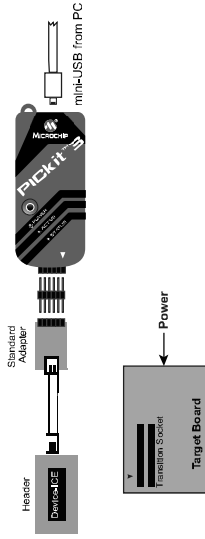
4 Connect to Target and Power

1. Attach the PICkit 3 to the PC using the USB cable, if not already.
2. Attach the communications cable between the debugger and target board.
3. Connect power to the target board.

Typical Debugger System – Device With On-Board ICE Circuitry:



Alternate Debugger System – ICE Device:

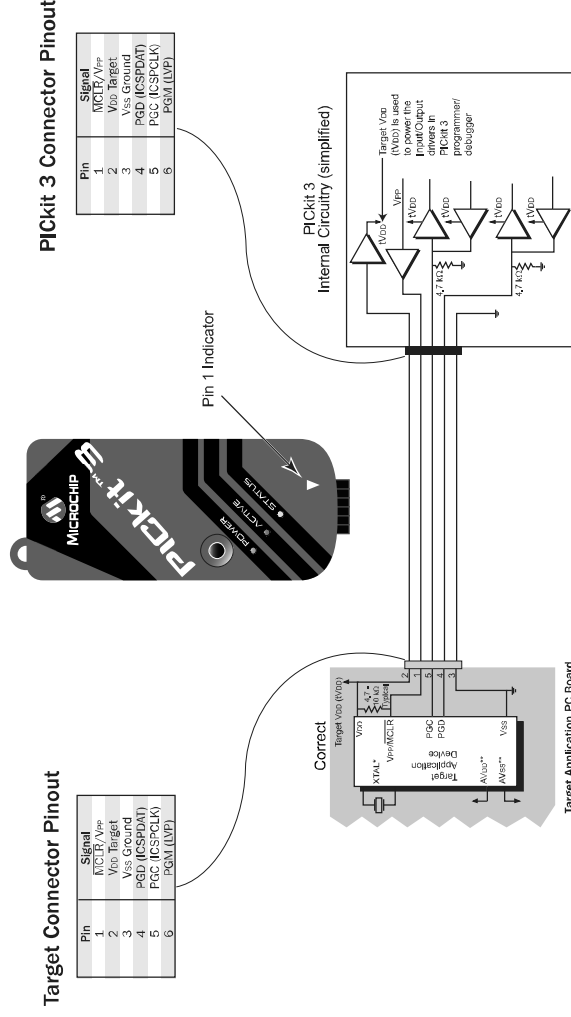


5 Program and Debug

1. Program your device.
 2. As a programmer, PICkit 3 will automatically run your code. As a debugger, you can run, halt, single step and set breakpoints in your code.
- Note: For information on reserved resources used by the debugger, see the PICkit 3 online help.

ADDITIONAL INFORMATION

Circuitry and Connector Pinouts



Target Circuit Design Precautions

- Do not use greater than 100 pF capacitance on VDD - depending on the overall load, it will prevent the target from powering quickly when PICkit 3 is the source of power.
- Do not use capacitors on MCLR - they will prevent first transitions of Vpp.
- Do not use pull-ups on PGC/PGD - they will divide the voltage levels since these lines have 4.7 kΩ pull-down resistors in PICkit 3.
- Do not use multiplexing on PGC/PGD - they are designed to communicate directly to PICkit 3.
- Do not use capacitors on PGC/PGD - they will prevent fast transitions on data and clock lines during programming and debug communications.
- Do not use diodes on PGC/PGD - they will prevent bidirectional communication between PICkit 3 and the target IC* MCLR.

Recommended Settings

COMPONENT	SETTING
Oscillator	• OSC bits set properly • Running
Power	Supplied by target
WDT	Disabled (device dependent)
Code Protect	Disabled
Table Read Protect	Disabled
LVP	Disabled
BOD	VDD > BOD VDD min
JTAG	Disabled
AVDD and AVSS	Must be connected
PGC/PGDx	Proper channel selected, if applicable
Programming	VDD voltage levels meet programming specs

Note: See the PICkit 3 User's Guide for more component and setting information.

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