

ICP06V1.0

- IBoard Mini

1. Introduction and overview

iCP06 offers unprecedented level of performance, reliability and scalability for Microchip PIC IO Kit solution. By the same time, it allows users to program their hex code into the well-known 28-Pin Flash PIC MCU by using commonplace ICSP (In-Circuit Serial Programming) connection method. The features of iCP06 are listed as followings.

- Small size, easy interfacing, high performance and user friendly device
- Used for programming the 28-Pin PIC16F722 Flash PIC MCU
- Excellent flexibility that allows user to expand the board with plug and play modules

iBoard Features:

- **NCP1117** - provide **+5V or +3.3V** voltage supply to PIC Microcontroller
- **20MHz crystal** - allow PIC run at maximum speed
- **On/Off button** - power on off switch
- **Green LED** - power on indicator
- **Screw Terminal** - direct wiring connection (battery connection)
- **VS1 and VS2** - different input power supply (PIC supply and external module supply)
- **ICSP Connector** - on-board PIC programming

Supported iBoard Modules:

- **iCM01** - 4 x LEDs Module
- **iCM02** - 8 x LEDs Module
- **iCM03** - 7 Segment Display
- **iCM05** - Blank IO Board
- **iCM07A** - 4x3 Keypad
- **iCM07B** - 4x4 Keypad
- **iCM16** - L293D Driver
- **iCM17** - ULN2003A Driver
- **iCM19** - External LCD Port
- iBoard Extension Cable
- **2x16 LCD Display** (Yellow Backlight)
- **4x20 LCD Display** (Yellow Backlight)

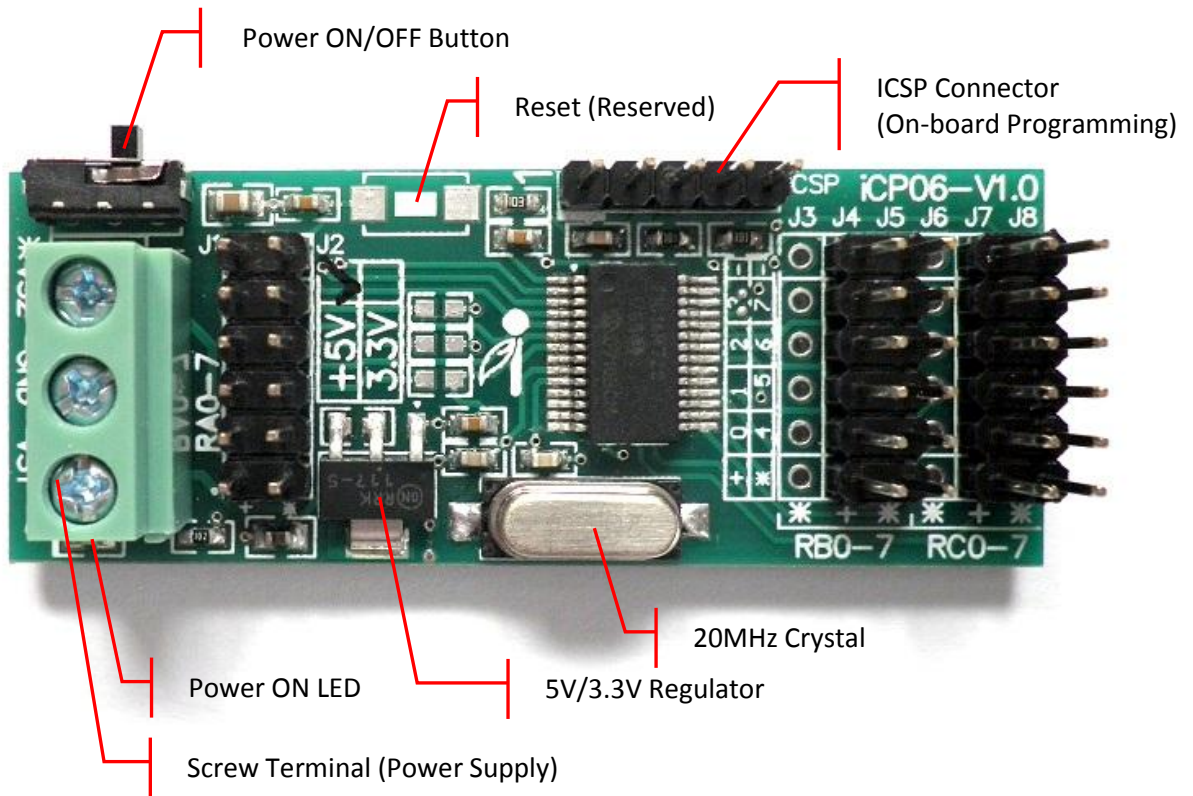
Peripheral Features:

- **IO Port** (VDD - IO1 - IO2 - IO3 - IO4 - GND) - 3 channels
- **IO Port** (VSS - IO1 - IO2 - IO3 - IO4 - GND) - 5 channels

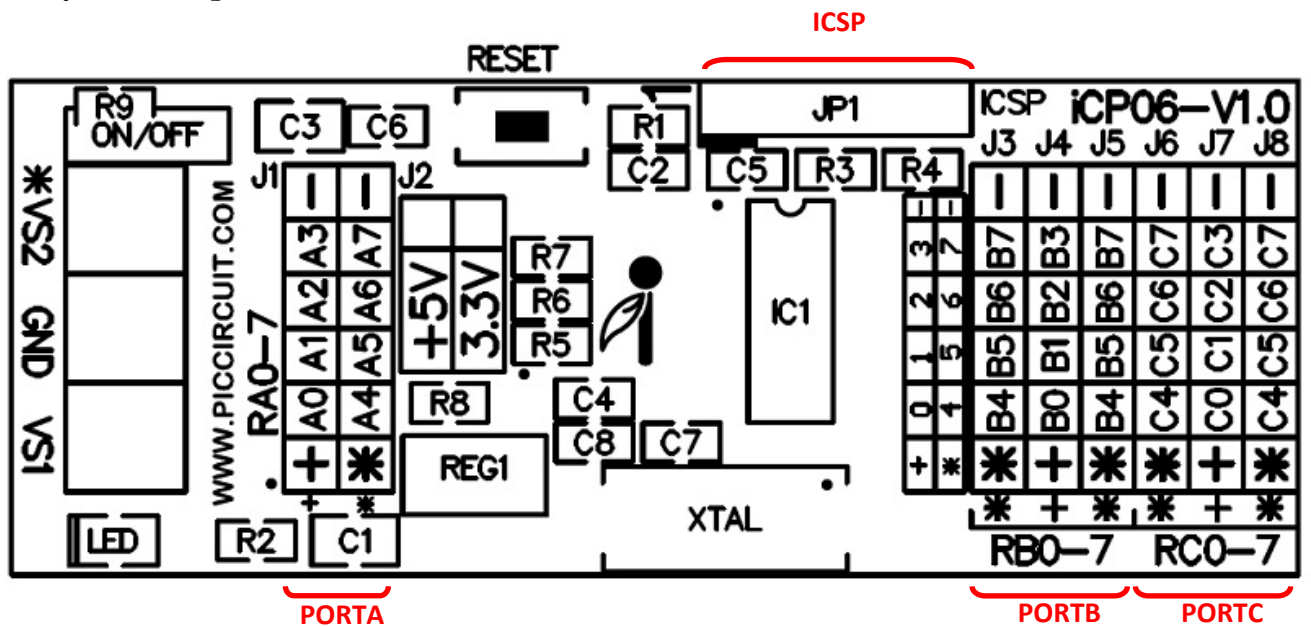
Dimension:

- Dimension: 6cm X 2.3cm X 1.1cm
- Standard 5x1 2.54mm Pin Socket for ICSP connection
- Standard 6x2 2.54mm Pin Socket for iBoard Module connection

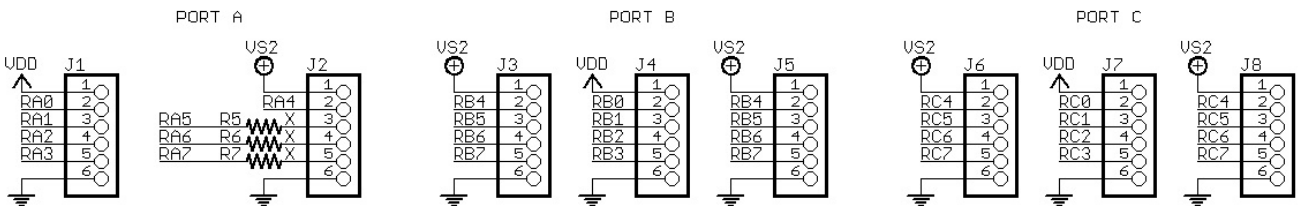
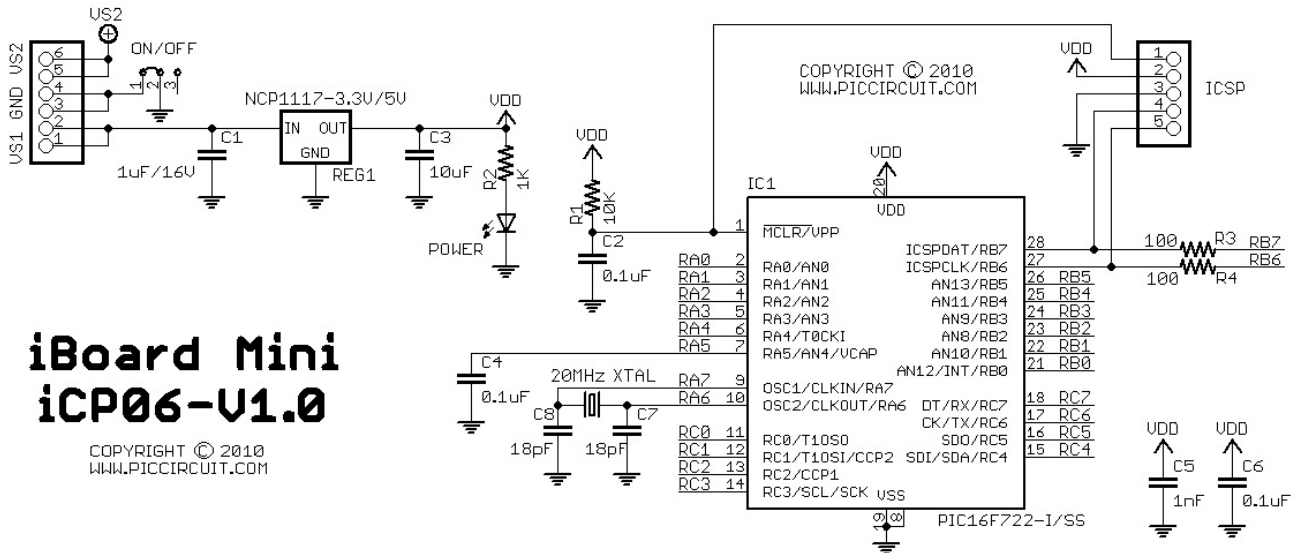
1.1 Layout



1.2 Layout Diagram



2. Schematic Diagram



3. Peripheral Connection

IO Port

Port	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Description
J1	+	A0	A1	A2	A3	-	Digital I/O
J2	*	A4	-	-	-	-	Digital I/O
J3	*	B4	B5	B6	B7	-	Digital I/O
J4	+	B0	B1	B2	B3	-	Digital I/O
J5	*	B4	B5	B6	B7	-	Digital I/O
J6	*	C4	C5	C6	C7	-	Digital I/O
J7	+	C0	C1	C2	C3	-	Digital I/O
J8	*	C4	C5	C6	C7	-	Digital I/O

Analog Port

Port	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Description
J1	+	A0/AN0	A1/AN1	A2/AN2	A3/AN3	-	Analog Input
J4	+	B0/AN12	B1/AN10	B2/AN8	B3/AN9	-	Analog Input
J3/J5	*	B4/AN11	B5/AN13			-	Analog Input

Communication Port

Port	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Description
J6/J8	*			C6/TX	C7/RX	-	USART Port
J7	+			C2/SS	C3/SCK	-	SPI Port
J6/J8	*	C4/SDI	C5/SDO			-	
J7	+				C3/SCL	-	I2C Port
J6/J8	*	C4/SDA				-	

Motor Driver Port

Port	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Description
J7	+	C0	C1	C2	C3	-	Stepper Motor
J6/J8	*	C4	C5	C6	C7	-	
J7	+	C0	C1/PWM2	C2/PWM1	C3	-	DC Motor
J6/J8	*	C4	C5			-	

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