ARDUINO

VIN
GND

D19/SCL | PC5 | SCL
D18/SDA | PC4 | SDA
AREF
GND
D13 | PB5 | SCK
D12 | PB4 | CIPO
~D11 | PB3 | COPI
~D10 | PB2 | SS
~D9 | PB1
D8 | PB0

NC
IOREF
PC6 | RESET
+3V3
+5V
GND
GND
VIN

D7 | PD7
~D6 | PD6
~D5 | PD5
D4 | PD4
~D3 | PD3
D2 | PD2
D1/TX | PD1
D0/RX | PD0

ADC[0] | PC0 | A0 | D14
ADC[1] | PC1 | A1 | D15
ADC[2] | PC2 | A2 | D16
ADC[3] | PC3 | A3 | D17
ADC[4] | PC4 | A4 | D18
ADC[5] | PC5 | A5 | D19

LED_BUILTIN | PB5
Power
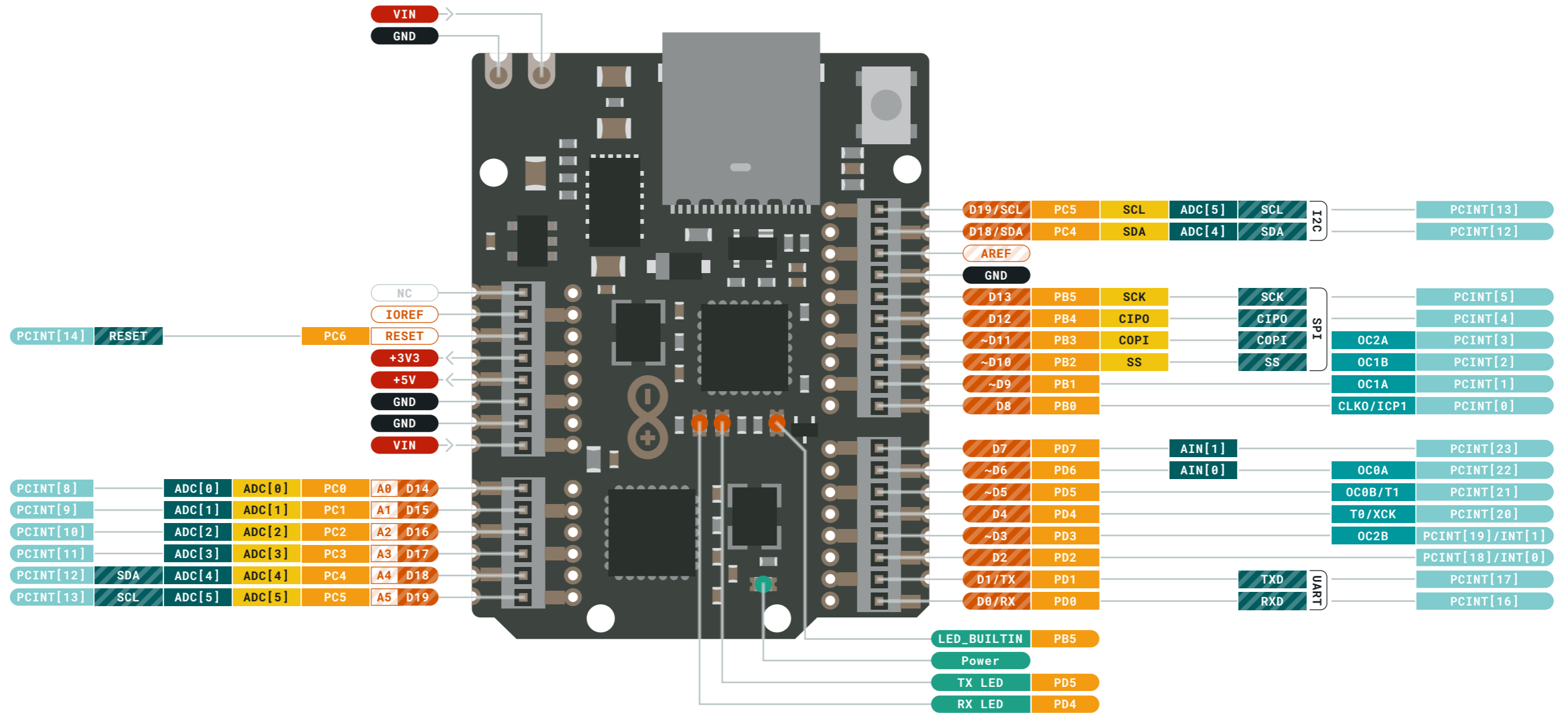TX LED | PD5
RX LED | PD4

Legend:

- Ground
- Power
- LED
- Internal Pin
- SWD Pin
- Digital Pin
- Analog Pin
- Other Pin
- Microcontroller's Port
- Default

⚠ **MAXIMUM** current per I/O pin is 20mA

⚠ **MAXIMUM** current per +3.3V pin is 500mA
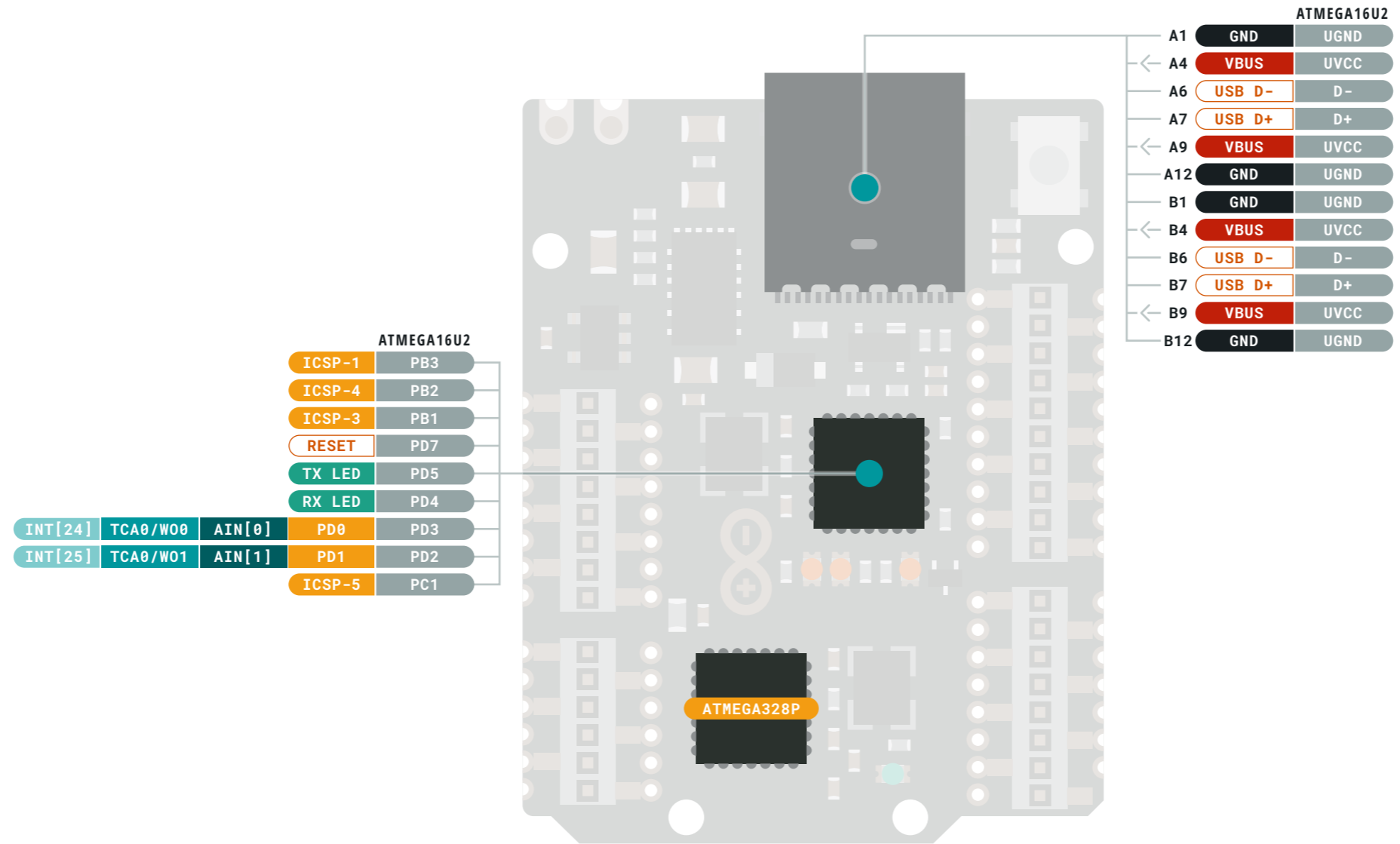
VIN 6-20 V input to the board.

ARDUINO

VIN
GND

D19/SCL	PC5	SCL	ADC[5]	SCL	I2C		PCINT[13]
D18/SDA	PC4	SDA	ADC[4]	SDA			PCINT[12]
AREF							
GND							
D13	PB5	SCK		SCK			PCINT[5]
D12	PB4	CIPO		CIPO	SPI		PCINT[4]
~D11	PB3	COPI		COPI		OC2A	PCINT[3]
~D10	PB2	SS		SS		OC1B	PCINT[2]
~D9	PB1					OC1A	PCINT[1]
D8	PB0					CLKO/ICP1	PCINT[0]

| PCINT[14] | RESET | | PC6 | RESET |
| | | | | |

NC
IOREF
+3V3
+5V
GND
GND
VIN

D7	PD7	AIN[1]		PCINT[23]
~D6	PD6	AIN[0]	OC0A	PCINT[22]
~D5	PD5		OC0B/T1	PCINT[21]
D4	PD4		T0/XCK	PCINT[20]
~D3	PD3		OC2B	PCINT[19]/INT[1]
D2	PD2			PCINT[18]/INT[0]
D1/TX	PD1		TXD	UART	PCINT[17]
D0/RX	PD0		RXD		PCINT[16]

PCINT[8]		ADC[0]	ADC[0]	PC0	A0	D14
PCINT[9]		ADC[1]	ADC[1]	PC1	A1	D15
PCINT[10]		ADC[2]	ADC[2]	PC2	A2	D16
PCINT[11]		ADC[3]	ADC[3]	PC3	A3	D17
PCINT[12]	SDA	ADC[4]	ADC[4]	PC4	A4	D18
PCINT[13]	SCL	ADC[5]	ADC[5]	PC5	A5	D19

LED_BUILTIN	PB5
Power	
TX LED	PD5
RX LED	PD4

Ground

Power

LED

Internal Pin

SWD Pin

Digital Pin

Analog Pin

Other Pin

Microcontroller's Port

Default

Analog

Communication

Timer

Interrupt

Sercom

⚠ **MAXIMUM** current per I/O pin is 20mA

⚠ **MAXIMUM** current per +3.3V pin is 500mA
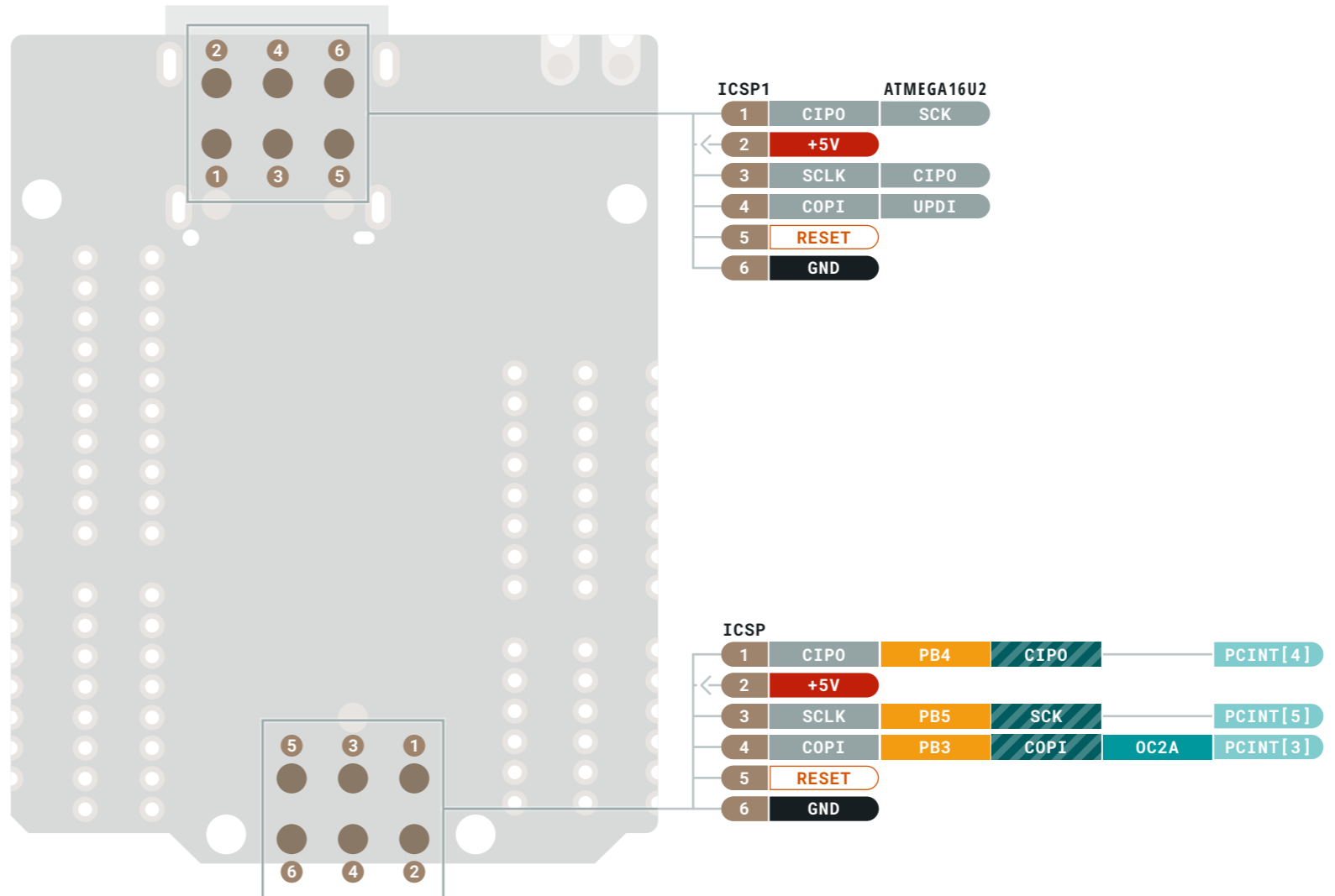
VIN 6-20 V input to the board.

ARDUINO

ATMEGA16U2

A1	GND	UGND
A4	VBUS	UVCC
A6	USB D-	D-
A7	USB D+	D+
A9	VBUS	UVCC
A12	GND	UGND
B1	GND	UGND
B4	VBUS	UVCC
B6	USB D-	D-
B7	USB D+	D+
B9	VBUS	UVCC
B12	GND	UGND

ATMEGA16U2

ICSP-1	PB3
ICSP-4	PB2
ICSP-3	PB1
RESET	PD7
TX LED	PD5
RX LED	PD4
INT[24]	TCA0/WO0	AIN[0]	PD0	PD3
INT[25]	TCA0/WO1	AIN[1]	PD1	PD2
ICSP-5	PC1

ATMEGA328P

Legend

- ■ Ground
- ■ Power
- ■ LED
- ■ Internal Pin
- ■ SWD Pin
- ▨ Digital Pin
- ▢ Analog Pin
- ▢ Other Pin
- ■ Microcontroller's Port
- ■ Default
- ■ Analog
- ▨ Communication
- ■ Timer
- ■ Interrupt
- ▢ Sercom

⚠ **MAXIMUM** current per I/O pin is 20mA

⚠ **MAXIMUM** current per +3.3V pin is 500mA

VIN 6-20 V input to the board.

BOTTOM

ICSP1 **ATMEGA16U2**

1	CIPO	SCK
2	+5V	
3	SCLK	CIPO
4	COPI	UPDI
5	RESET	
6	GND	

ICSP

1	CIPO	PB4	CIPO		PCINT[4]
2	+5V				
3	SCLK	PB5	SCK		PCINT[5]
4	COPI	PB3	COPI	OC2A	PCINT[3]
5	RESET				
6	GND				

Legend

- ■ Ground
- ■ Power
- ■ LED
- ■ Internal Pin
- ■ SWD Pin
- ▨ Digital Pin
- ▧ Analog Pin
- ▢ Other Pin
- ■ Microcontroller's Port
- ■ Default
- ■ Analog
- ▨ Communication
- ■ Timer
- ■ Interrupt
- ▢ Sercom

⚠ **MAXIMUM** current per I/O pin is 20mA

⚠ **MAXIMUM** current per +3.3V pin is 500mA

VIN 6-20 V input to the board.