ARDUINO

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
TX LED	PD5
RX LED	PD4

| Power |

Ground
Power
LED
Internal Pin
SWD Pin

Digital Pin
Analog Pin
Other Pin
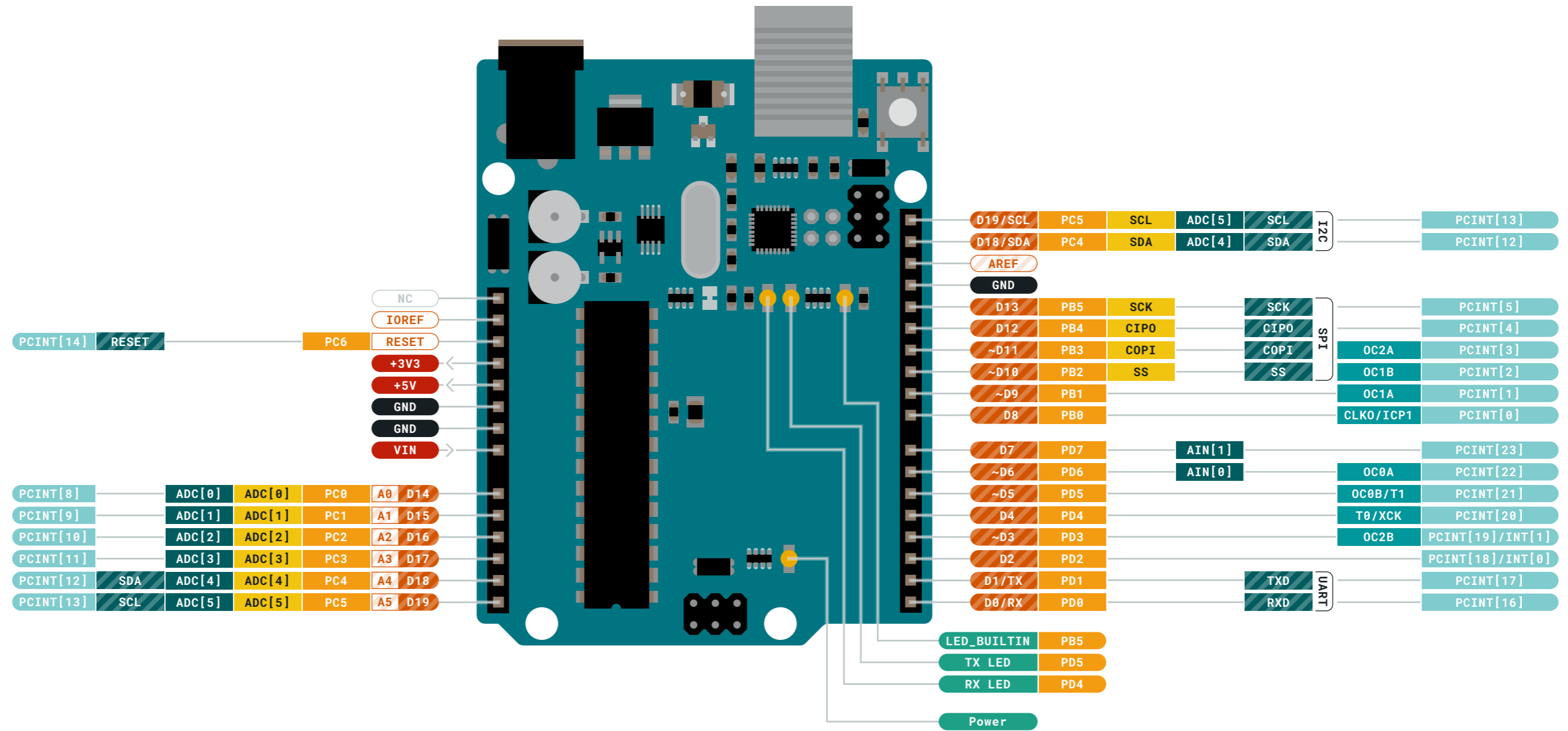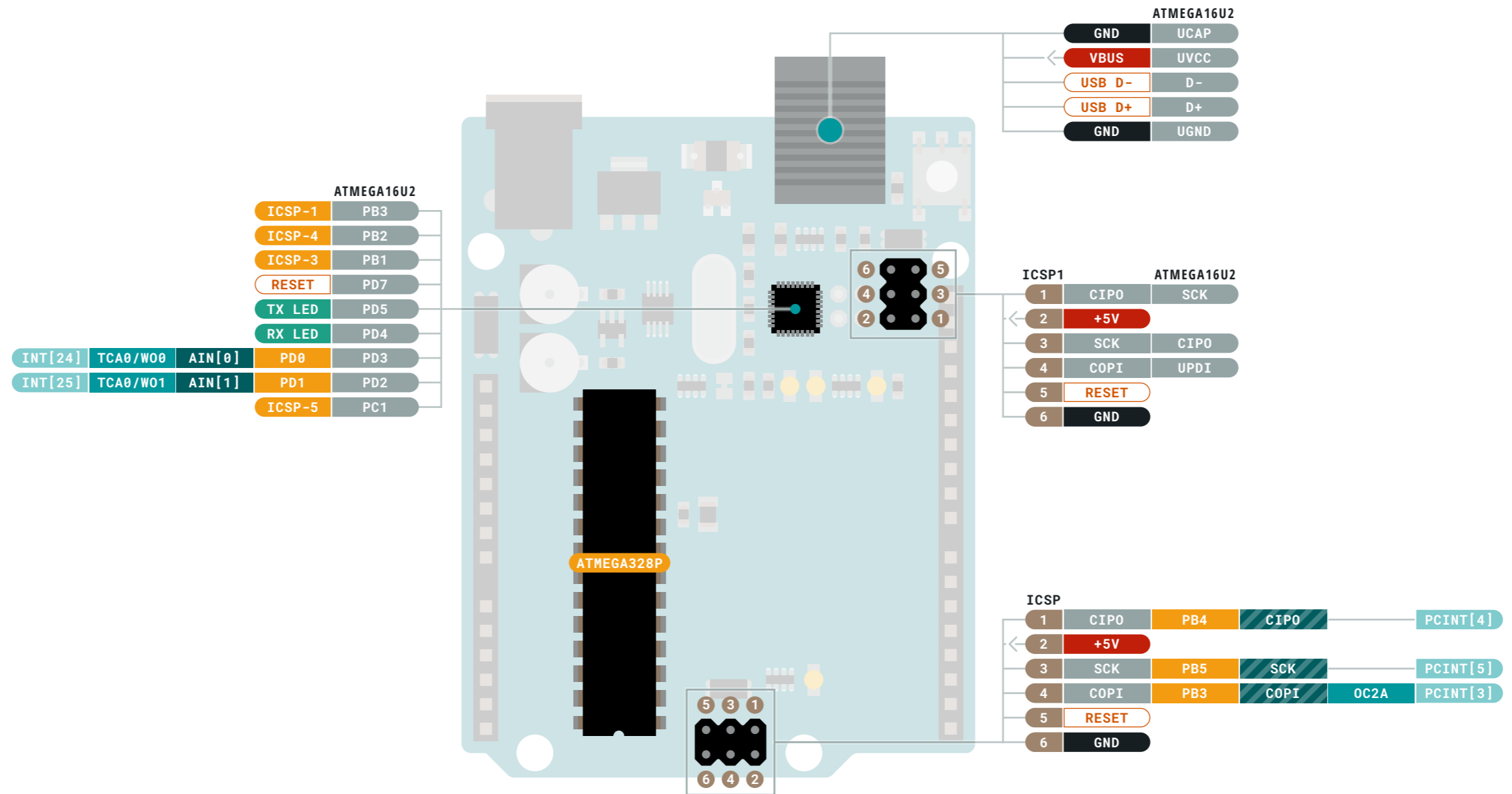**Microcontroller's Port**
Default

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

⚠ **MAXIMUM** current per +3.3V pin is 50mA

VIN 6-20 V input to the board.

NOTE: CIPO/COPI have previously been referred to as MISO/MOSI

ARDUINO

| 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]

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]

| NC |
| IOREF |

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

| +3V3 |
| +5V |
| GND |
| GND |
| VIN |

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
TX LED	PD5
RX LED	PD4

| Power |

Legend

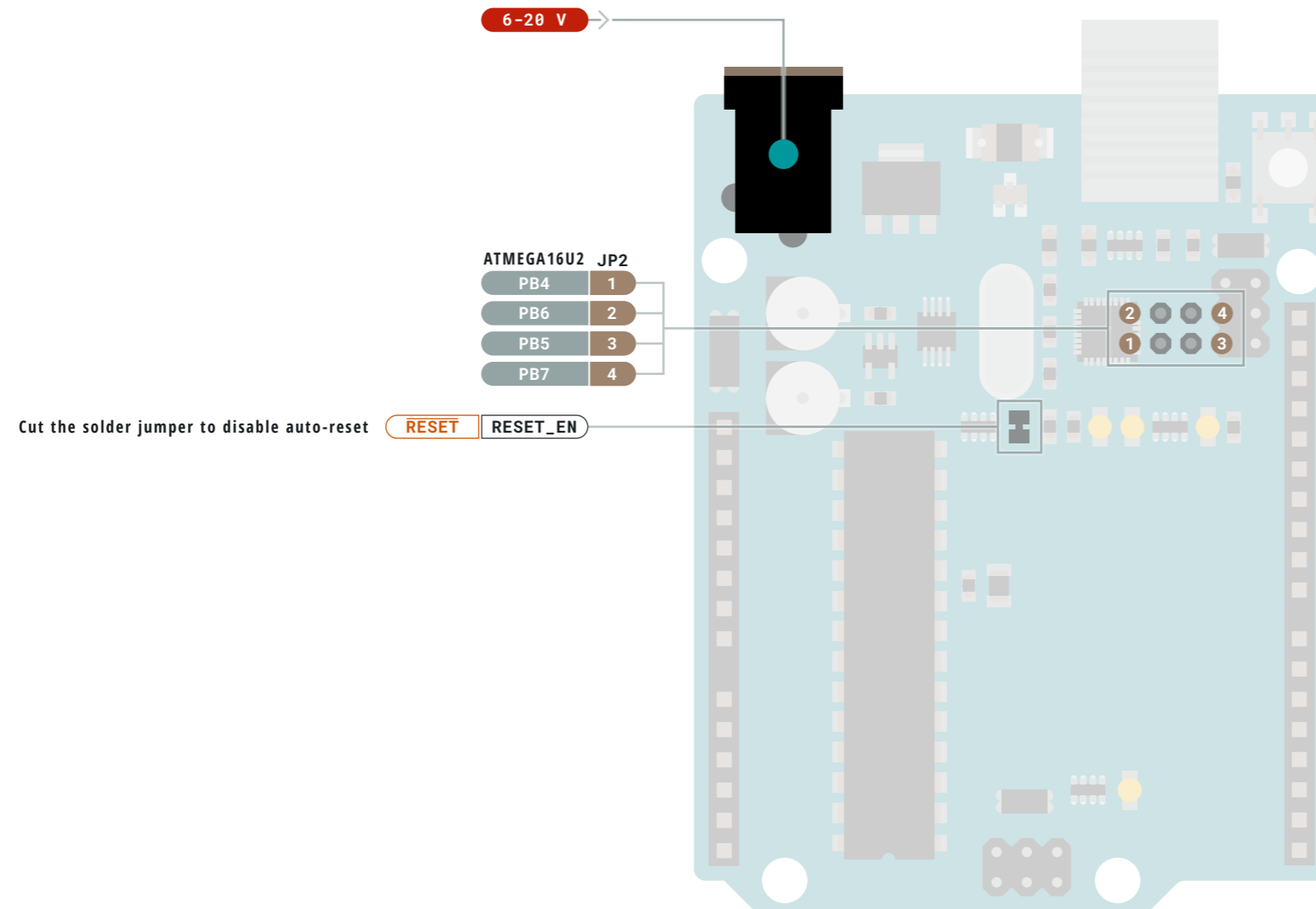| Ground | Digital Pin | Analog |
Power	Analog Pin	Communication
LED	Other Pin	Timer
Internal Pin	Microcontroller's Port	Interrupt
SWD Pin	Default	Sercom

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

⚠ **MAXIMUM** current per +3.3V pin is 50mA

VIN 6-20 V input to the board.

NOTE: CIPO/COPI have previously been referred to as MISO/MOSI

ATMEGA16U2

GND	UCAP
VBUS	UVCC
USB D-	D-
USB D+	D+
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

ICSP1 · ATMEGA16U2

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

ATMEGA328P

ICSP

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

■	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 50mA

VIN 6-20 V input to the board.

NOTE: CIPO/COPI have previously been referred to as MISO/MOSI

6-20 V

ATMEGA16U2 **JP2**

PB4	1
PB6	2
PB5	3
PB7	4

Cut the solder jumper to disable auto-reset   RESET   RESET_EN

Ground

Power

LED

Internal Pin

SWD Pin

Digital Pin

Analog Pin

Other Pin

Microcontroller's Port

Default

SJ Pin
Making a short circuit
using the solder jumper
allows only the function
in the SJ Pin cells.

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

⚠ **MAXIMUM** current per +3.3V
pin is 50mA

VIN 6-20 V input to the board.