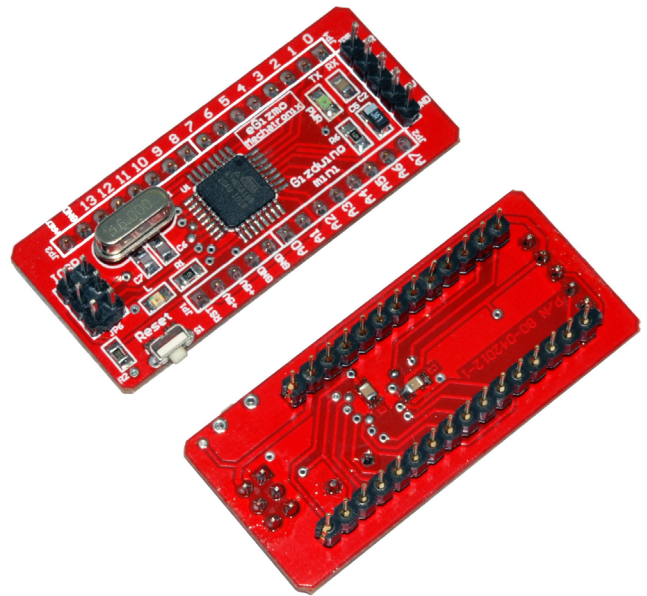


# gizDuino Mini

The gizDuino mini series carry the same controllers as the gizDuino series (Arduino compatible). All are preloaded with Arduino optiboot bootloader, hence, program development can be carried out using the Arduino IDE and all its libraries. It is essentially an Arduino compatible board stripped off its USB port.

On board is a reset push switch, a 16MHz (8MHz for atmega8L) crystal, led status indicator, and Arduino and ICSP programming port. The ICSP allows advance user to develop their programs using more advance development tools, such as AVR Studio and winAVR.gizDuino mini328 - ATMEGA328

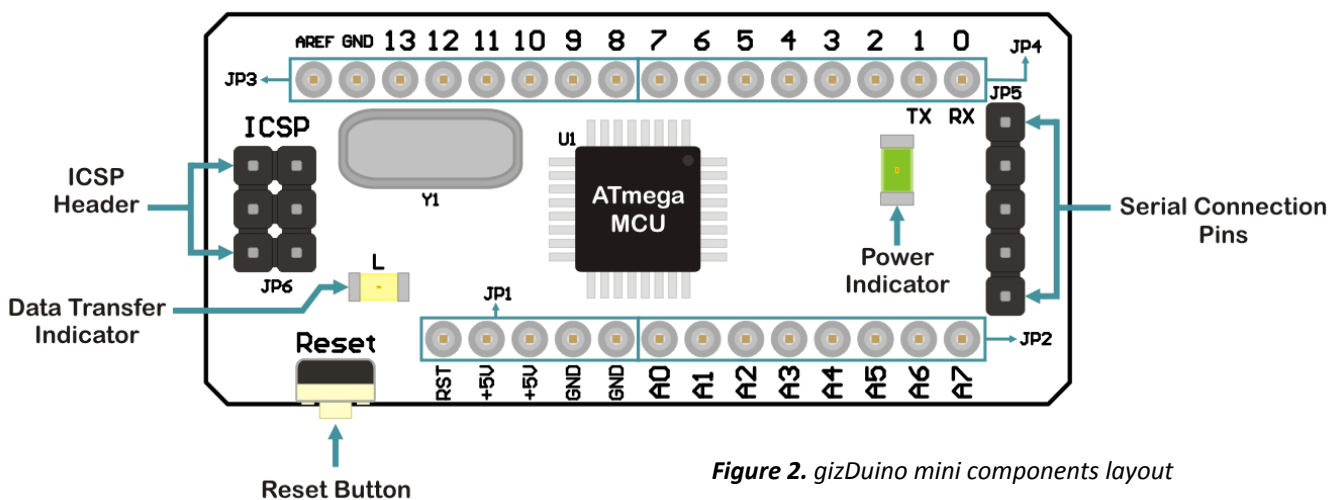
The pins are arranged in standard 600 mils wide DIP pin spacing, making them workable with breadboards and PCB prototyping board. gizDuino minis are cost effective microcontroller platform for quick deployment to applications where USB connectivity is not needed.



**Figure 1.** gizDuino minis are small size microcontroller platform preloaded with Arduino optiboot bootloader.

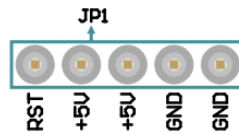
**Table 1:** Microcontroller variant's details

Device	Flash memory	EEPROM	RAM	Speed	Boot loader
ATMEGA 8L	8K bytes	512 bytes	1K byte	8MHz	Optiboot
ATMEGA88	8K bytes	512 bytes	1K byte	16MHz	Optiboot
ATMEGA168	16K bytes	512 bytes	1K byte	16MHz	Optiboot
ATMEGA328	32K bytes	1K bytes	2K bytes	16MHz	Optiboot



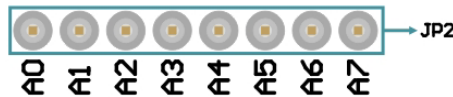
**Figure 2.** gizDuino mini components layout

# Pin Description



**Table 2:** JP1 Power and Reset Input Port.

Pin I.D.	Arduino Designation	IC Pin	IC Pin Function
RST	Reset.	29	RESET
+5V	5V Device Power Supply IN	4	VCC
+5V	5V Device Power Supply IN	6	VCC
GND	Ground.	3	GND
GND	Ground.	5	GND



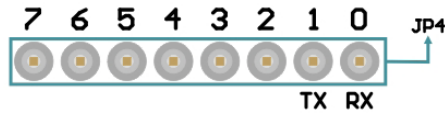
**Table 3:** Arduino assignment Analog Input/Digital I/O port.

Pin I.D.	Arduino Designation	IC Pin	IC Pin Function
A0	Analog/Digital I/O 0	23	(ADC0)PC0
A1	Analog/Digital I/O 1	24	(ADC1)PC1
A2	Analog/Digital I/O 2	25	(ADC2)PC2
A3	Analog/Digital I/O 3	26	(ADC3)PC3
A4	Analog/Digital I/O 4	27	(ADC4)PC4
A5	Analog/Digital I/O 5	28	(ADC5)PC5
A6	Analog/Digital I/O 6	19	ADC6
A7	Analog/Digital I/O 7	22	ADC7



**Table 4:** Arduino assignment Digital I/O and PWM port.

Pin I.D.	Arduino Designation	IC Pin	IC Pin Function
AREF	analog reference pin for the A/D Converter.	20	AREF
GND	Ground.	-	-
13	Digital I/O	17	(SCK)PB5
12	Digital I/O	16	(MISO)PB4
11	PWM OUT	15	(MOSI)PB3
10	PWM OUT / Digital I/O	14	(SS)PB2
9	PWM OUT / Digital I/O	13	(OC1)PB1
8	Digital I/O	12	(ICP)PB0

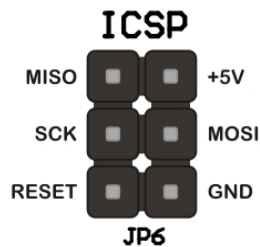


**Table 5:** Arduino assignment Digital I/O and PWM port.

Pin I.D.	Arduino Designation	IC Pin	IC Pin Function
7	Digital I/O	11	(AIN1)PD7
6	PWM OUT / Digital I/O	10	(AIN0)PD6
5	PWM OUT / Digital I/O	9	(T1)PD5
4	Digital I/O	2	(T0)PD4
3	PWM OUT / Digital I/O	1	(INT1)PD3
2	Digital I/O	32	(INT0)PD2
1	TX / Digital I/O	31	(TXD)PD1
0	RX / Digital I/O	30	(RXD)PD0

**Table 6:** Arduino IDE programming port.

Pin I.D.	Arduino Designation	IC Pin	IC Pin Function
DTR	Data Terminal Ready	-	-
TX	TX / Digital I/O	31	(TXD)PD1
RX	RX / Digital I/O	30	(RXD)PD0
+5V	+5V device power supply	18	AVCC
GND	Ground	21	AGND

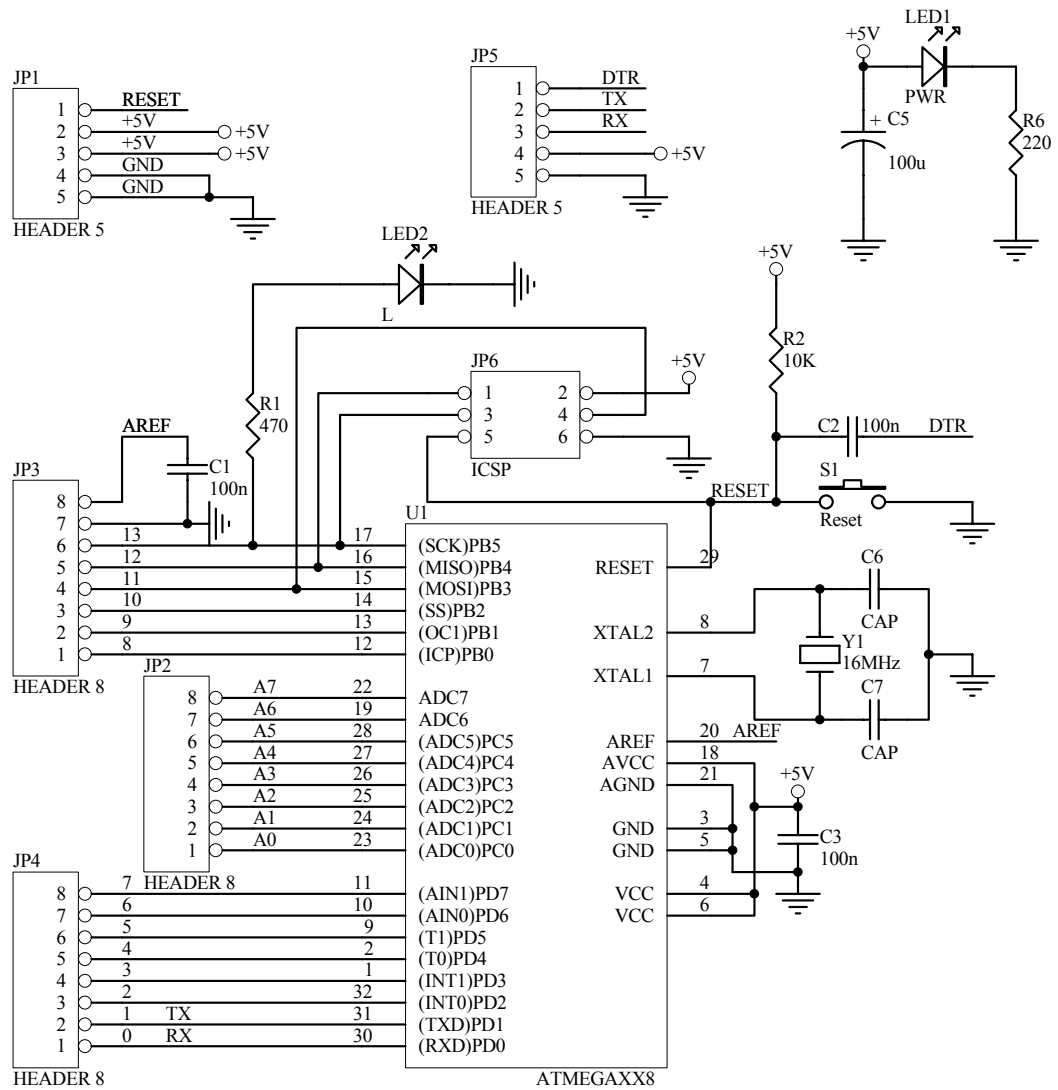


**Table 7:** ICSP Programming ports

Pin I.D.	Arduino Designation	IC Pin	IC Pin Function
MISO	MISO	(MISO)PB4	(SPI Bus Master Input/ Slave Output
SCK	SCK	(SCK)PB5	SPI Bus Master clock Input
RESET	RESET	RESET	Reset
+5V	+5V	VCC	Digital supply voltage
MOSI	MOSI	(MOSI)PB3	SPI Bus Master Output/Slave Input
GND	GND	Gnd	Ground



# Schematic Diagram



# PCB Board Presentation

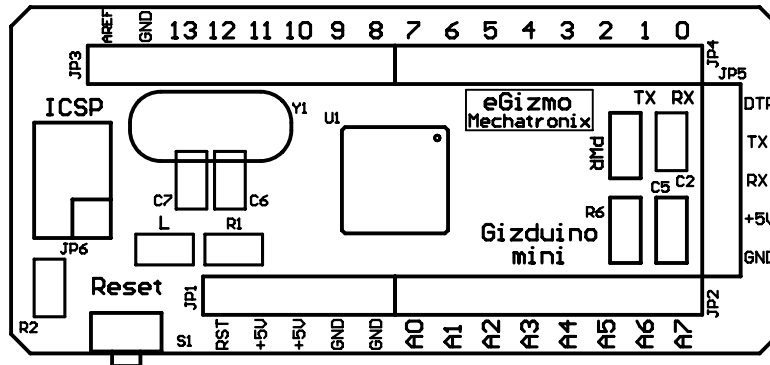


Figure 5. gizduino Mini (Silk Screen Layout)

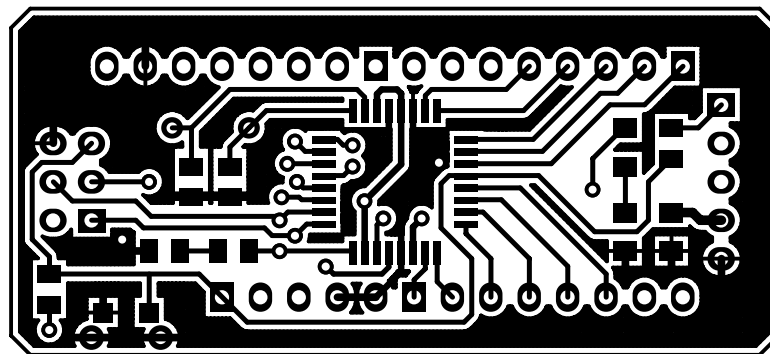


Figure 6. gizduino Mini  
(Copper Pattern Top Layer)

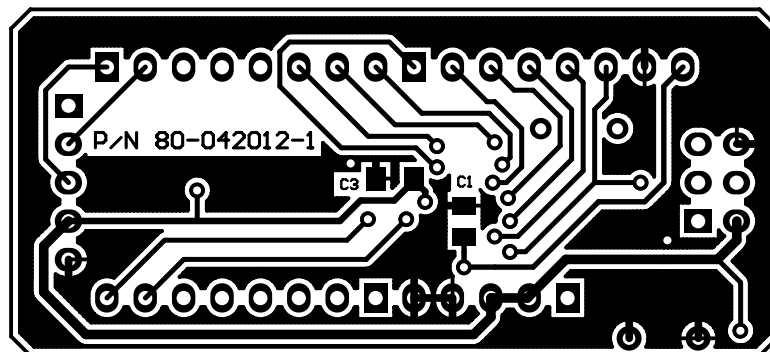


Figure 7. gizduino Mini  
(Copper Pattern Bottom Layer)