CKB0004 COKOINO Active Buzzer Module

1、Overview

The CKB0002 active buzzer module is mainly composed of an active buzzer. It is an integrated structure electronic sounder that is powered by a DC power supply. After the module is connected to the power supply, the buzzer will sound when a high level signal is directly input to the signal terminal. The module comes with two 3mm positioning holes for you to fix the module to other devices.

2、Specification

Working voltage: 3-5V (DC)
Interface: XH2.54-3P
Input signal: digital signal
Maximum current: ≦30mA/5VDC
Minimum sound pressure: ≧85db/10cm
Resonant frequency: 2500±300Hz
Working temperature: -20 ° C to +70 ° C

3、Pins

GND: Connect the negative pole of the power supply
VCC: Connect the positive pole of the power supply
S: digital signal input

4、The working principle of the buzzer

4.1 Structural principle

The voltage buzzer is mainly composed of a multivibrator, a piezoelectric buzzer, an impedance matching device, a resonance box, a casing, etc.

The multivibrator is composed of a transistor or an integrated circuit. When the power is turned on (1.5~15V DC working voltage), the multivibrator starts to oscillate and outputs an audio signal of 1.5~2.5kHZ, and the impedance matching device pushes the piezoelectric buzzer to sound.

The piezoelectric buzzer is made of lead zirconate titanate or lead magnesium niobate piezoelectric ceramic material. Silver electrodes are plated on both sides of the ceramic sheet, and after polarization and aging treatment, they are adhered to the brass sheet or the stainless steel sheet.

The electromagnetic buzzer consists of an oscillator, an electromagnetic coil, a magnet, a diaphragm, and a casing.

After the power is turned on, the audio signal current generated by the oscillator passes through the electromagnetic coil, causing the electromagnetic coil to generate a magnetic field. The vibrating diaphragm periodically vibrates to make a sound under the interaction of the electromagnetic coil and the magnet.

4.2 The principle of the buzzer to make a sound

The sounding device of the buzzer is composed of a vibration device and a resonance device, and the buzzer is further divided into a passive type and a source type.

The working principle of the passive excitation buzzer is: the square wave signal input resonance device is converted into a sound signal output.

The working sounding principle derived from the exciting buzzer is: the DC power input through the oscillating system's amplification sampling circuit generates an acoustic signal under the action of the resonant device.

4.Wiring

UNO R3	Buzzer module
GND	G
VCC	V
3	S

5、Test code

```
int buzzPin = 3;                          //Define the number port 3
void setup(){
      pinMode(buzzPin, OUTPUT);       //Set buzzPin to output mode
}
void loop(){
      digitalWrite(buzzPin, HIGH); //The active buzzer sounds
      delay(2000);                          //delay 2S
      digitalWrite(buzzPin, LOW);    //Active buzzer off
      delay(2000);                          //delay 2S
  }
```

6、Test Result

The active buzzer only needs to receive a high level voltage to sound. Connected with UNO, upload the code, after power-on, the active buzzer sounds 2S, mute 2S, and the cycle alternates.

8、Principle