Product Introduction:

The levator operates at a frequency of 40KHZ in the air, and can capture lightweight objects with a density diameter of 2-3MM, such as foam balls, ants and other small items in the air for a long time to be stably suspended, and the main board is slightly hot. The circuit is mainly composed of a single chip microcomputer,a driver chip and two ultrasonic transmitting heads. It is mainly used to learn about ultrasonic standing wave suspension.

How it works:

Ultrasonic standing wave suspension is through the ultrasonic transmitting end and the transmitting end (or another transmitting end) there is a certain distance (called the resonator distance), the emitted wave and the reflected wave (or another sound wave) are constantly superimposed, and finally form a standing wave, and the acoustic force received by the object at the standing wave node overcomes the effect of gravity, and finally achieves the effect of suspension.

Hold the small foam ball with tweezers, gently place the foam ball between the two ultrasonic probes, and the foam ball will be suspended.

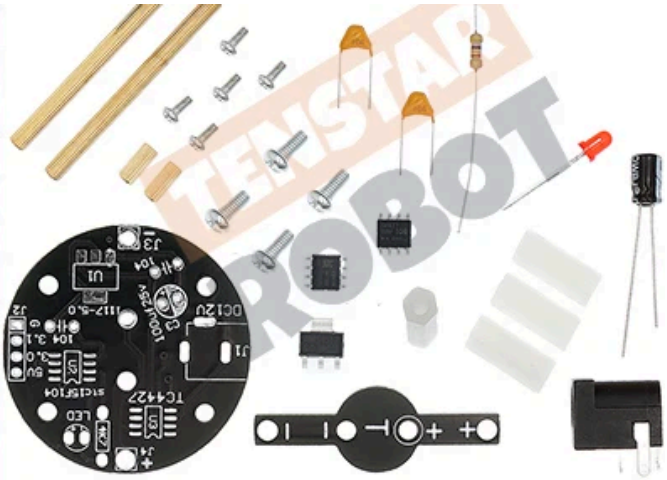
Product parameters:

Power input: DC 12V (0.5-1A)
Dimensions: 44 mm *40 mm *66 mm
Product weight: 23g

DIY kit List:

PCB	2
Ultrasonic transmitting probe T	2
M2x4 screws	5
M2x7 copper column	2
M2x20+3 copper column	2

M2x39+3 copper column	2
M3x6 screws	5
M3x15 nylon column	4
Capacitance 25V100uf	1
DC005 socket	1
104 monolithic capacitors	1
4.7K resistance	1
3mm red LED	1
AMS1117-5.0 chip	1
TC4427 chip	1
STC15F104W chip (already programmed)	1

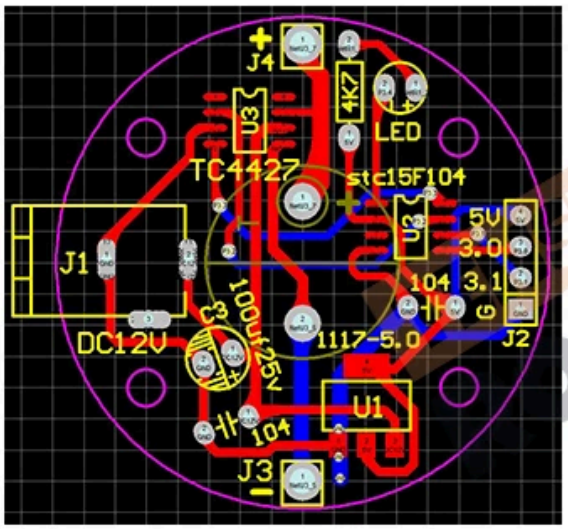


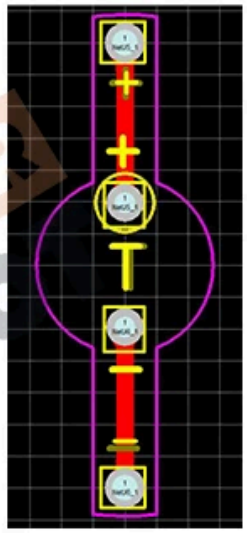
Note:

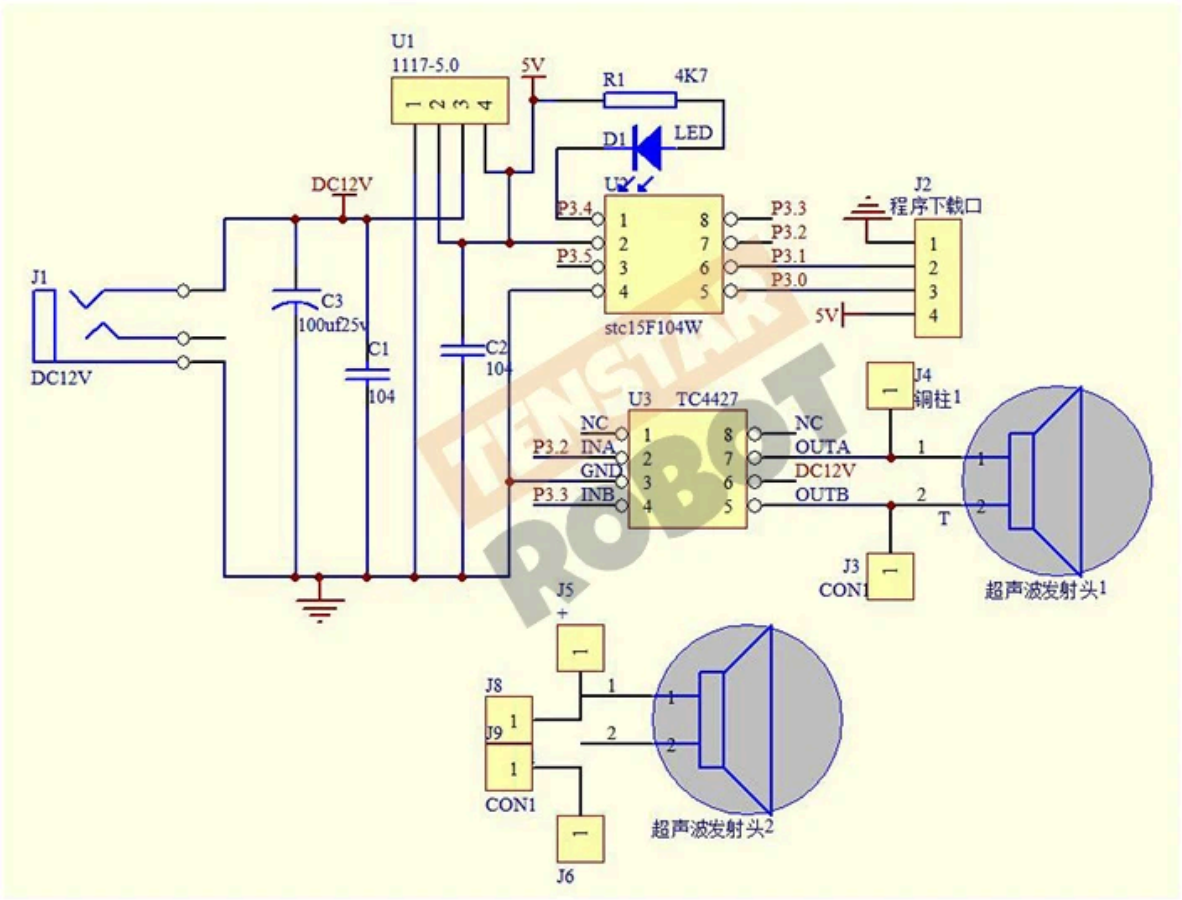
1, The chip, capacitor direction and model, pay attention to distinguish.

2, ultrasonic transmitting head is relatively fragile, afraid of vibration, so try to avoid falling and so on. After the probe is welded, the pin can not be cut, if you want to cut please do not cut at one time, because a one-time cut the pin, the probe is prone to relatively large vibration. Please use diagonal pliers to cut slightly, and then shake from side to side to break off, so as to best protect the ultrasonic transmitting head.

Circuit diagram

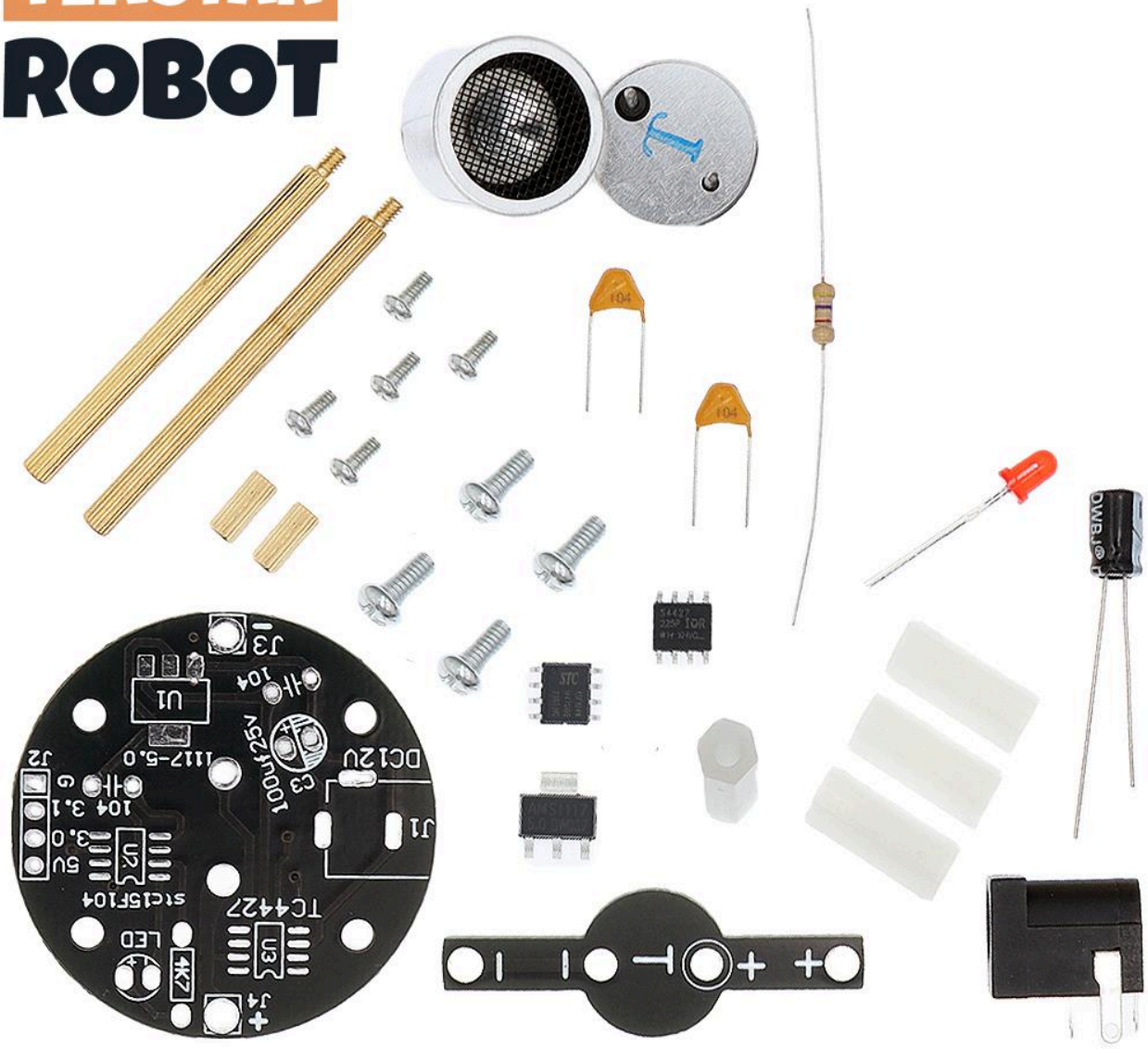





U1
1117-5.0
5V
R1
4K7
D1
LED
DC12V
J2
程序下载口
P3.4
P3.5
P3.3
P3.2
P3.1
P3.0
5V
stc15F104W
J1
DC12V
C3
100uf25v
C1
104
C2
104
U3
TC4427
NC
P3.2
INA
GND
P3.3
INB
NC
OUTA
DC12V
OUTB
J4
铜柱1
T
J3
CON1
超声波发射头1
J5
J8
J9
CON1
J6
超声波发射头2

TENSTAR

ROBOT



TENSTAR ROBOT

TENSTAR

ROBOT