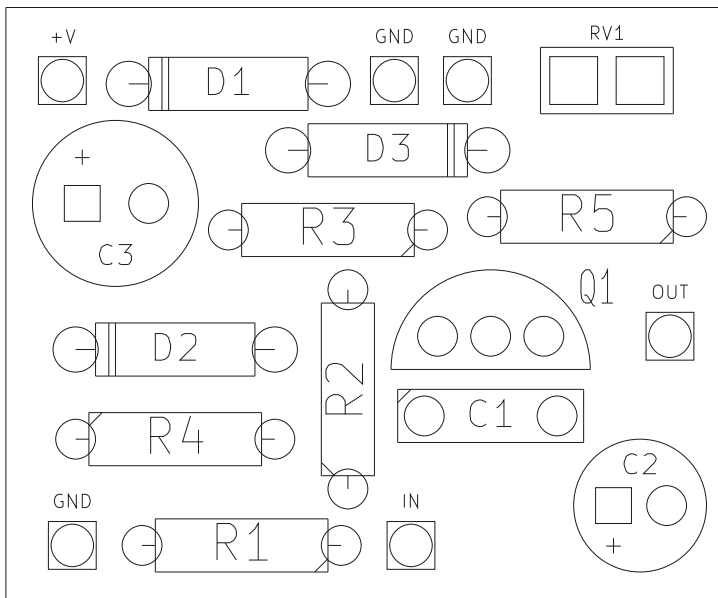


PCB parts placement diagram: :



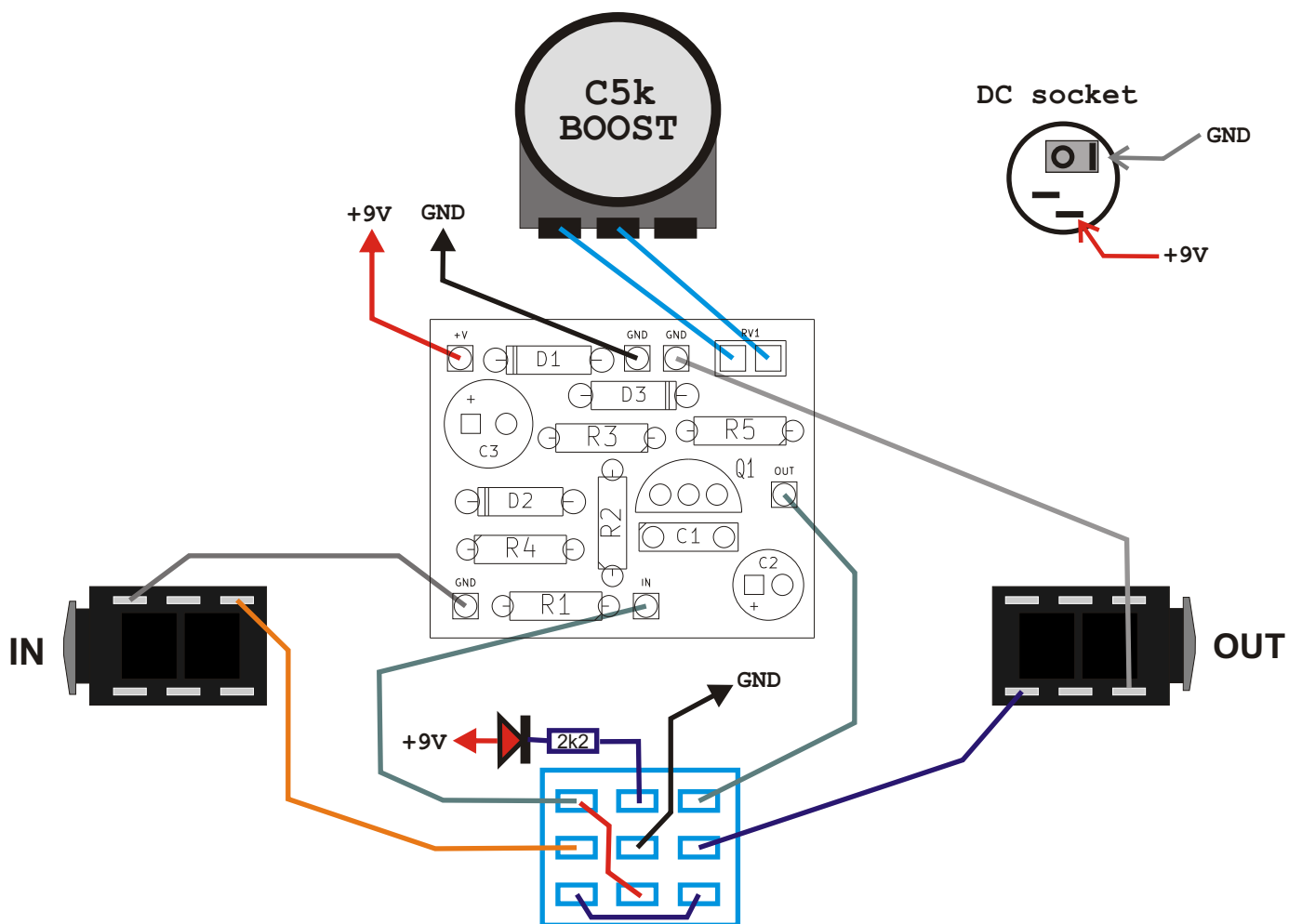
- R1 1M
- R2 10M
- R3 10M
- R4 5k1
- R5 100k

- RV1 C5k

- C1 100n
- C2 10u
- C3 47u

- D1 4007
- D2 4148
- D3 4148
- Q1 BS170

Wiring (bottom view):



Use metal enclosure connected to ground.
Power supply: 9V DC

Bill of materials:

Resistors:

2k2 1pcs. "LED"
5k1 1pcs. "R4"
100k 1pcs. "R5"
1M 1pcs. "R1"
10M 2pcs. "R2 R3"

Capacitors:

100n 1pcs. "C1"

Electrolytic capacitors:

10u 1pcs. "C2"
47u 1pcs. "C3"

Potentiometers:

C5k 1pcs. "RV1"

Semiconductors:

1N4007 1pcs. "D1"
1N4148 2pcs. "D2 D3"
BS170 1pcs. "Q1"
LED 1pcs.

Other:

Footswitch 3PDT 1pcs.
Knob 1pcs.
JACK socket 2pcs.
DC socket 5.5/2.1 1pcs.

Resistor color code:



$$390 \times 10\Omega = 3,9k\Omega$$

Color	Band 1	Band 2	Band 3	Multiplier	Tolerance
Black	0	0	0	1 Ω	
Brown	1	1	1	10 Ω	1%
Red	2	2	2	100 Ω	2%
Orange	3	3	3	1k Ω	
Yellow	4	4	4	10 k Ω	
Green	5	5	5	100 k Ω	0,5%
Blue	6	6	6	1 M Ω	0,25%
Purple	7	7	7	10 M Ω	0,1%
Gray	8	8	8	100 M Ω	0,05%
White	9	9	9	1 G Ω	
Gold				0,1 Ω	5%
Silver				0,01 Ω	10%

Capacitors markings:

$$471 = 47 \times 10^1 \text{ pF} = 470 \text{ pF}$$

$$472 = 47 \times 10^2 \text{ pF} = 4700 \text{ pF} = 4,7 \text{ nF}$$

$$473 = 47 \times 10^3 \text{ pF} = 47000 \text{ pF} = 47 \text{ nF}$$

$$474 = 47 \times 10^4 \text{ pF} = 470000 \text{ pF} = 470 \text{ nF}$$

$$100 \text{ pF} = 100 \text{ p} = 100 = 101$$

$$220 \text{ pF} = 220 \text{ p} = 220 = 221$$

$$4,7 \text{ nF} = 4 \text{ n}7 = 0.0047 = 472$$

$$10 \text{ nF} = 10 \text{ n} = 0.01 = 103$$

$$100 \text{ nF} = 100 \text{ n} = 0.1 = 104$$

$$220 \text{ nF} = 220 \text{ n} = 0.22 = 224$$

$$470 \text{ nF} = 470 \text{ n} = 0.47 = 474$$

$$1000 \text{ nF} = 1 \mu\text{F} = 1 \mu = 105$$