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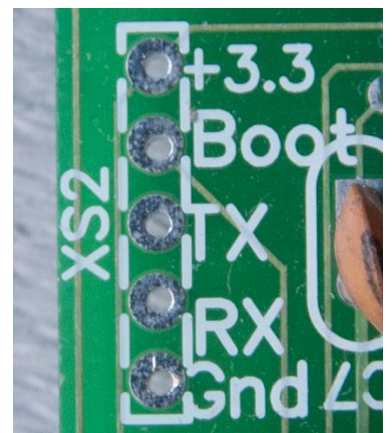
ASSEMBLY MANUAL FOR

TANYA v2

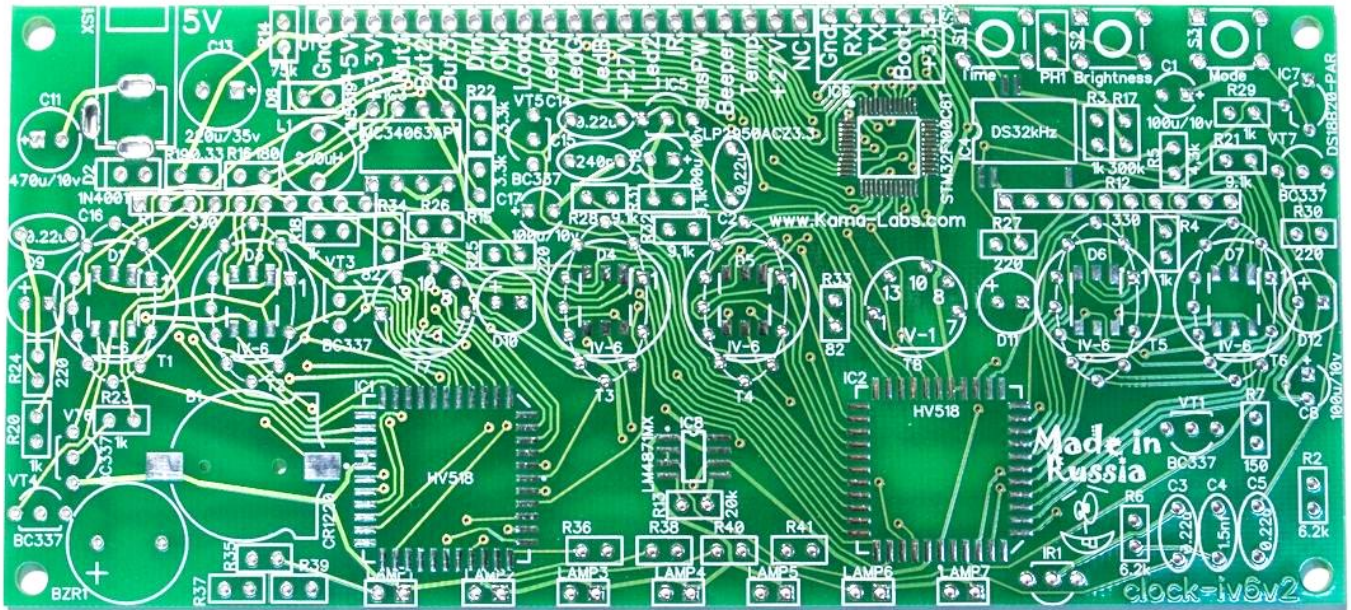
IV-6 CLOCK

Be very careful with static electricity. If clock not work after build its mean that they been damaged by static electricity in process of assemble.

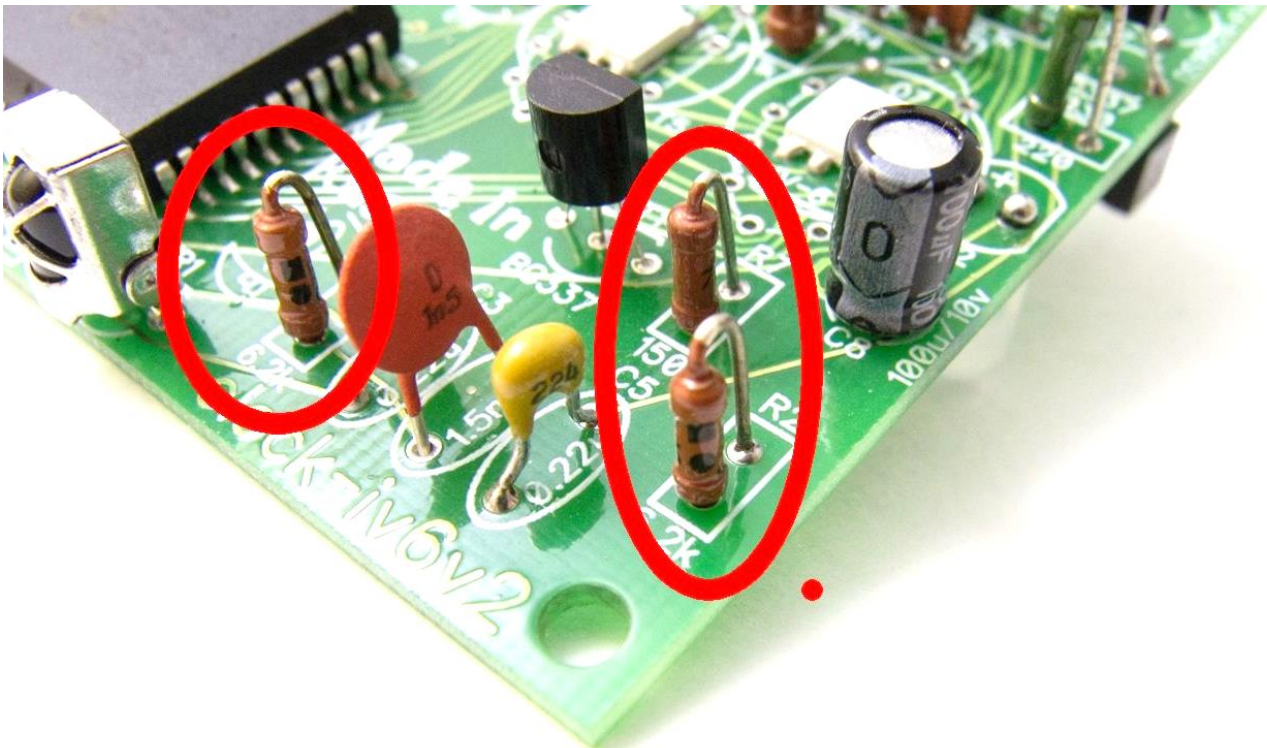
Check resistance between +3.3 and GND pins of XS2. The resistance should be not lower 1kOhm.



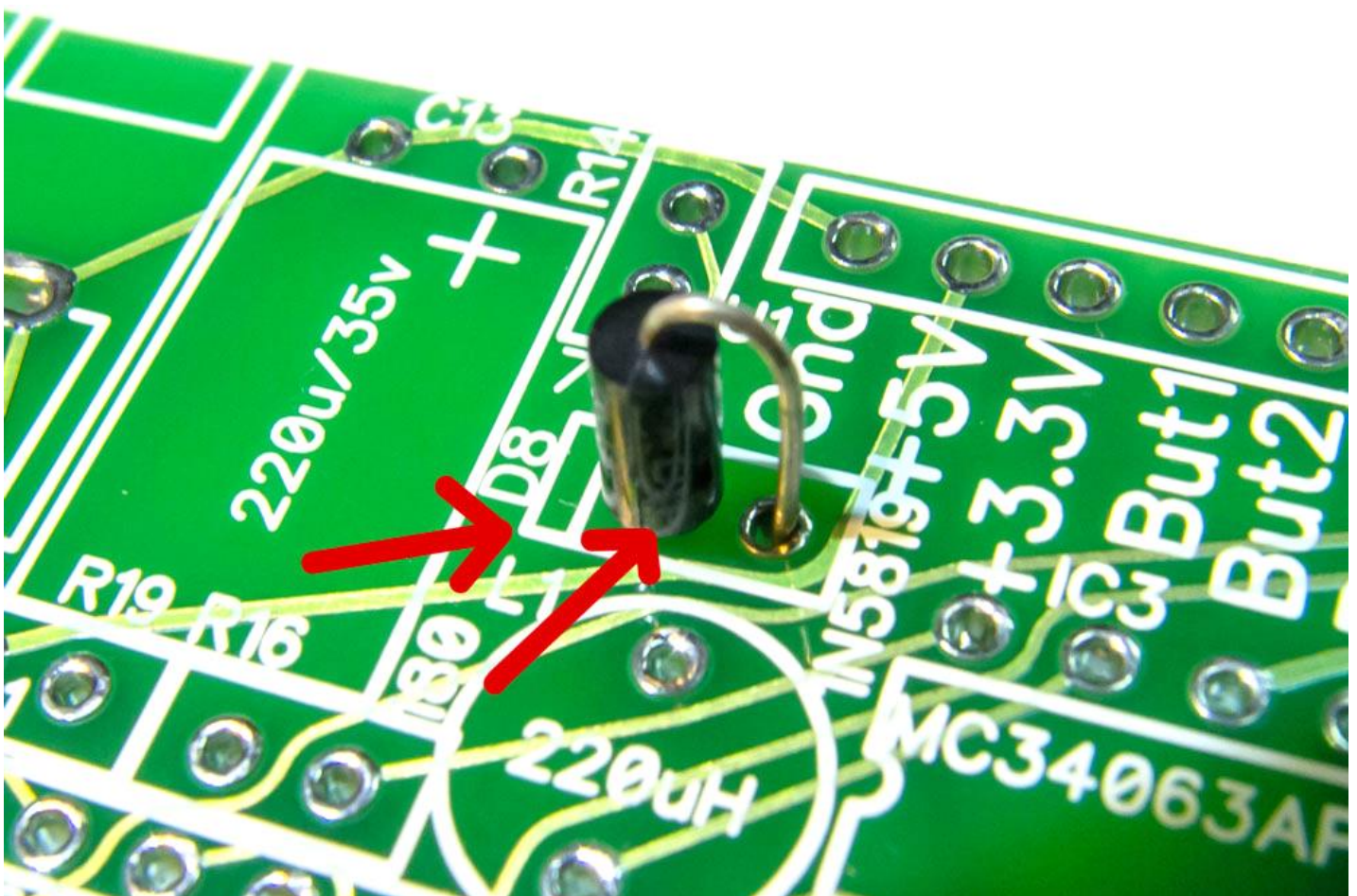
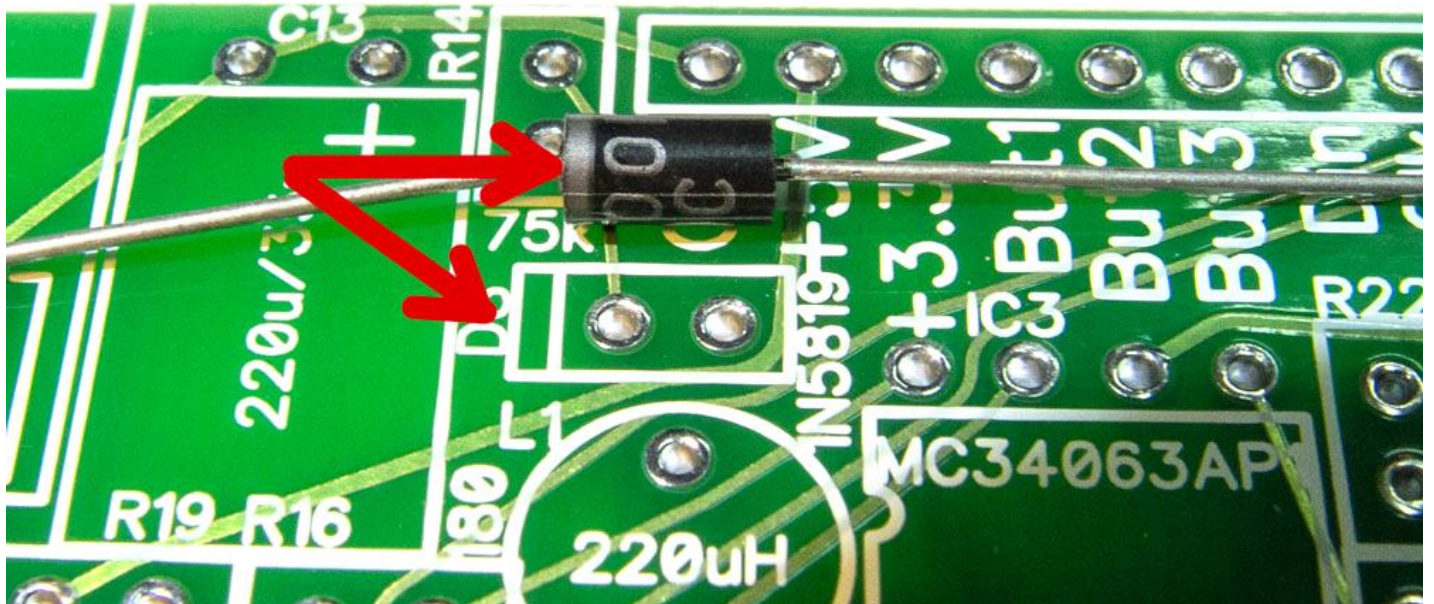
1) You have a PCB with ICs:



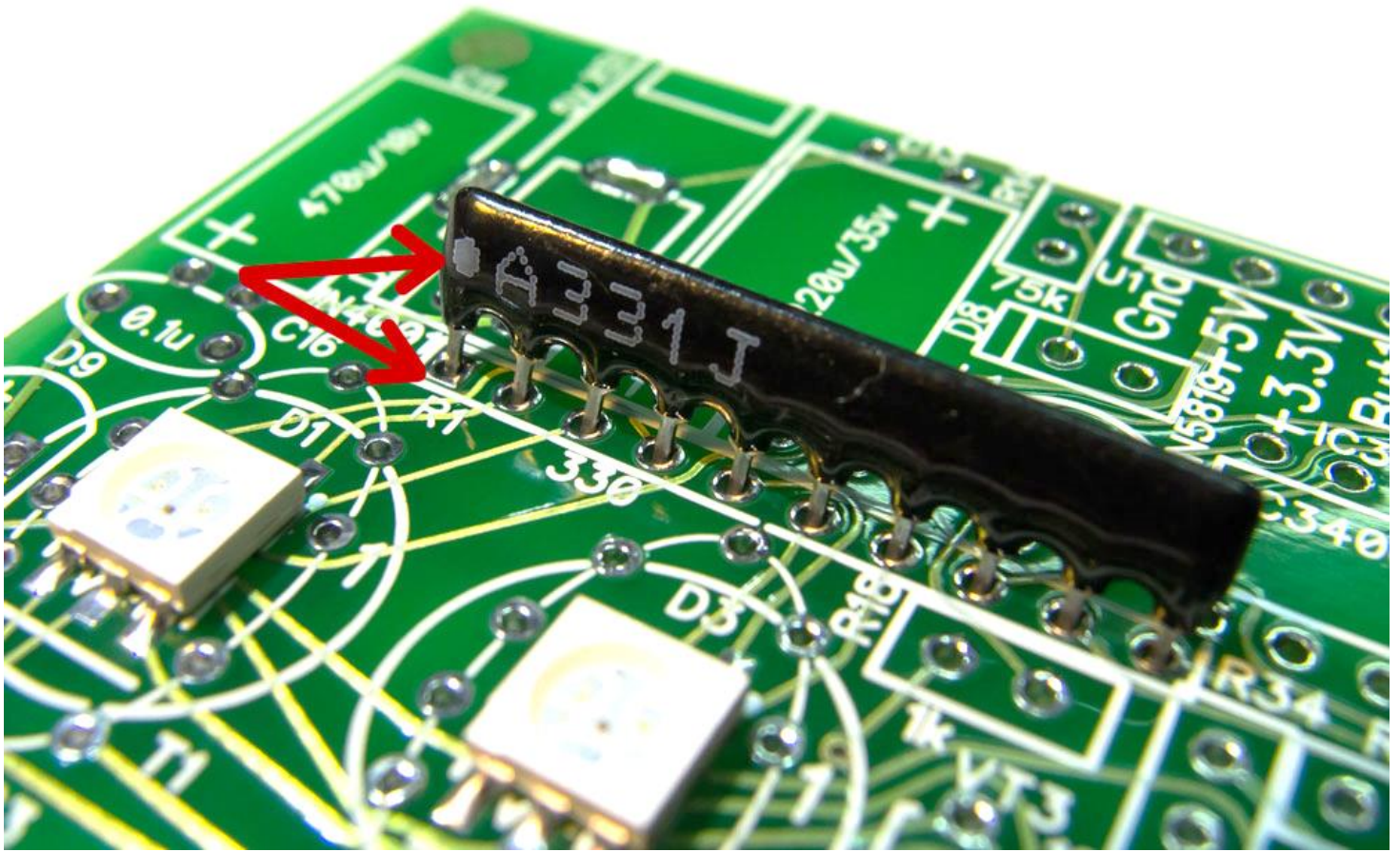
2) Place all resistors vertical:



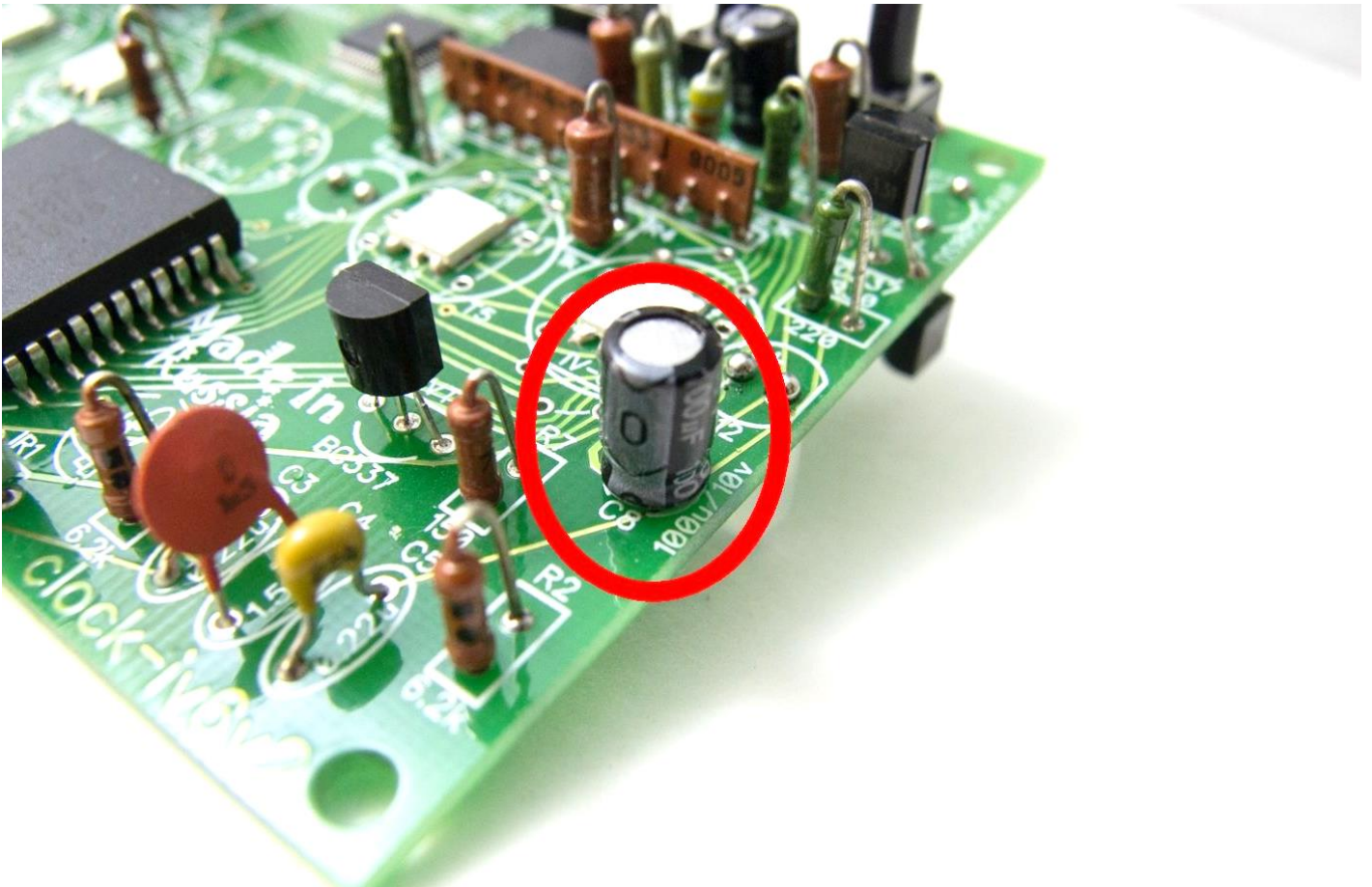
3) Place diodes according marking on PCB:

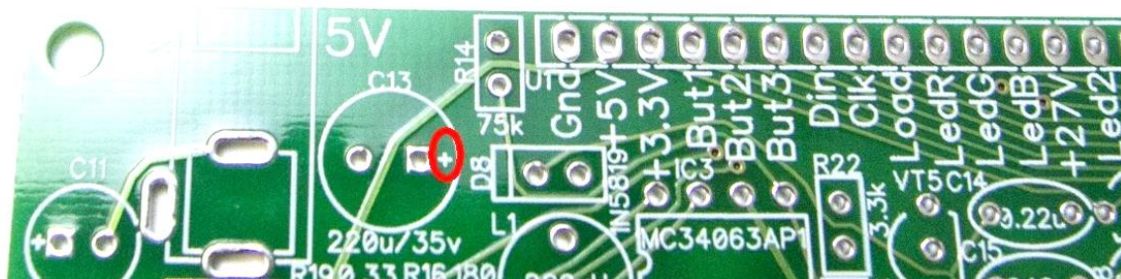


4) Place resistor arrays. Common pin to square pad.

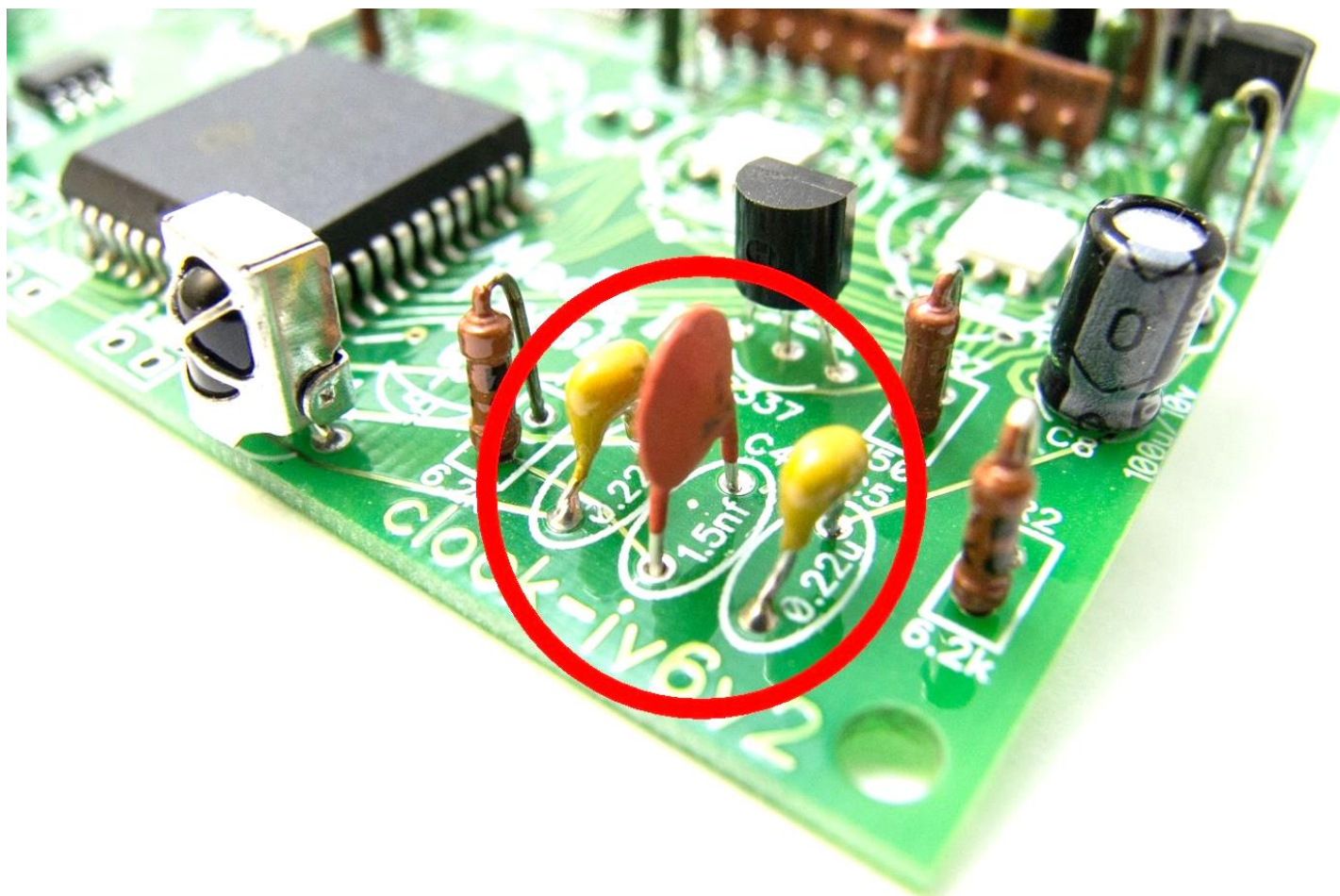


5) Place all electrolytic capacitors. Be careful with polarity!

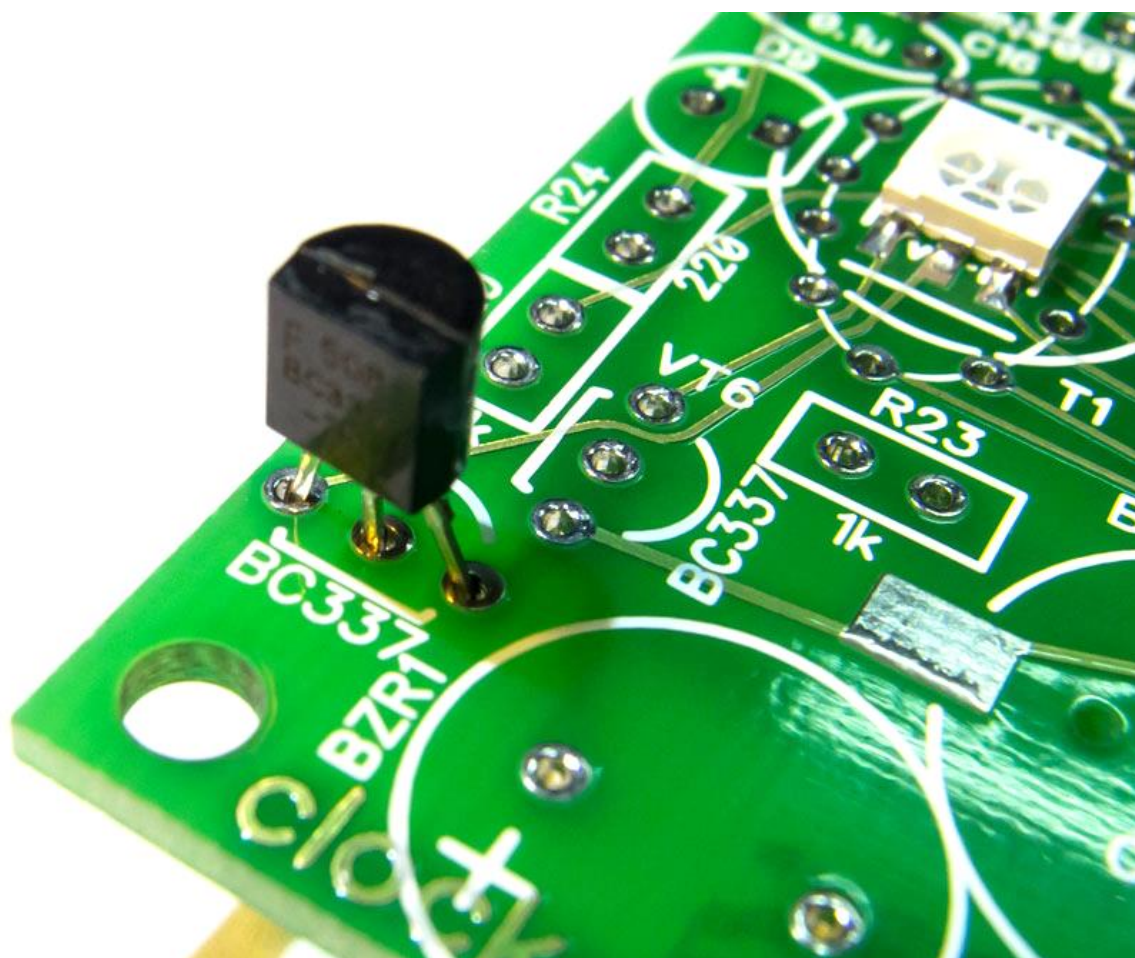


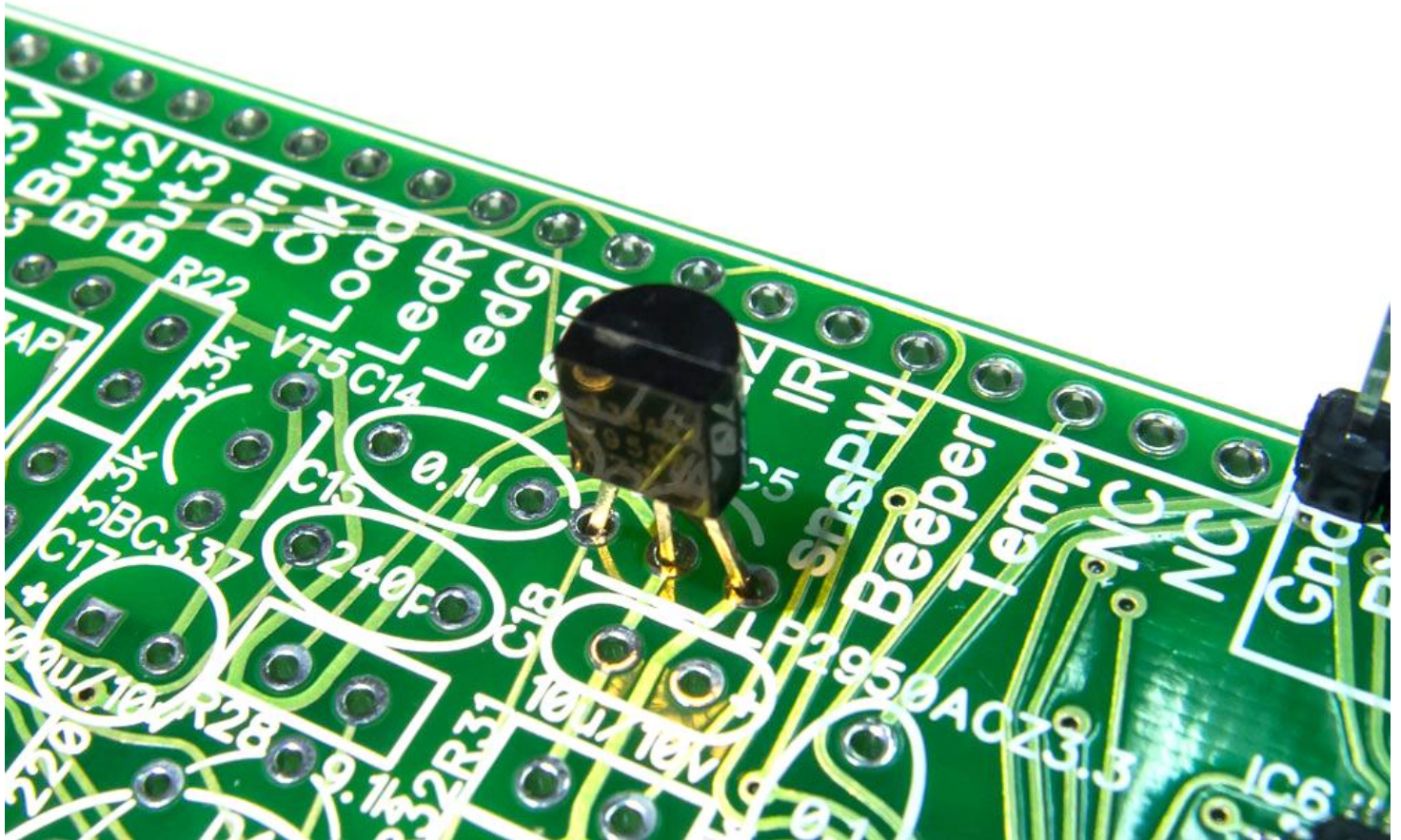


6) Place ceramic capacitor. Polarity is not matter.

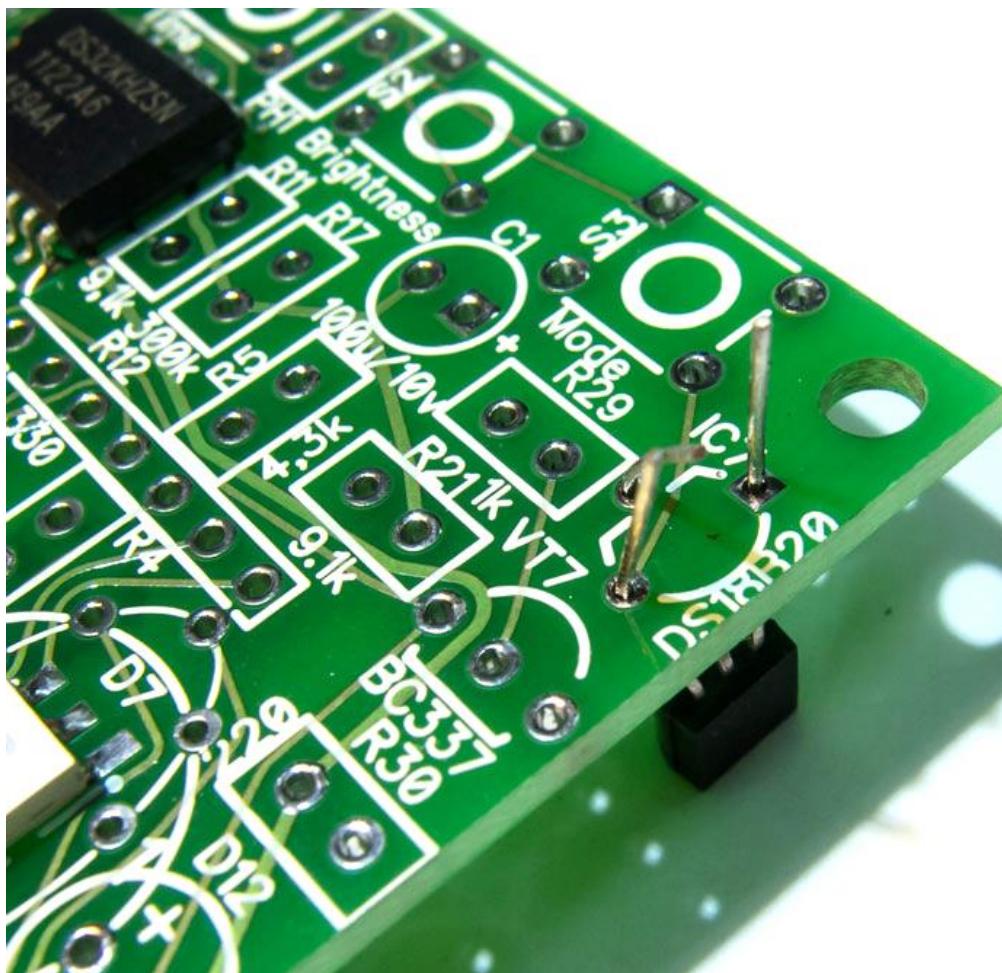


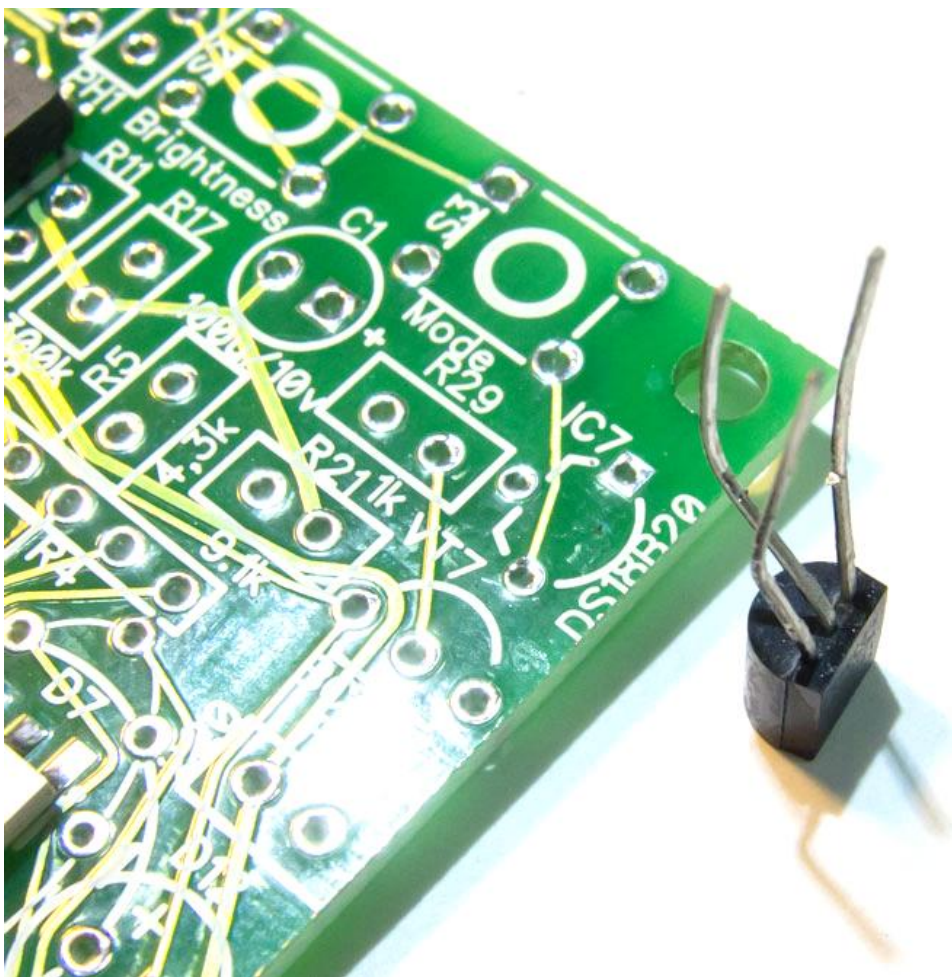
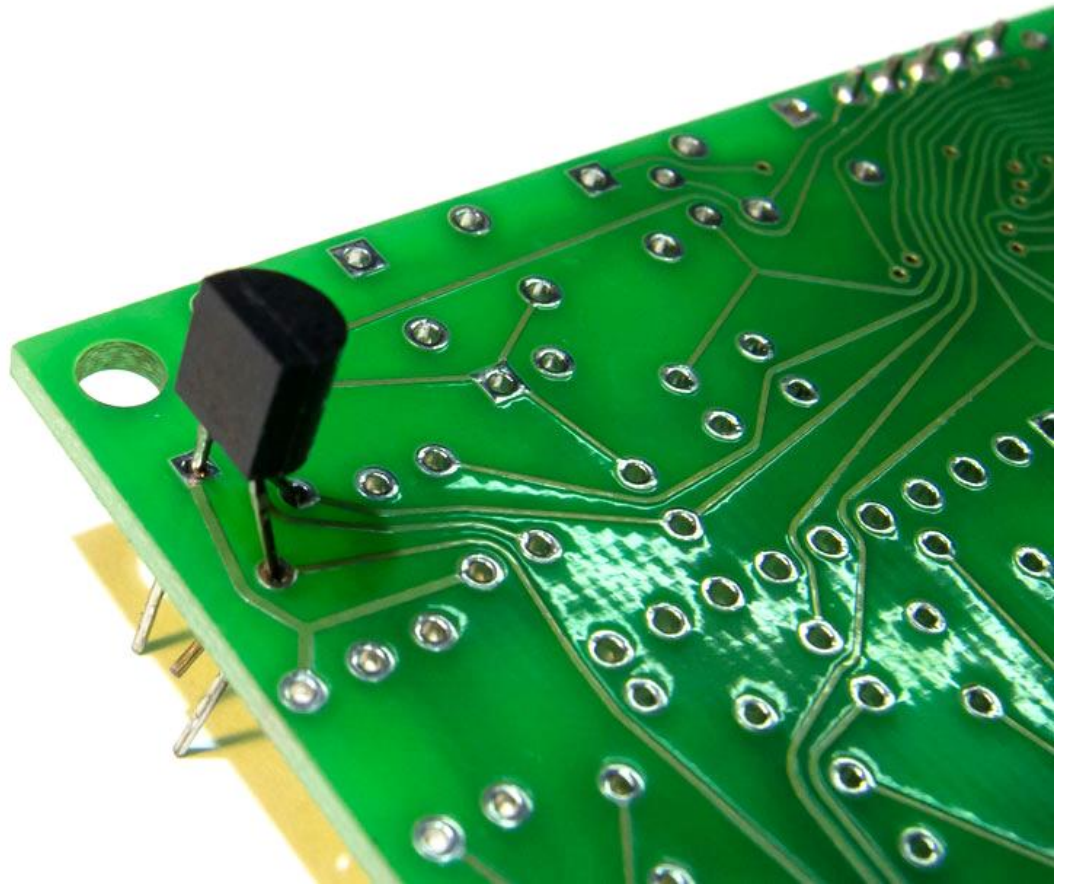
7) Place all transistors and IC5 according marking on PCB:





8) Place temperature sensor IC7 on **bottom** side of PCB:

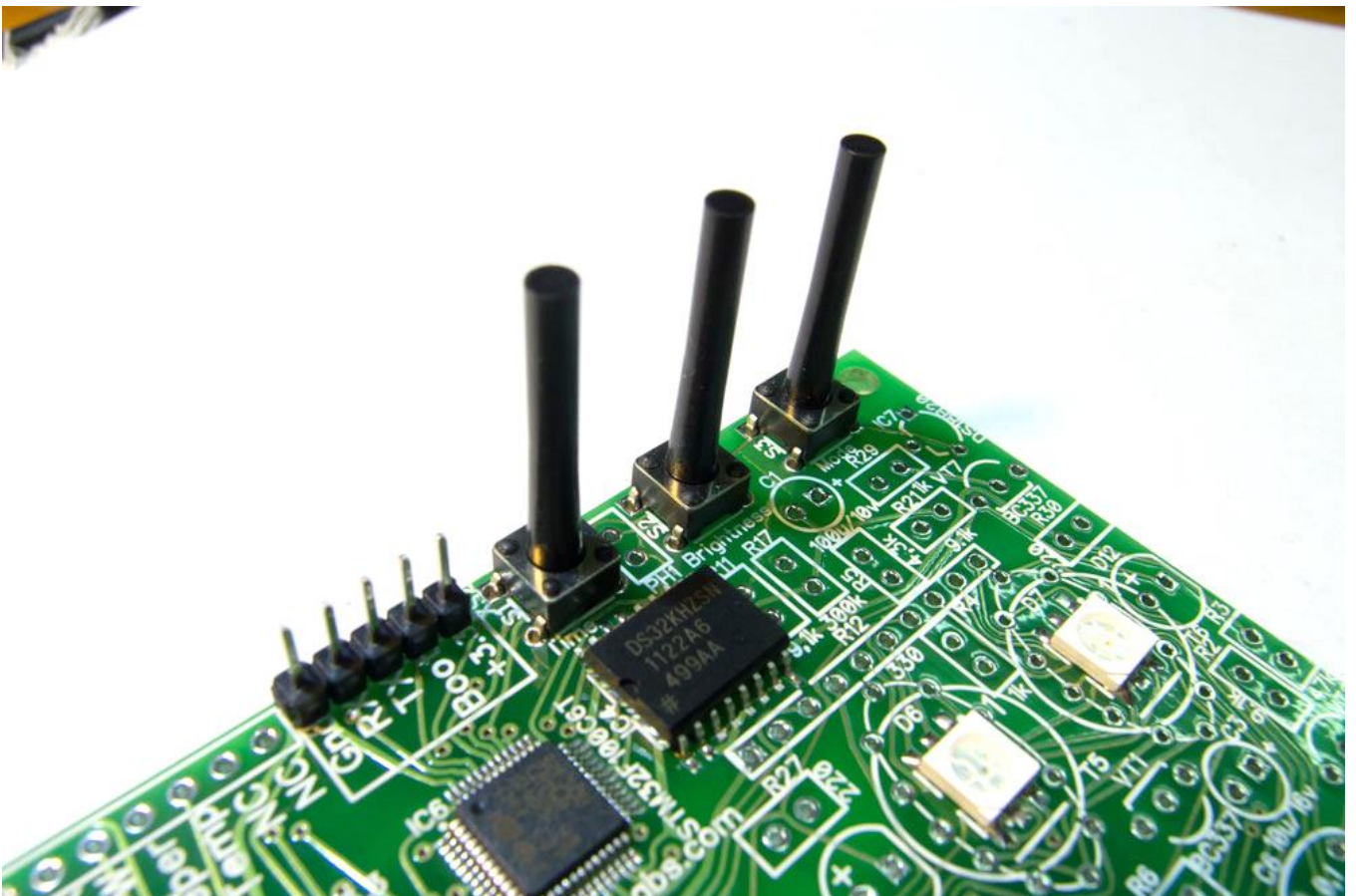




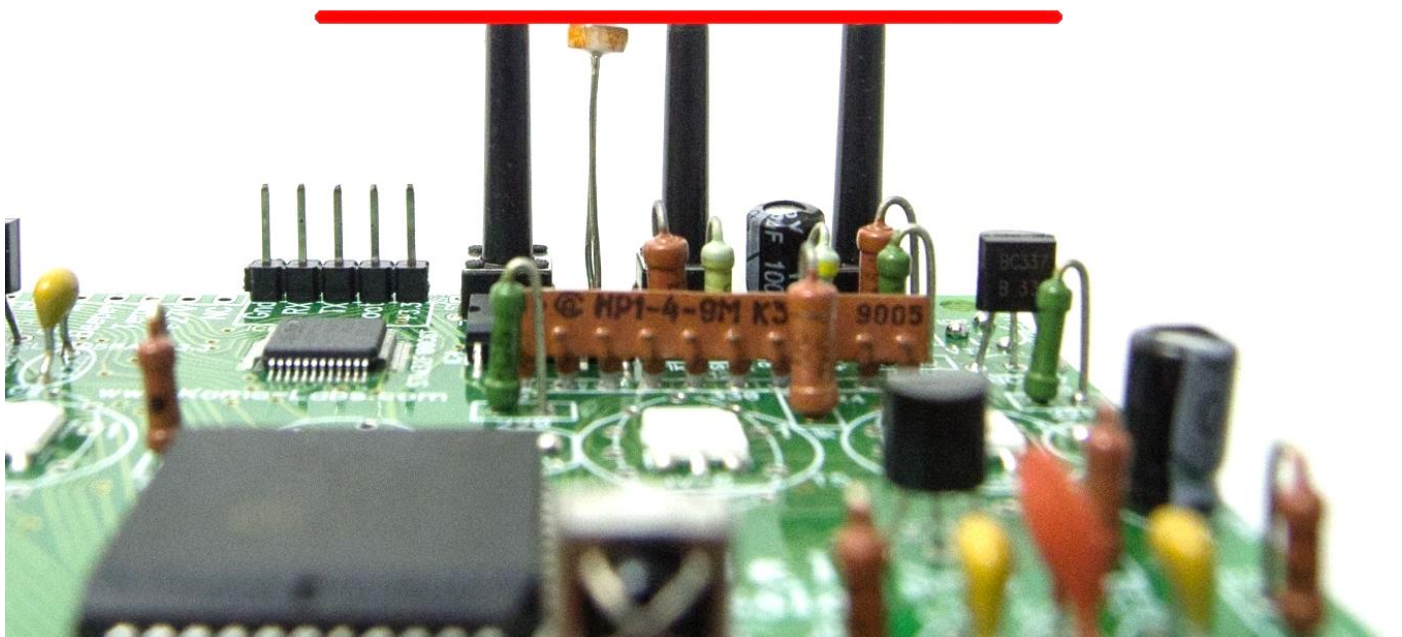
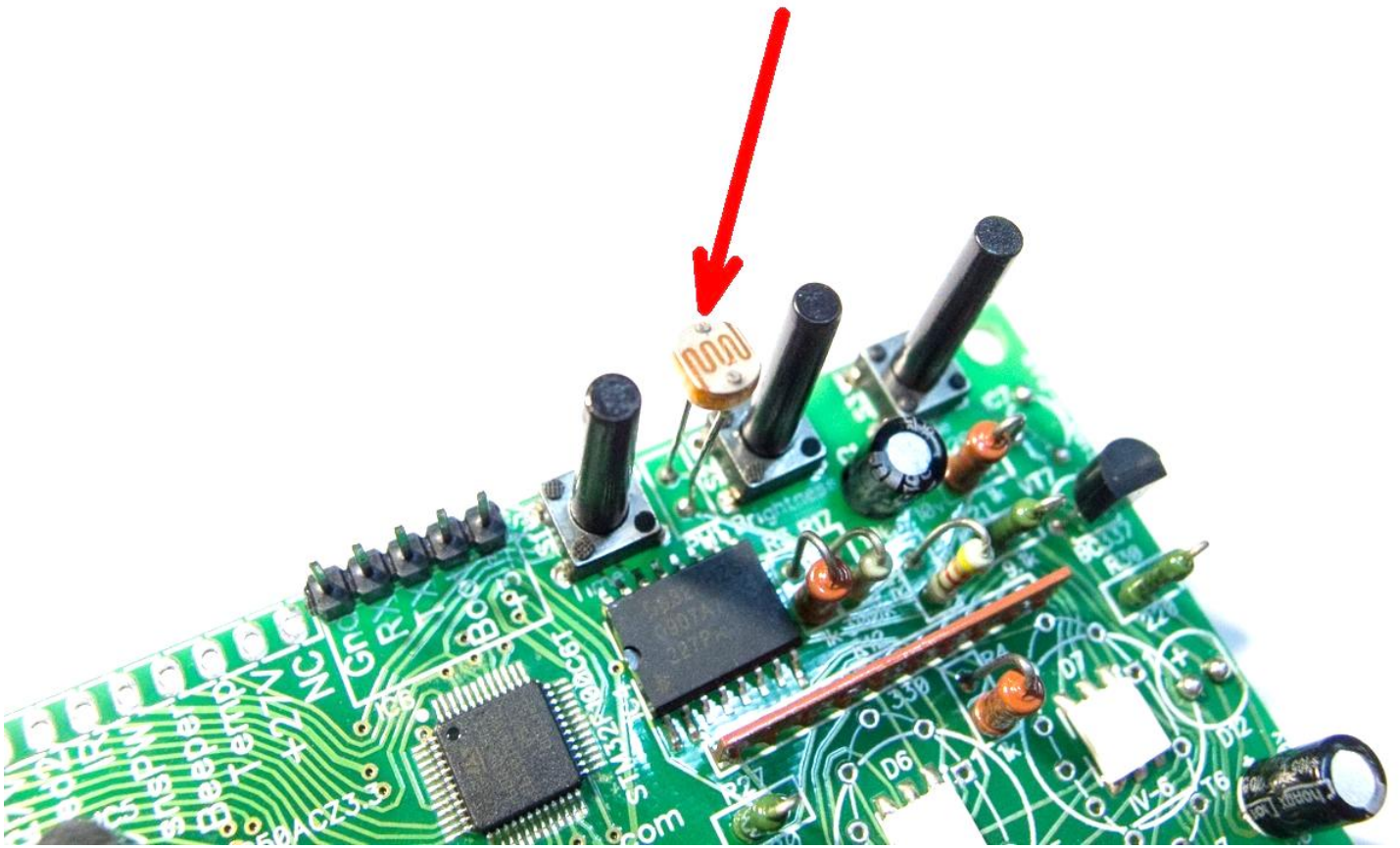
9) Place inductor:



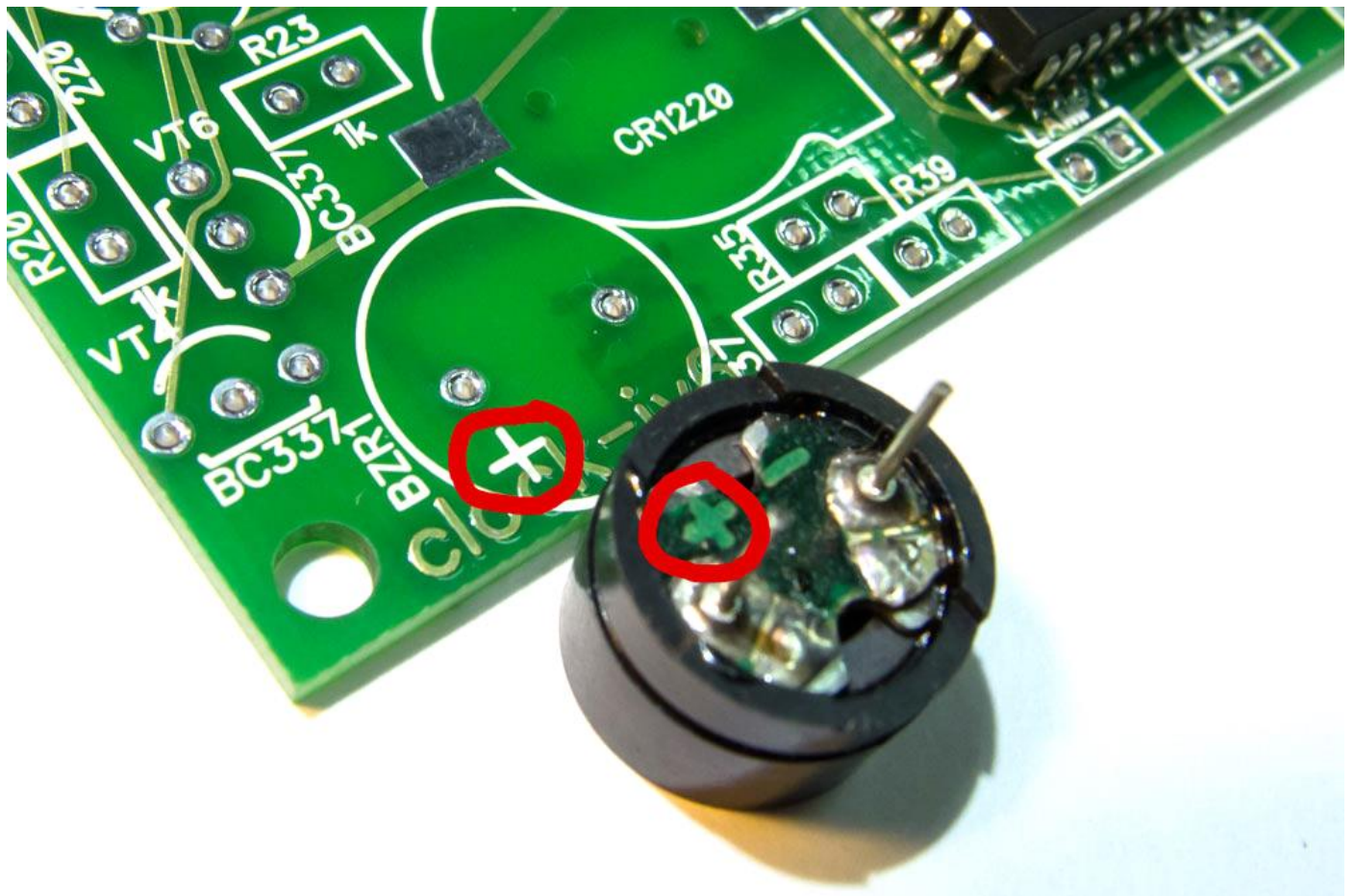
10) Buttons:



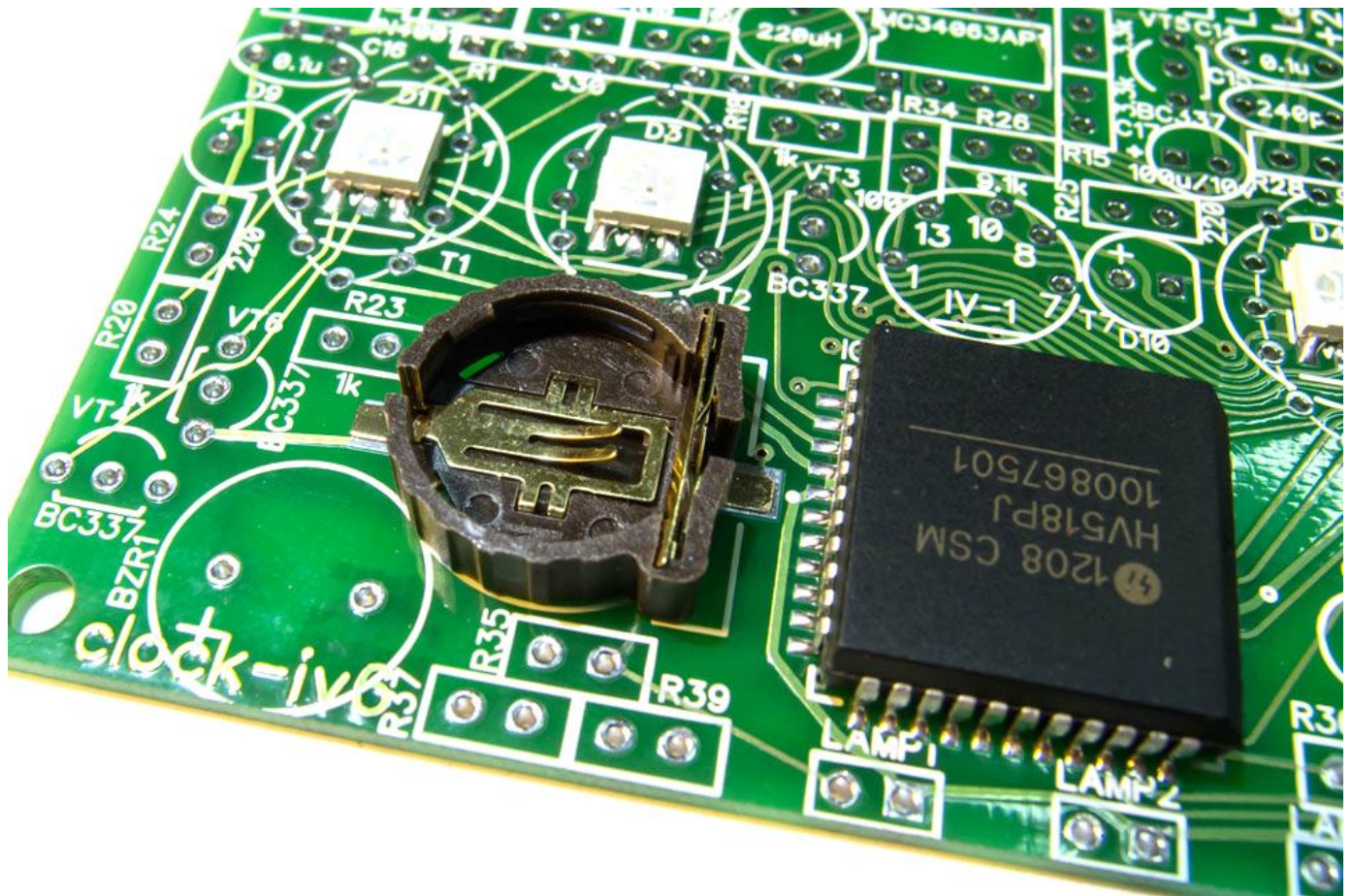
11) Place photoresistor:



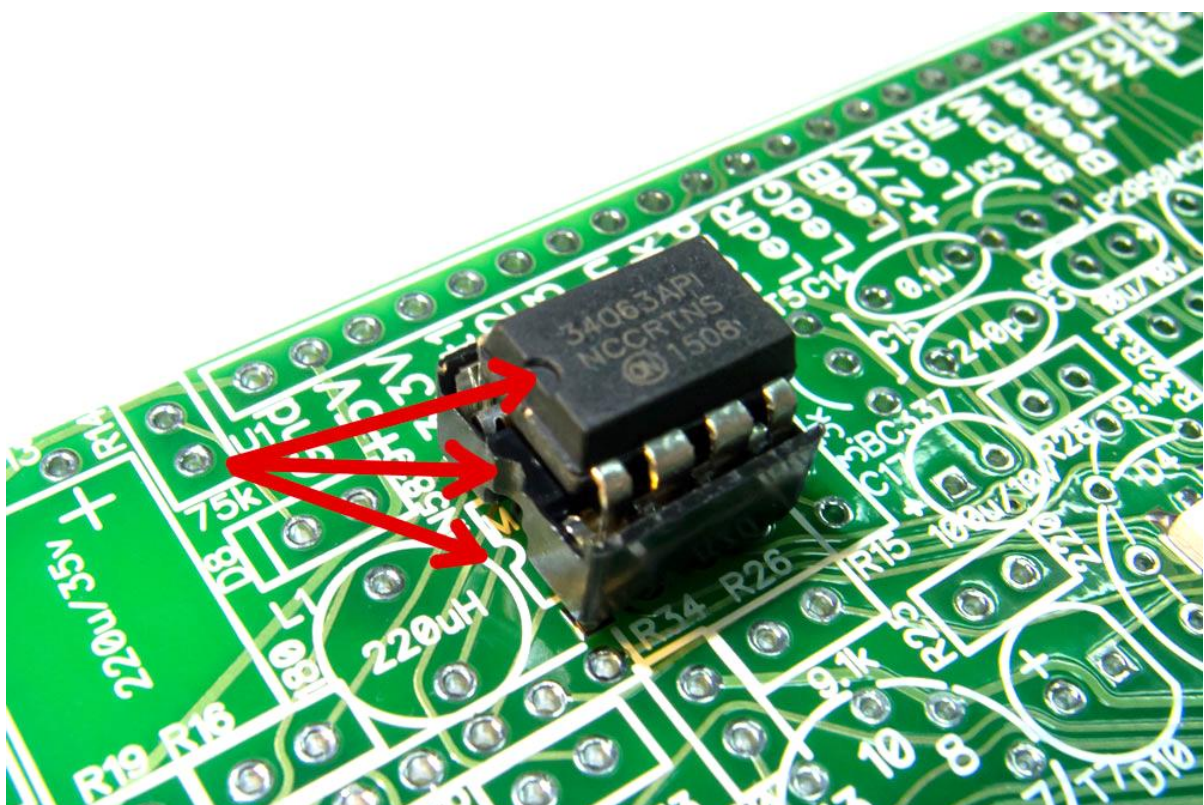
12) Install buzzer:



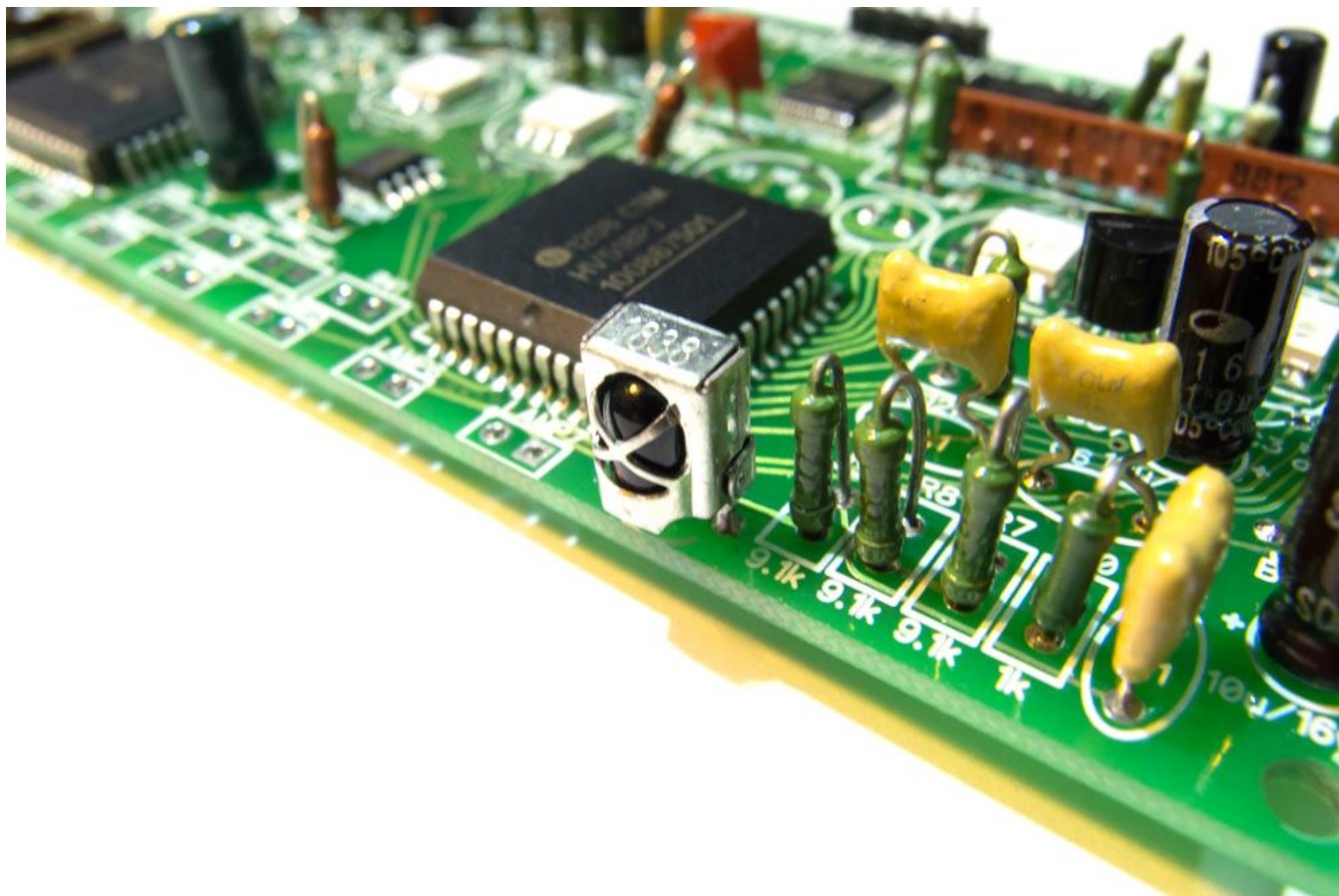
13) Place battery holder and insert battery when clock will be fully assembled:



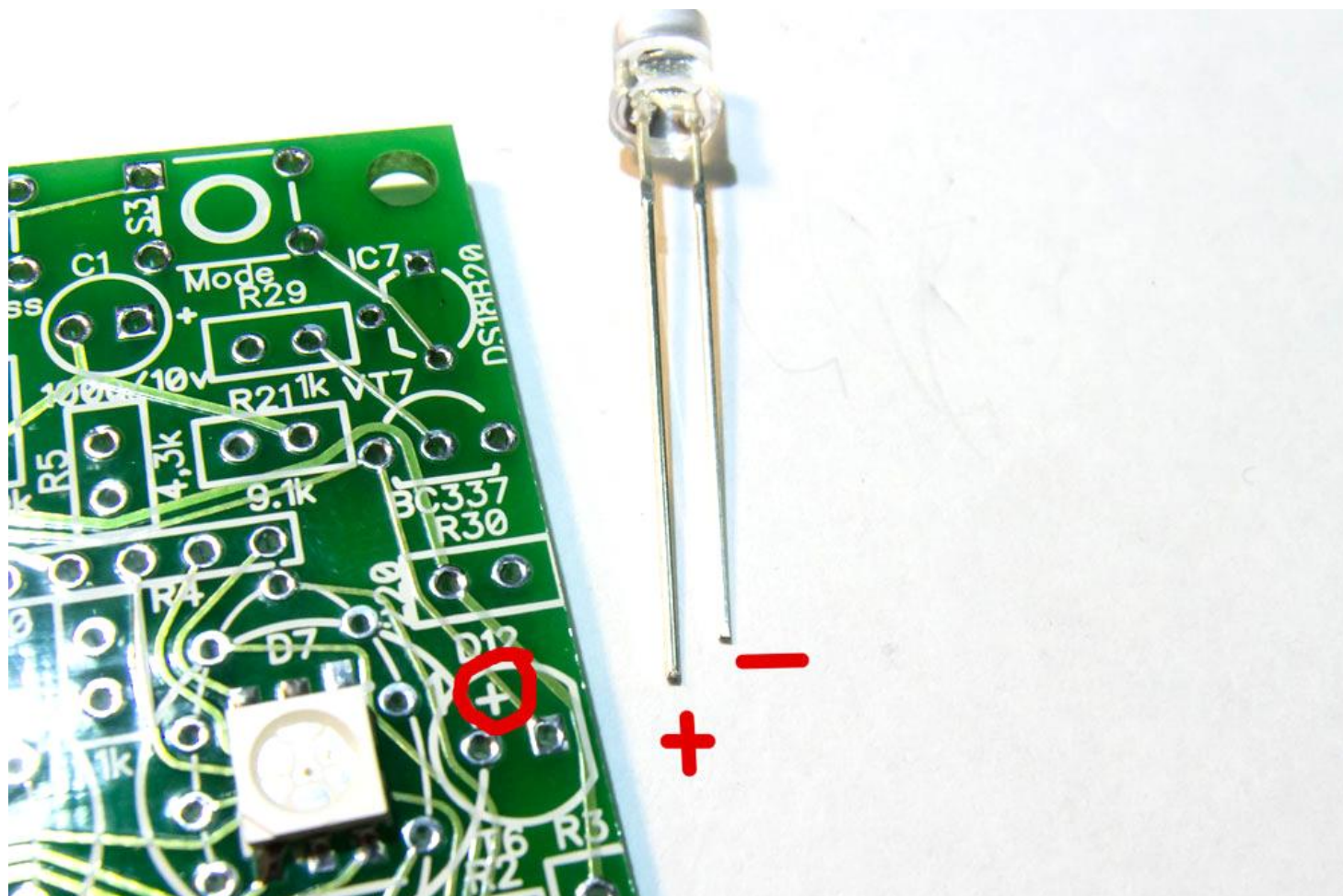
14) Place sockets for IC. Insert MC34063 chip at the end of assembling process:



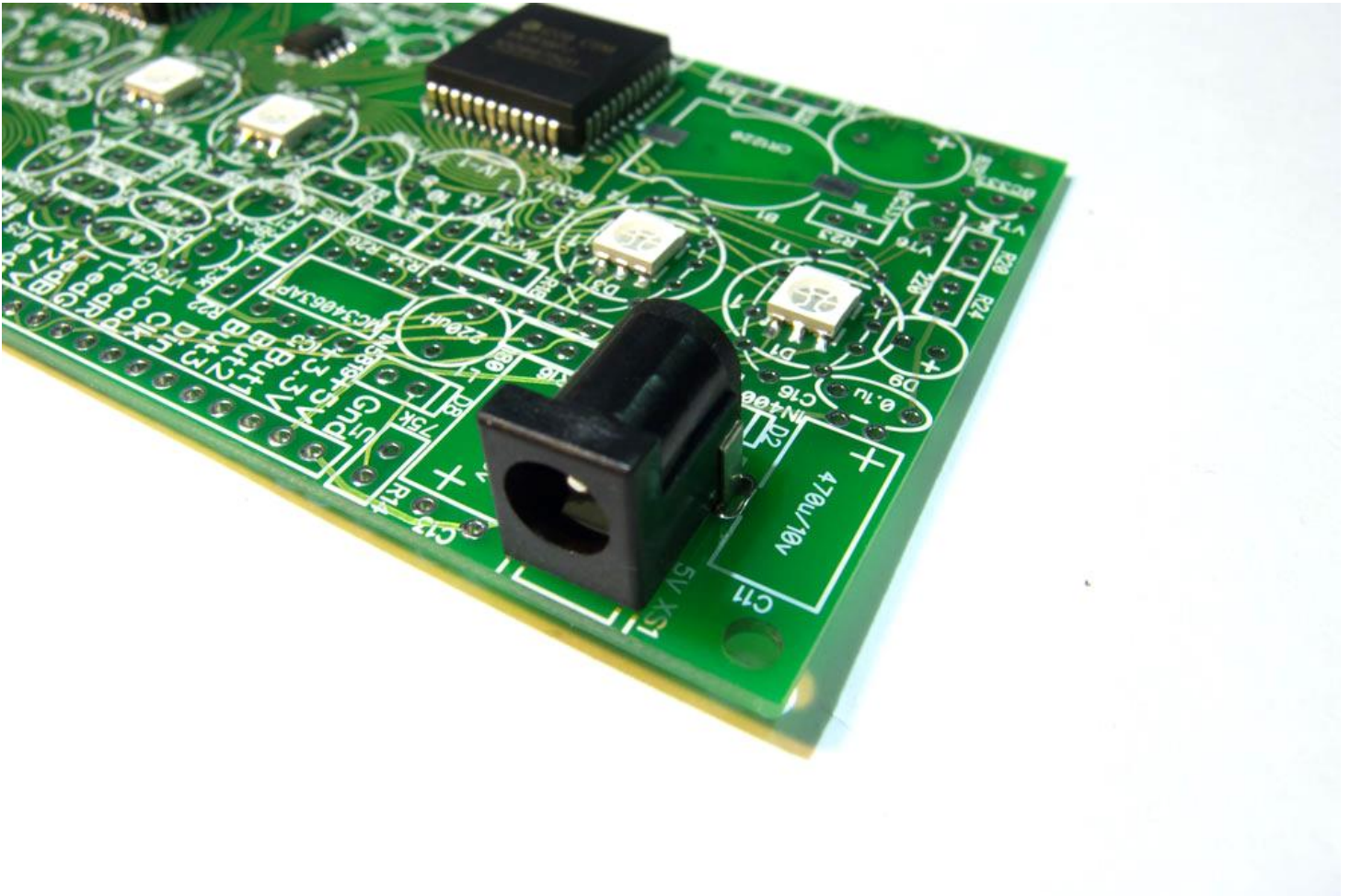
15) Install Infrared receiver:



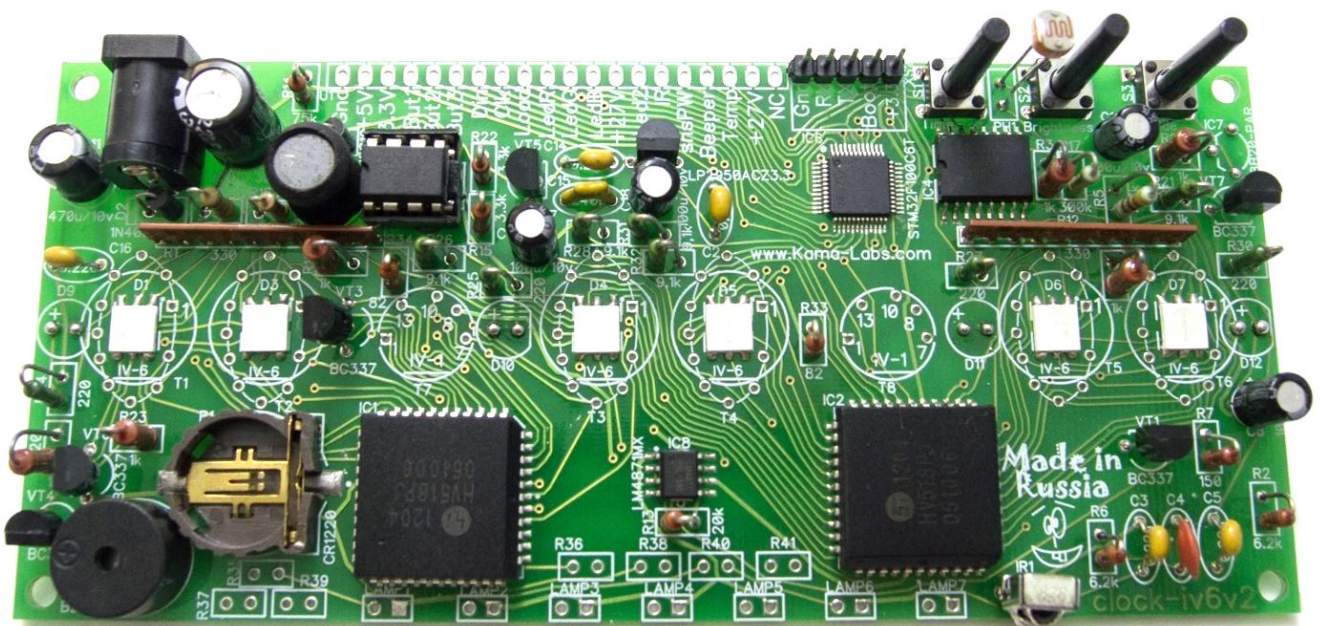
16) Install leds to the bottom side of PCB:

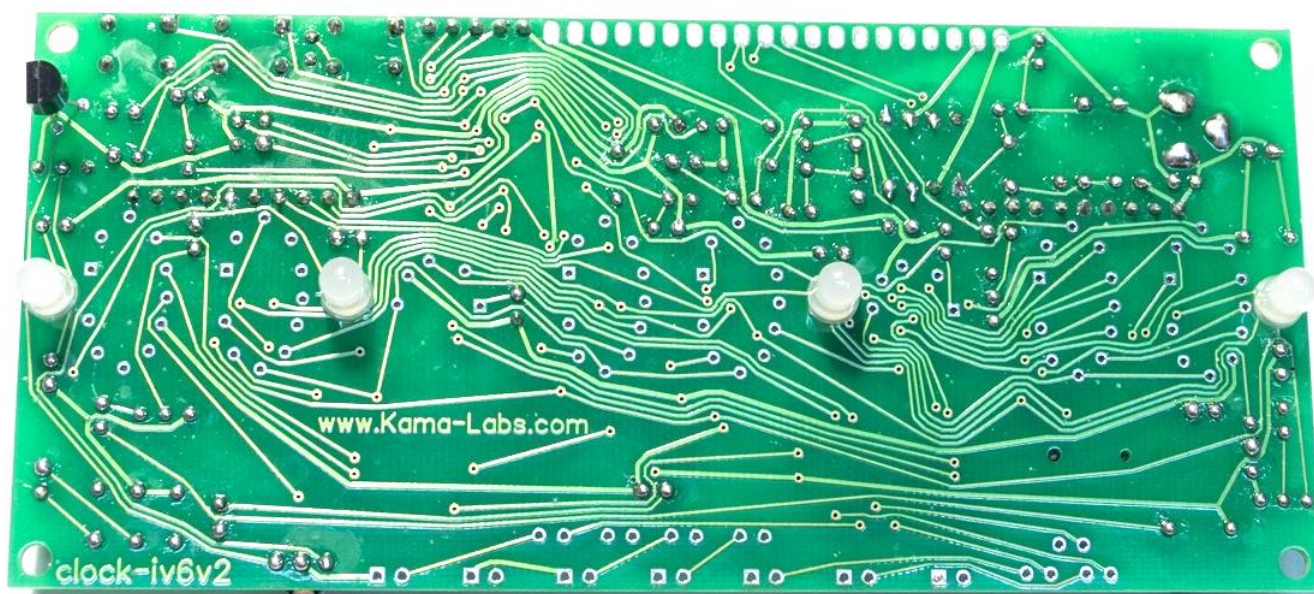


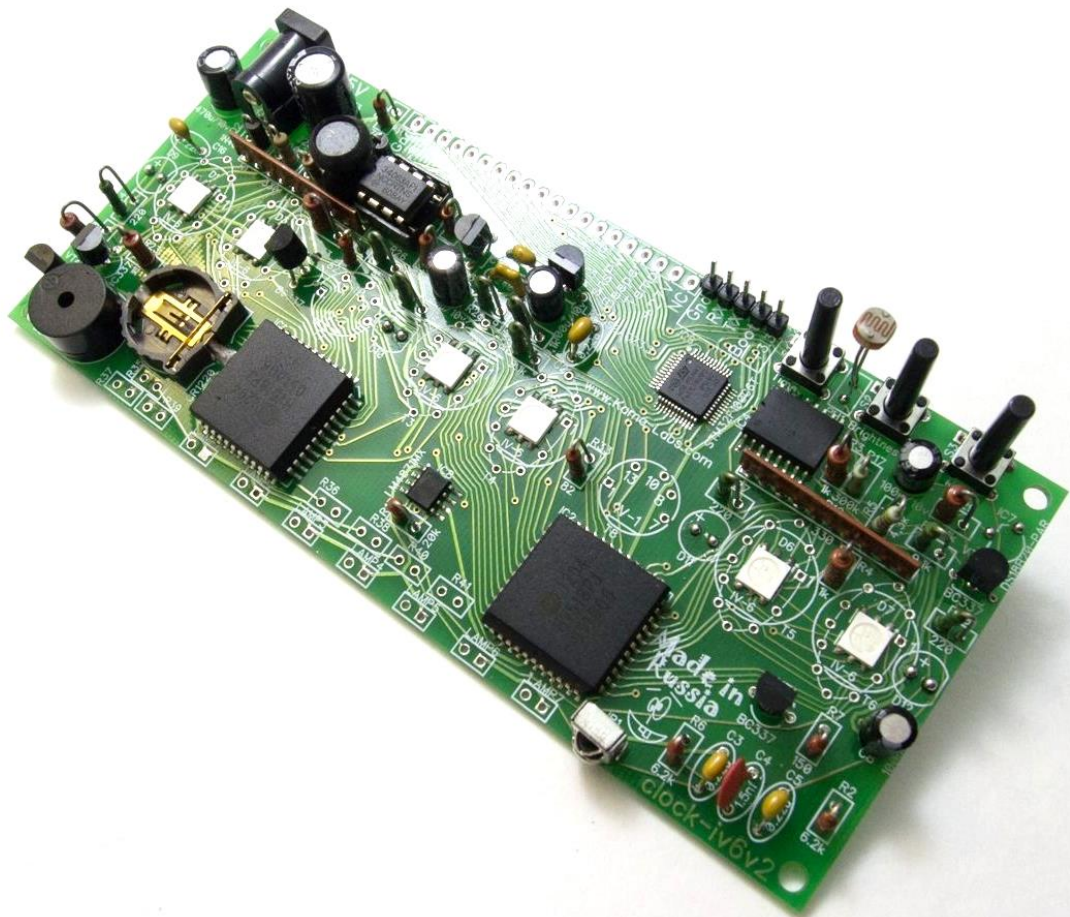
17) Install power plug:



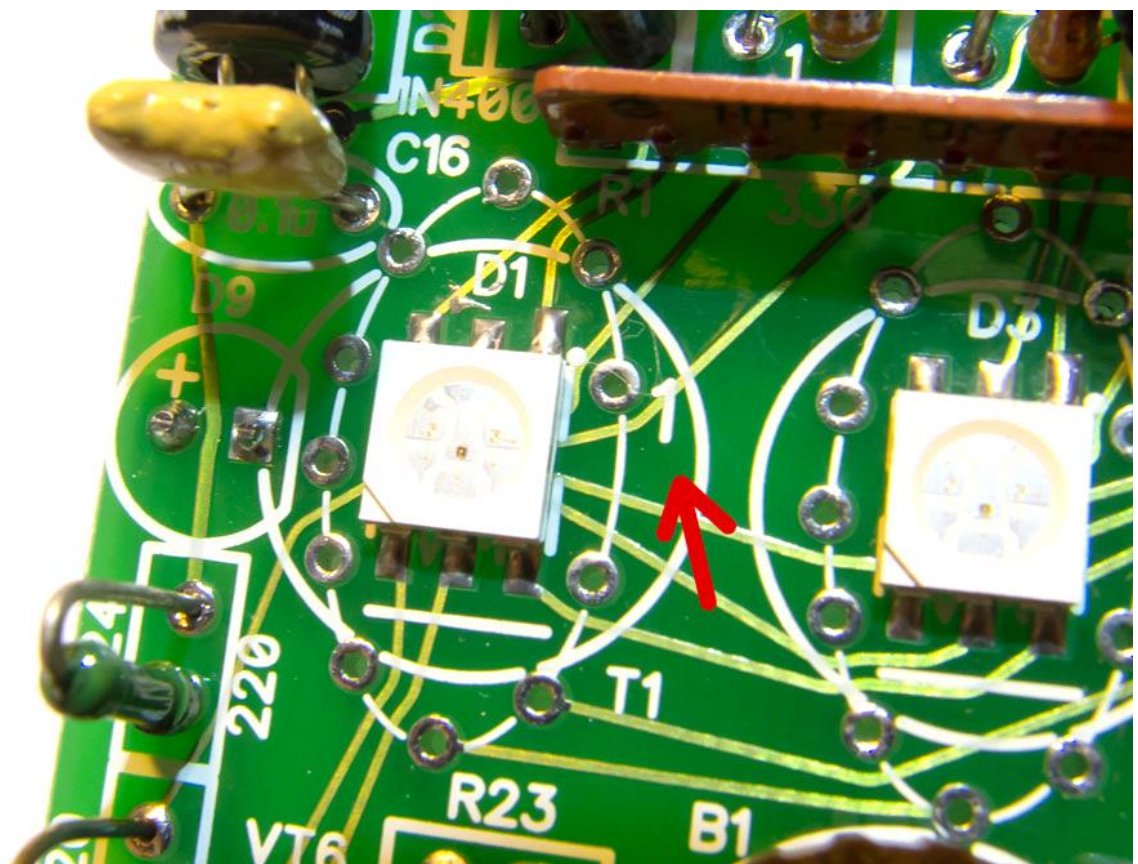
18) After all, your clock should looks like on photo:

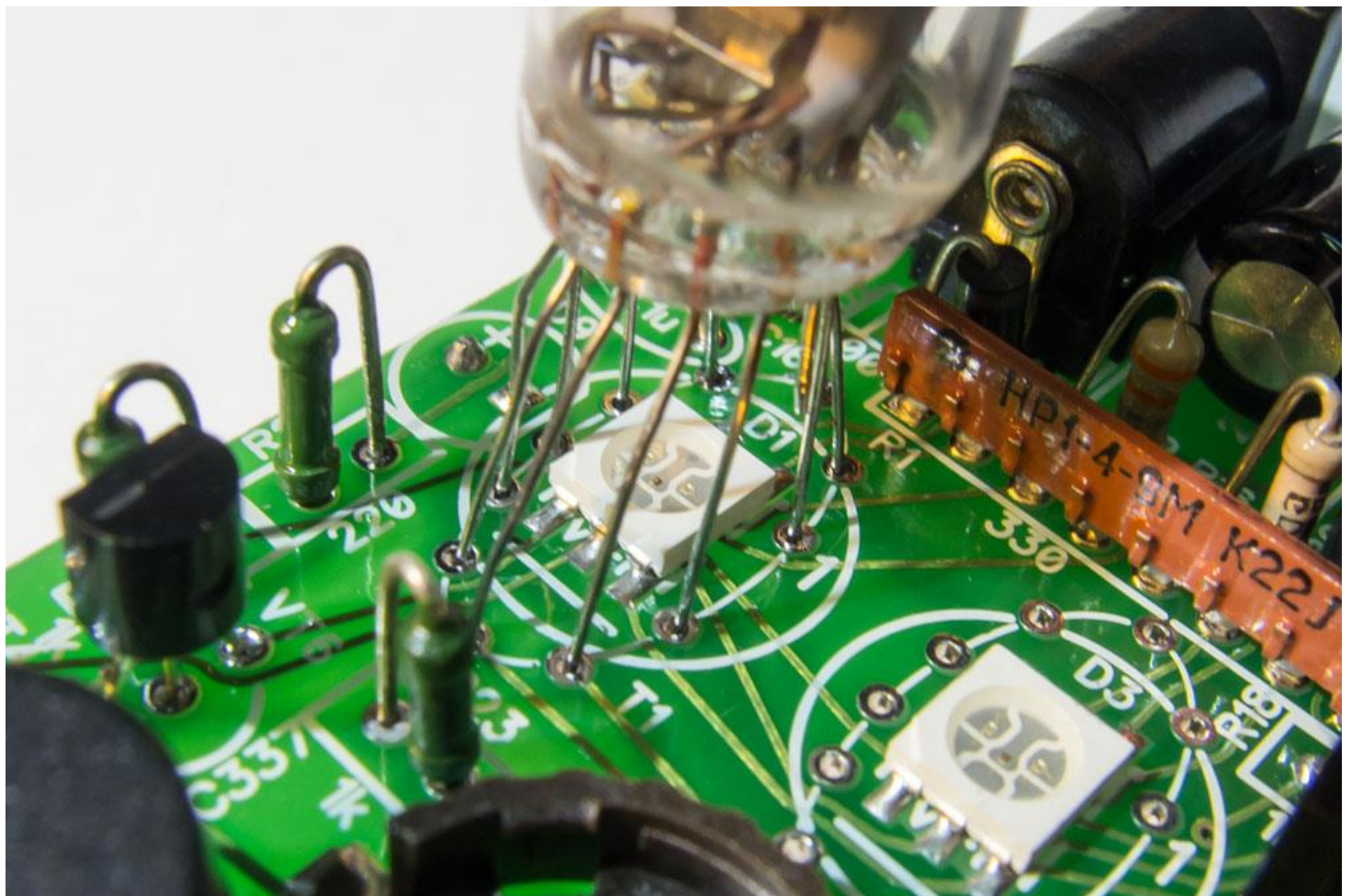
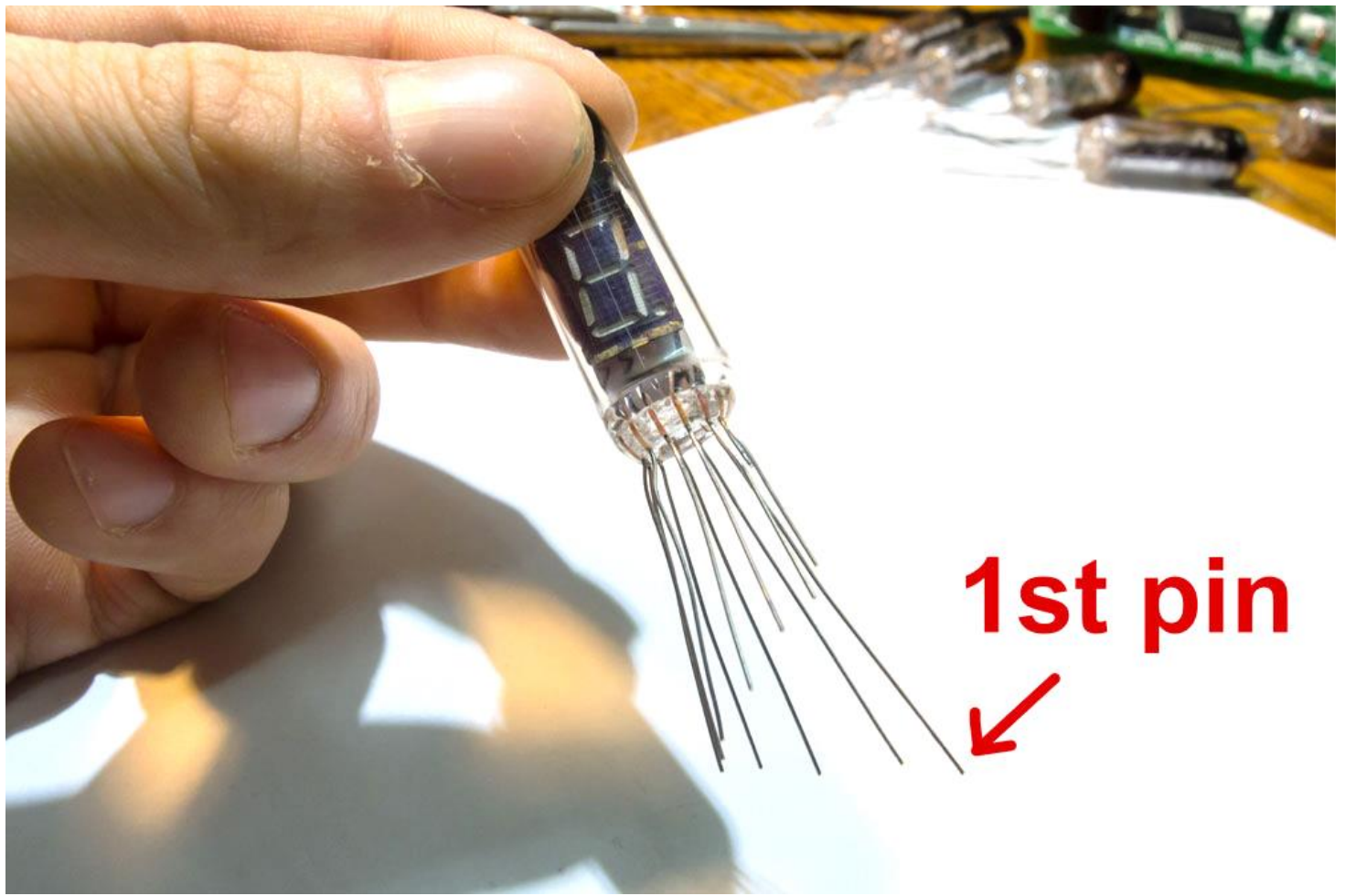




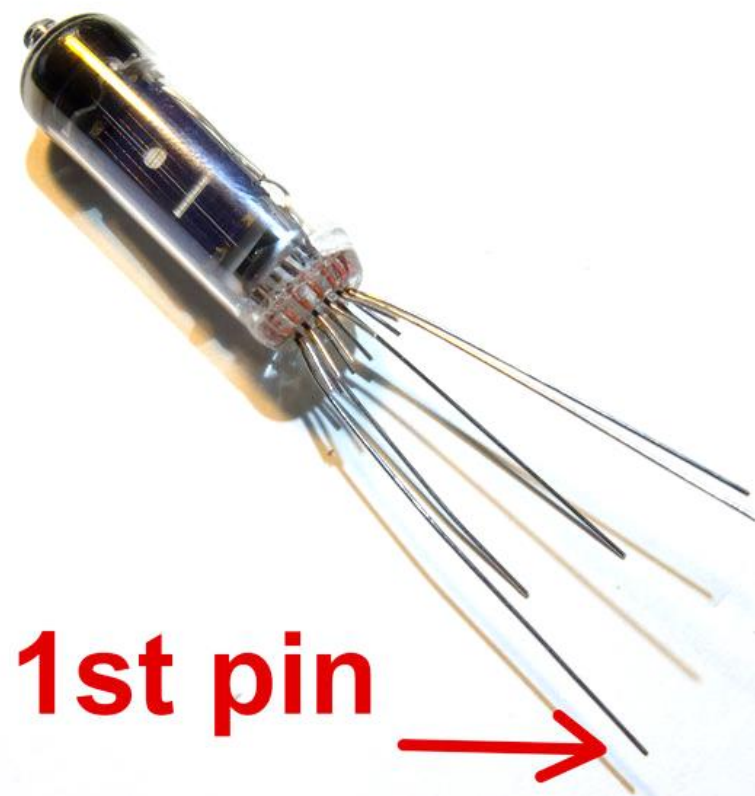
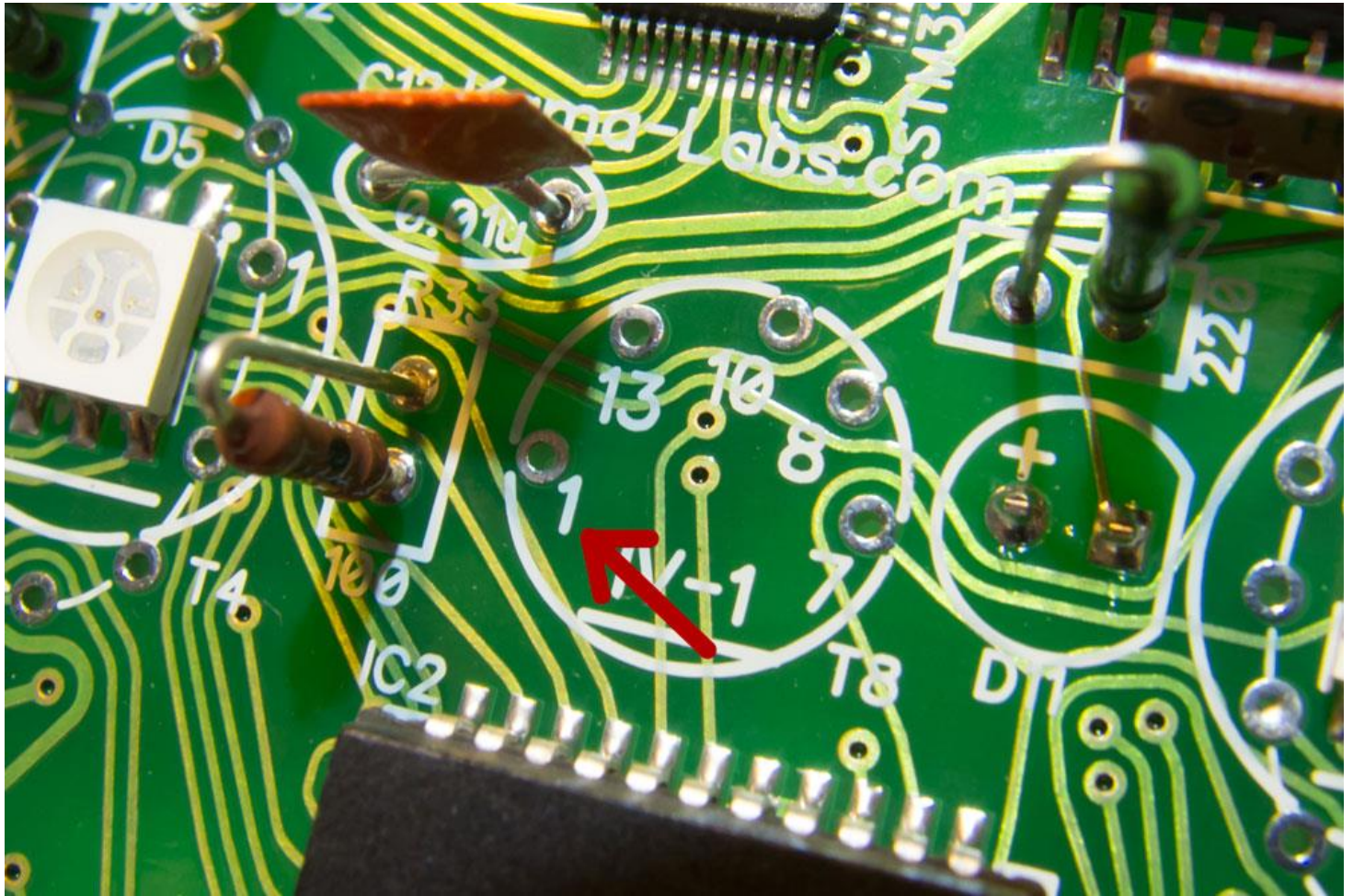


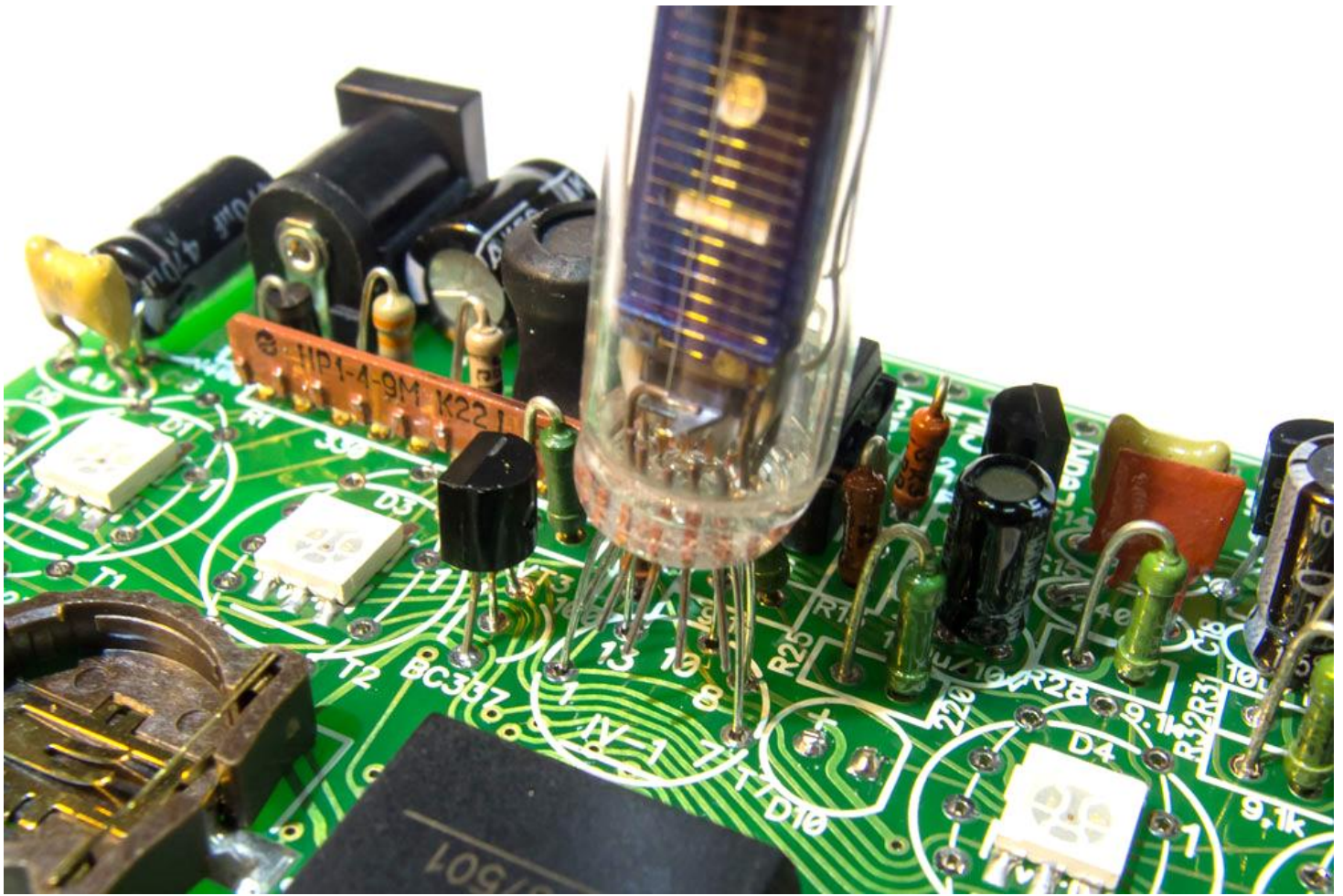
19) Prepare and install all IV-6 tubes. You can see that pins of tubes cuts spiral already. The longest pin – the first pin:





20) Place 2 IV-1 tubes. Pins of tubes cut spiral already too:

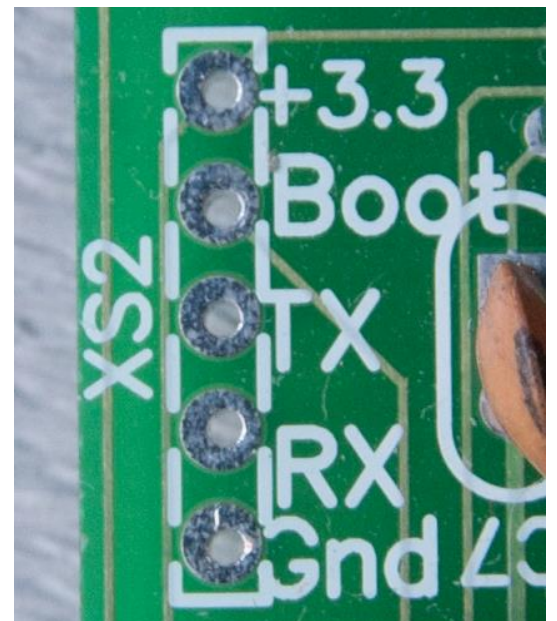


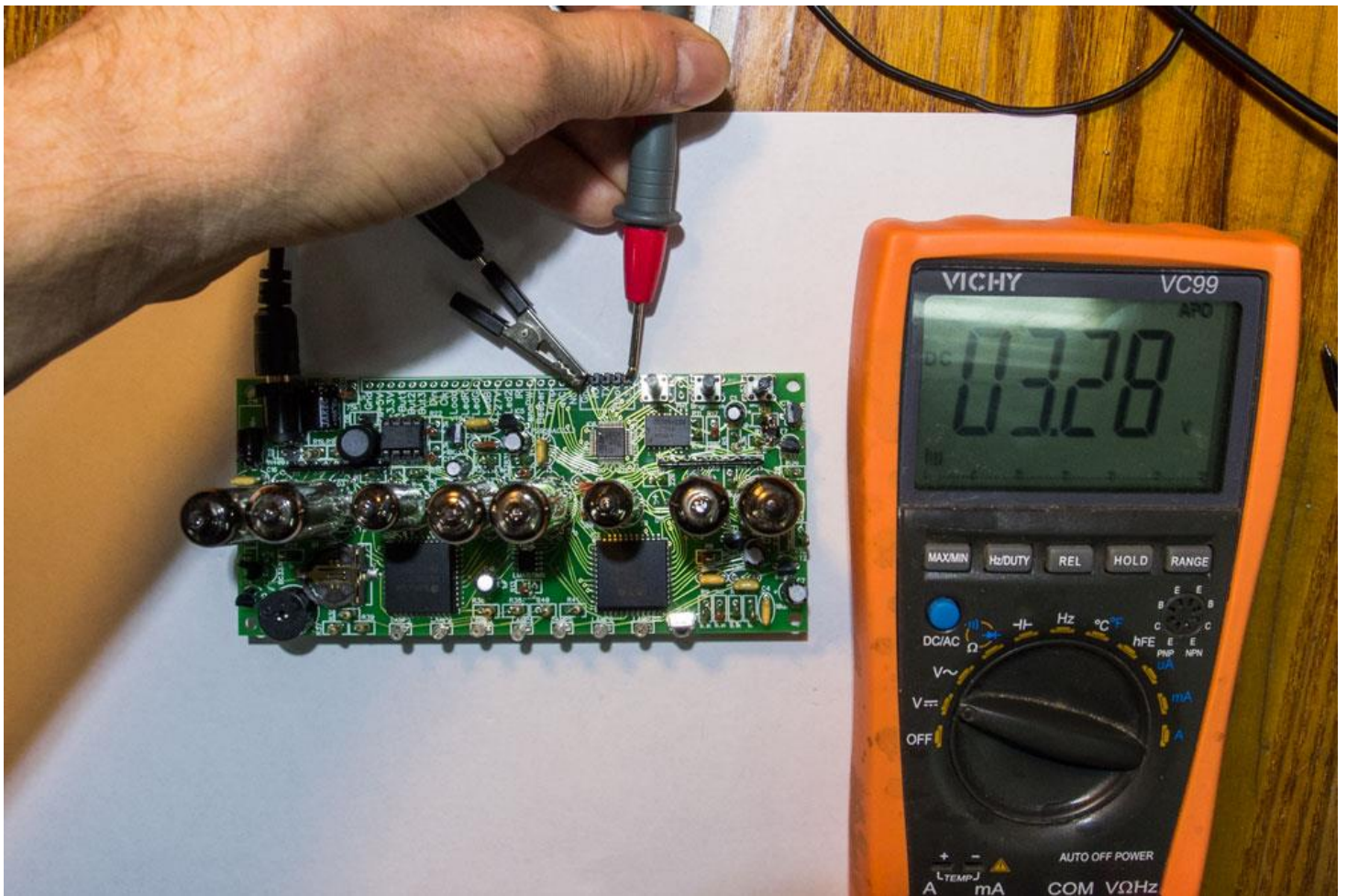


21) Now check the resistance between GND and +3.3V pins of XS2 again. It should be $\sim 3\text{k}\Omega$. However, not lower $1\text{k}\Omega$.

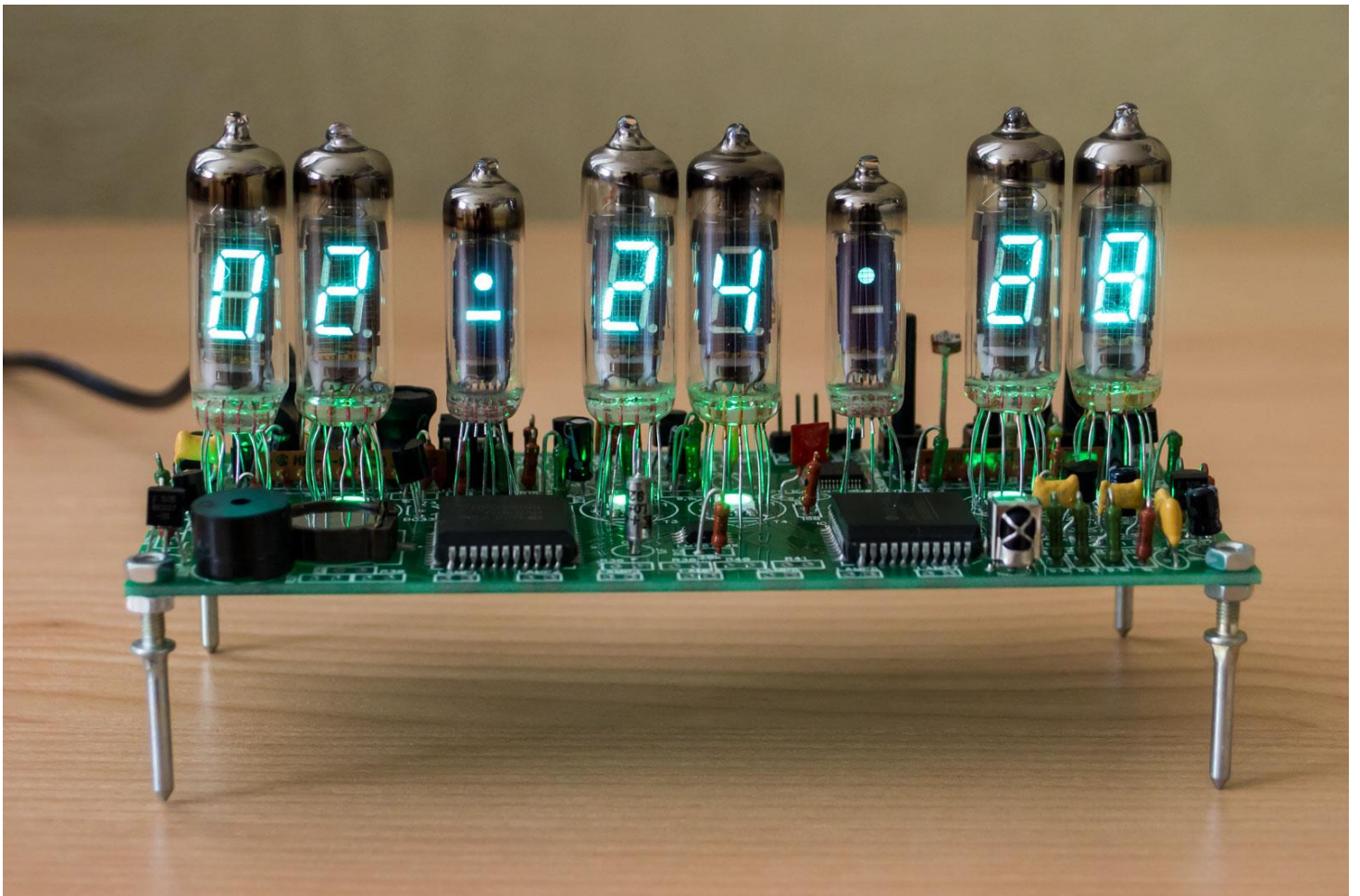
22) Then plug **5V** DC adapter. The microcontroller starts work and you will hear short melody.

If it not happens, check the 3.3V on XS2 between GND and +3.3 pins.

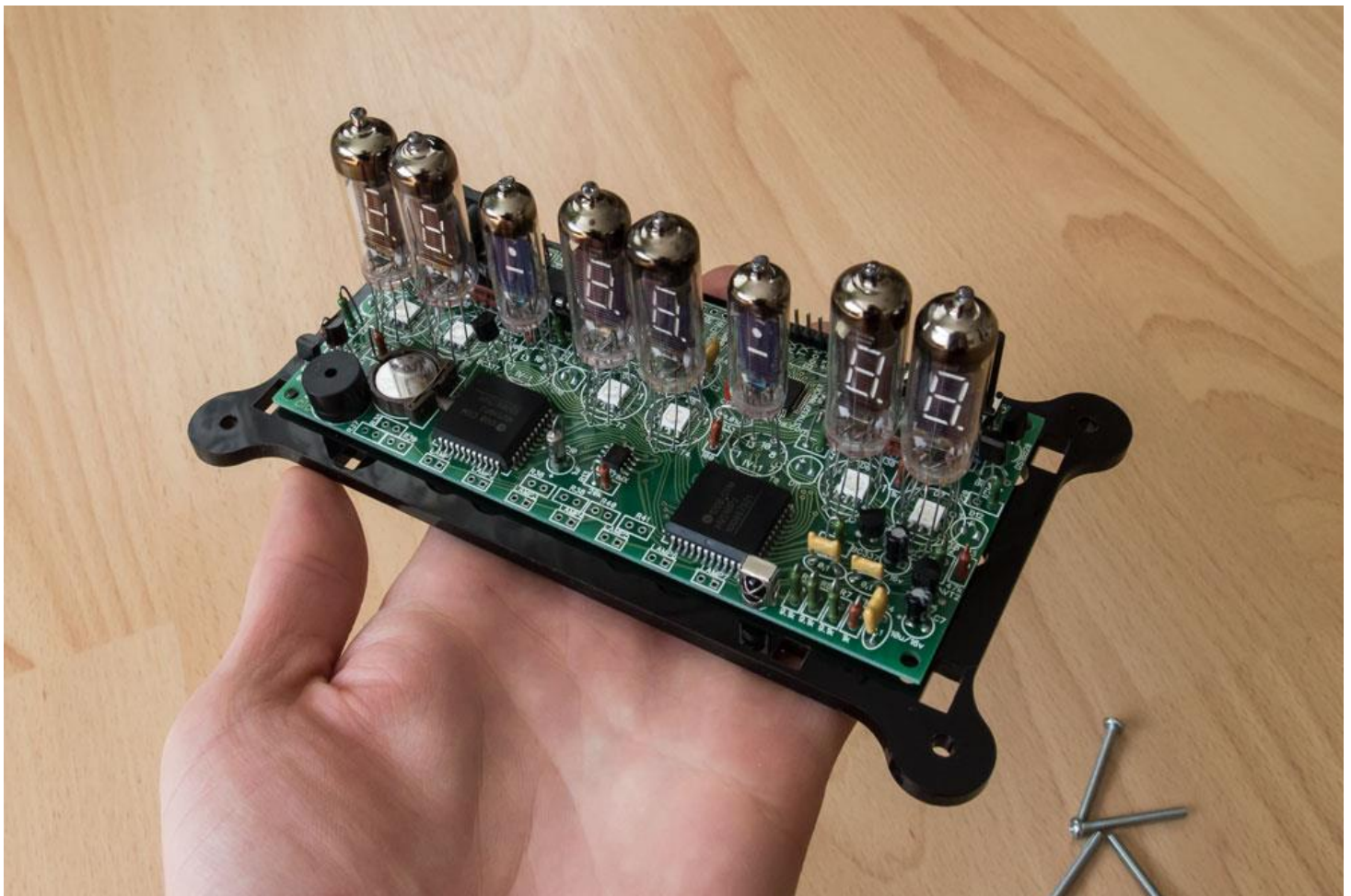
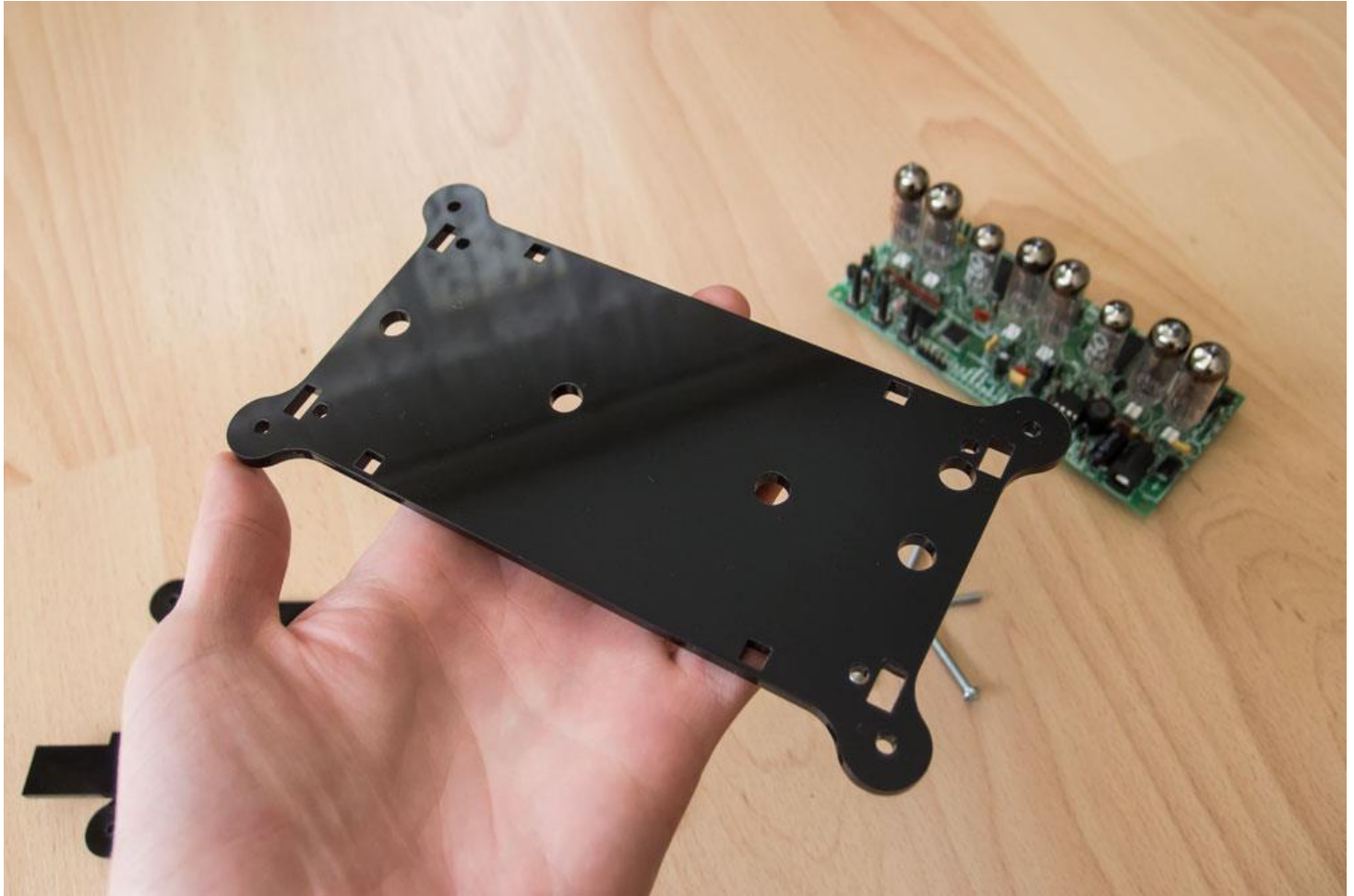




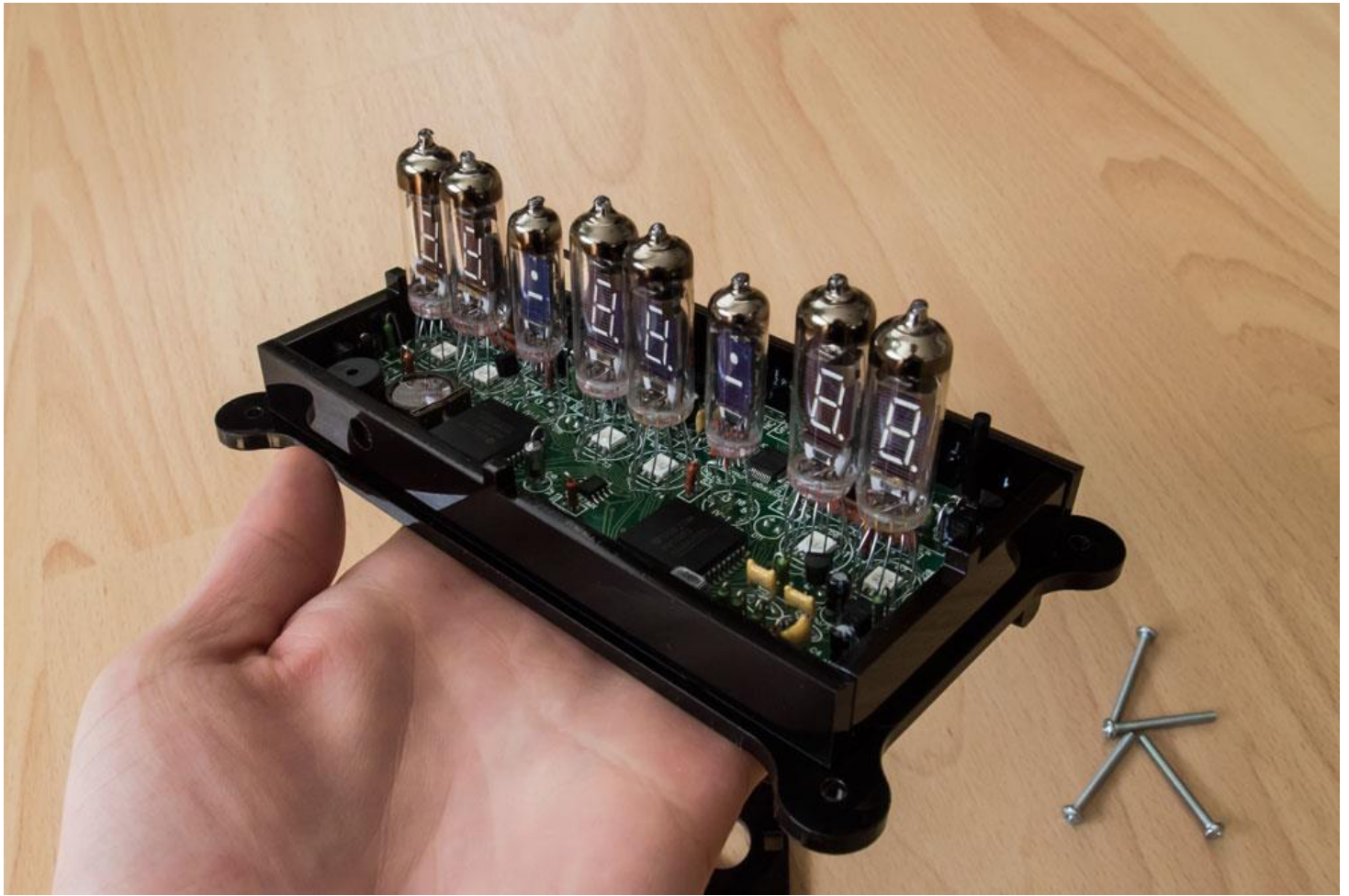
23) After all clock should work.



24) Assembling of plastic case. Firstly, take bottom panel in hand and put clock above.



25) Then insert back, front and side panels:



26) At last, insert top panel and tighten the nuts.



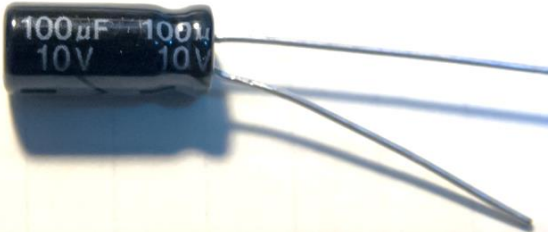




CONGRATULATIONS!


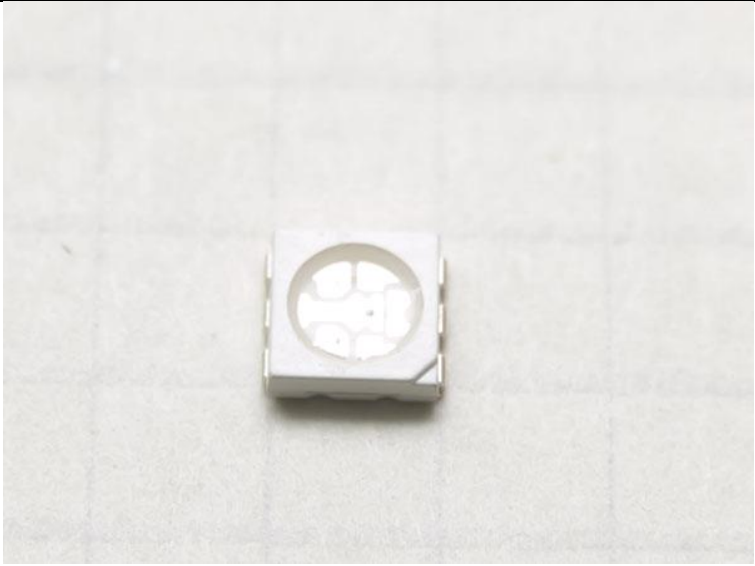
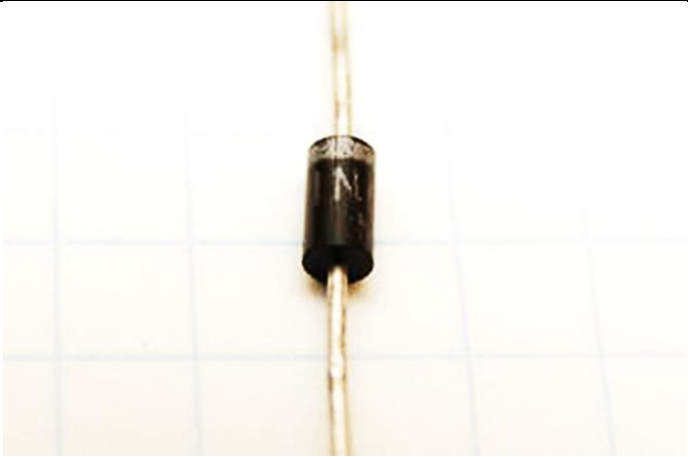
SPECIFICATION



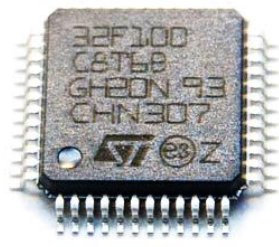

Please note, that elements in kit can be a little different. If you doubt value of element check it with multimeter.



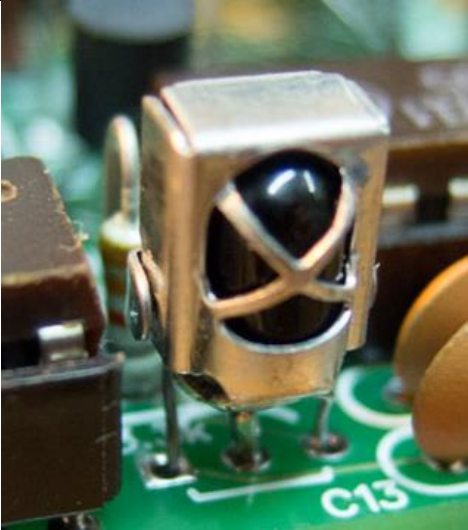

IF VALUE OF ELEMENT IN SPECIFICATION AND ON PCB IS DEFFERENT, PLEASE USE VALUES FROM SPECIFICATION AND SCHEMATIC.

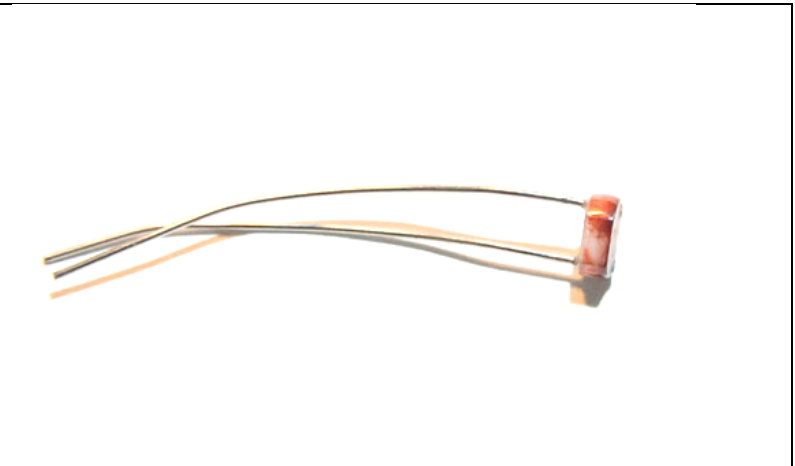
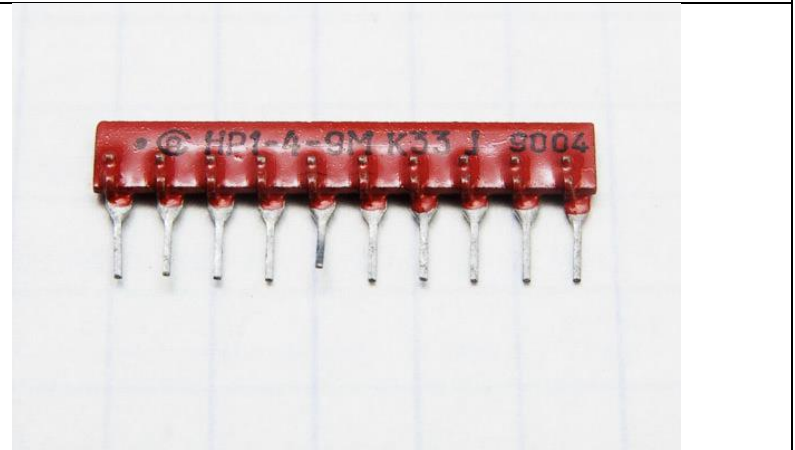
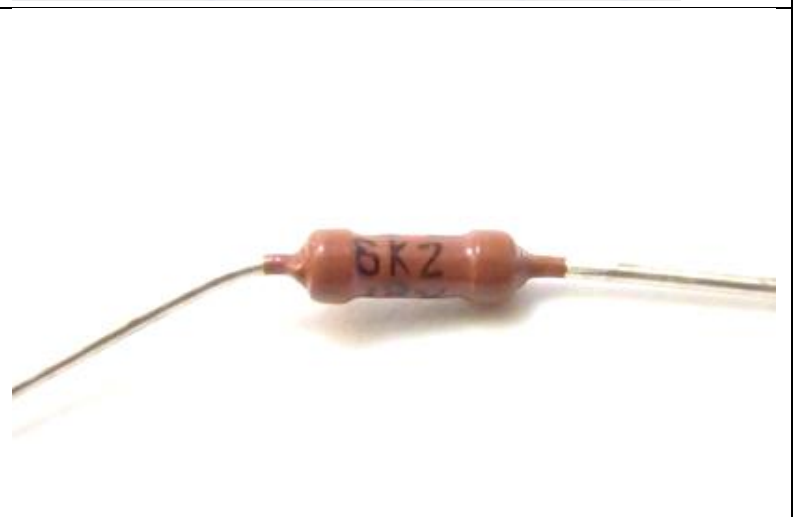
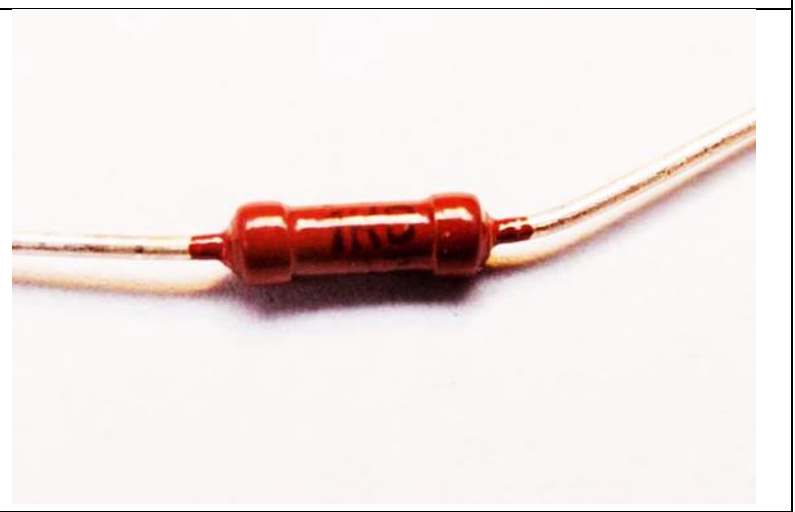
Label	Value	Qty	Photo
B1	CR1220		
BZR1	Buzzer		
C1,C8 C17,C18	100u/10v	4	

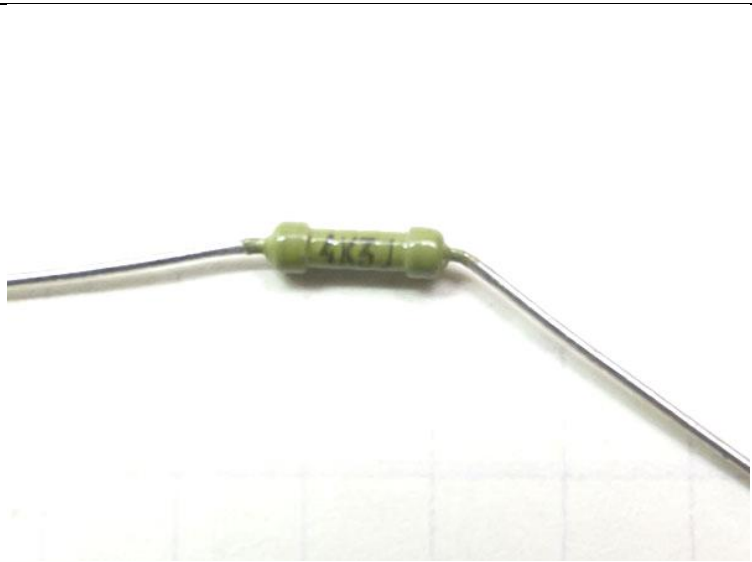
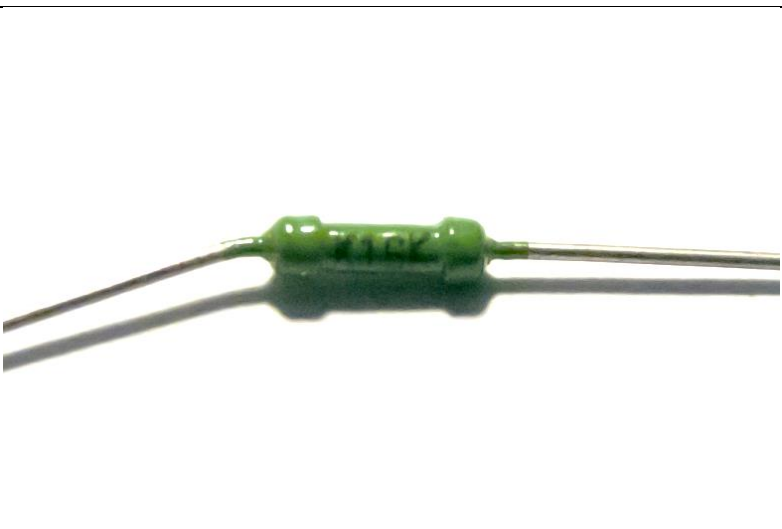


C2,C3,C5 C14,C16	0.22u	5	
C4	1.5nf		
C11	470u/10v		

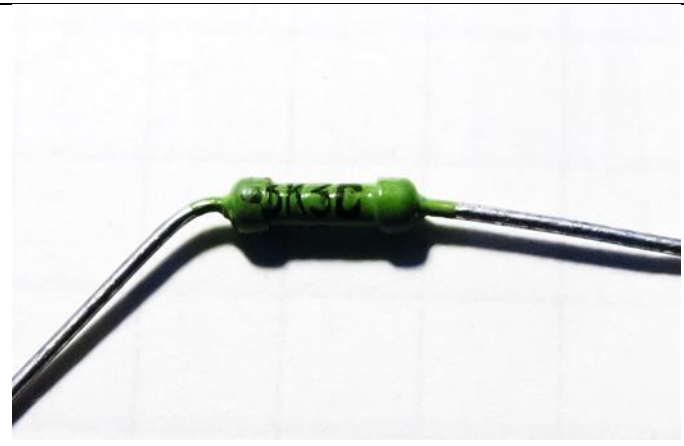


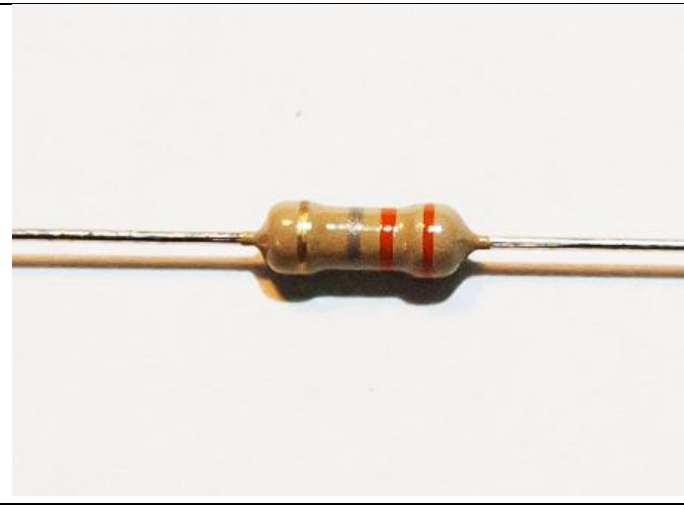
C13	220u/35v		
C15	240p		
D1,D2-D7	Led RGB 5050	6	
D2	1N4001		
D8	1N5819		


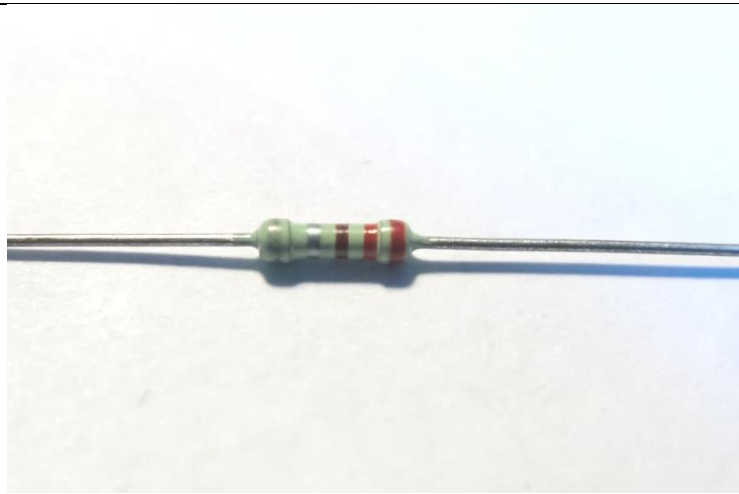
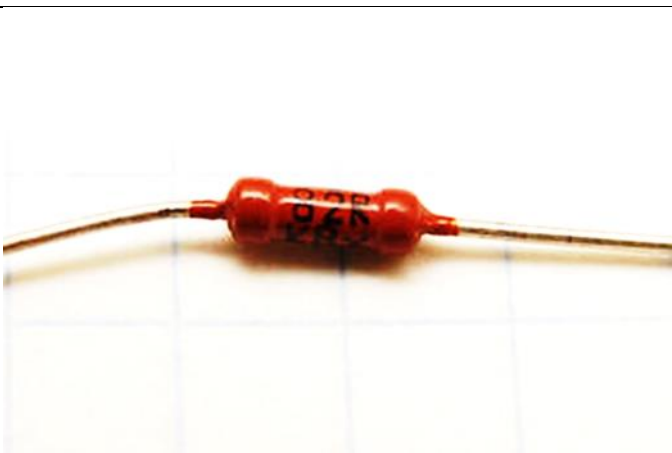
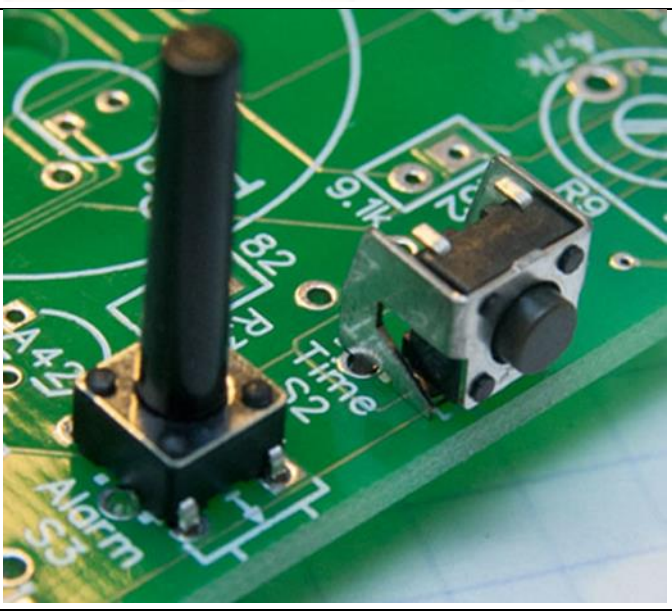
D9-D12	Led Auto	4	
IC1, IC2	HV518	2	
IC6	STM32F100C 8		
IC3	MC34063AP1		

IC5	LP2950ACZ3. 3		
IC7	DS18B20- PAR		
IR1	IR-sensor		
L1	220uH		


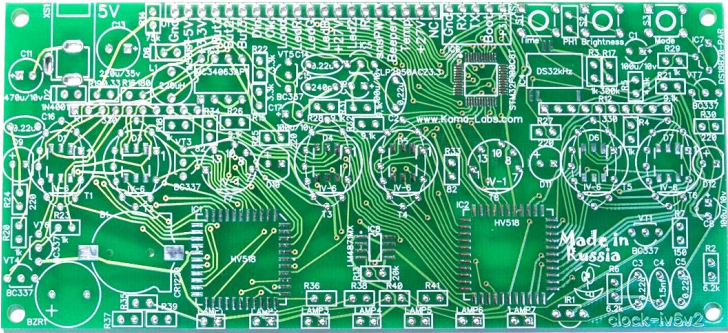
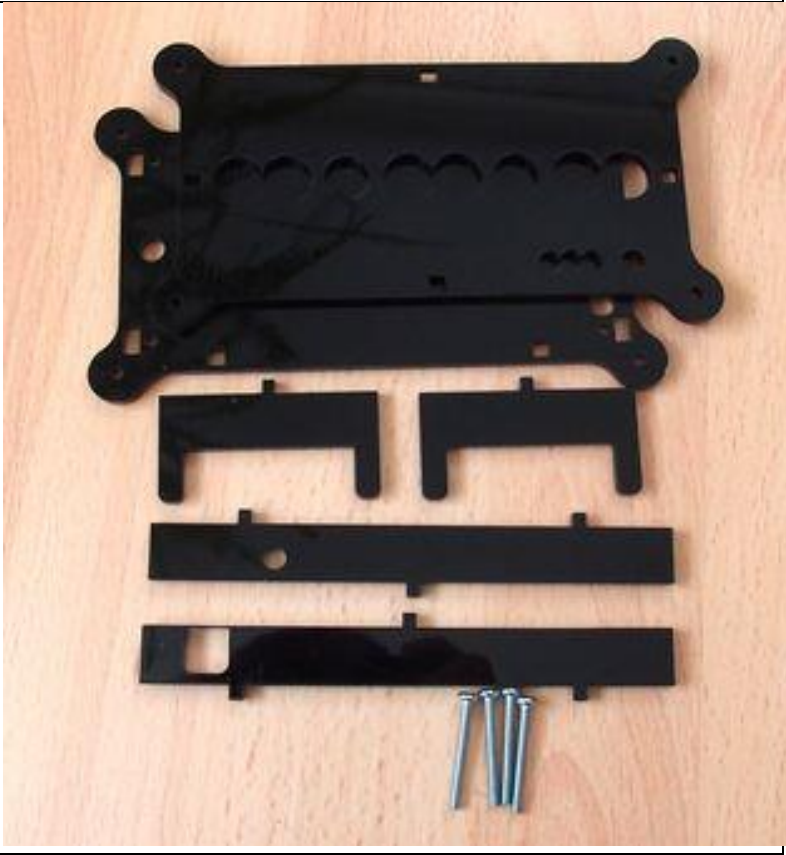
PH1			
R1, R12	330 Рез. Сборка	2	
R2, R6	6.2k	2	
R3,R4,R18,R20,R23,R2 9	1k	6	


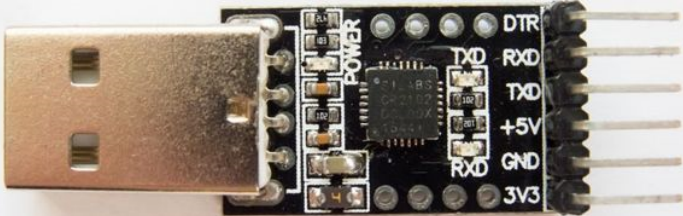
R5	4.3k	
R7	150	
R13	20k	
R14	75k	

R15,R22	3.3k	2	
R16	180		
R17	300k 9.1k		
R19	0.33		

R21,R26,R28,R31,R32	9.1k	5	
R24,R25,R27,R30	220	4	
R33,R34	82	2	
S1-S3	Buttons	3	

T1-T7	IV-6 tubes	6	
T7,T8	IV-1 tube	2	
VT1	BC337-25	6	
XS1	Power plug		

<p>Battery holder</p>			
<p>PCB</p>			
<p>Plastic/wooden case</p>			

Power supply	5V/1A	
USB-UART converter		
Remote control		