

Qty	reference	type	part number	RS stock number	
17	RL1-RL17	Relay	TIANBO TRA2 L-12VDC-S-Z	n/a	
1	IC1	Arduino	Nano 33 IoT	n/a	
2	IC2, 3	Shift regist	TPIC6B595	662-9203	
1	IC4	op Amp	LM358BIDR SOIC	689-6719	
1	IC5	logic	74HCT04D SOIC	112-9988	
1	IC8	EEPROM	24FC1026-I/SN SOIC	823-3270	
1	IC9	regulator	LM1117-5 SOT-223	535-8641	
19	D1-D17, D24-25	diode	BAS16J 0805		
4	D18-21	diode	IN5711W-7-F SOD-80_W		
17	D33-49	LED	0805 red	654-5818	
1	D23	LED	3mm leaded green		
1	D26	diode	S1M		DNI
1	T1	FET	2N7002K-T/R		
50	C1-C32, C46-49, C59-C60, C64-C67, C70- C76, C88	capacitor	10nF 0805 50Vceramic		
2	C33-C34	capacitor	18pF mica		
2	C35-C36	capacitor	39pF mica		
2	C37-C38	capacitor	82pF mica		
2	C39-C40	capacitor	150pF mica		
2	C41-C42	capacitor	330pF mica		
2	C43-C44	capacitor	680pF mica		
2	C45, C56	capacitor	1500pF mica		
2	C57-C58	capacitor	3300pF mica		
2	C50, C51	capacitor	1uF 0805 25V ceramic		
1	C61	capacitor	100uF 10V tantalum 7.5x4.5mm		
3	C55, C62, C99	capacitor	15uF 35V tantalum 7.5x4.5mm		
2	C52, C53	capacitor	10uF 0805 25V ceramic		
3	C63, C77, C89		100nF 0805 50V ceramic		
2	C68, C69	capacitor	TBD		DNI
2	R1, R2	resistor	51R 0.75W	123-4435	
2	R3, R4	resistor	100K 0805		
7	R5-R7, R22, R24, R25, R26	resistor	10K 0805		
3	R8, R9, R23	resistor	1K 0805		
2	R10, R11	resistor	220K 0805		
2	R12, R13	resistor	15K 0805		
2	R14, R15	resistor	18K 0805		
17	R19-21, R27-40	resistor	2K7 0805		
1	F1	fuse	polysilicon 1A 1206	691-7507	
3	L1-L3	toroid	T94-6		
5	L4-L8	toroid	T94-2		
2	L9, L11	toroid	FT50-43		
3	L10, L12, L13	ferrite bead	Fair-rite 2743021447	467-3365	
2	J2, J3	SMA rt angle		616-3400	
1	J12	connector	2.1mm 12V power	448-376	
1	J4	connector	3 pin 0.1" pitch header		
1	J11	connector	phono PCB mtg		
1	J1	connector	header 2x5 pin 0.1" pitch		DNI
2	J5, J6	connector	header 2 pin 0.1" pitch		DNI
1	IC10		12V to 3.3V regulator backwire	762-0430	

DNI=do not insert this component!

Inductor windings:

L1	T94-6 (yellow)	2T 18SWG
L2	T94-6 (yellow)	3T 18SWG
L3	T94-6 (yellow)	5T 18 SWG
L4	T94-2 (red)	6T 18 SWG
L5	T94-2 (red)	8T 18 SWG
L6	T94-2 (red)	12T 18SWG
L7	T94-2 (red)	17T 18SWG
L8	T94-2 (red)	24T 18SWG

L9, L11 FT50-43

primary: 26T 26 SWG

secondary: 1T 22SWG through the centre of the toroid

Wiring Modifications

IC10 on rev2 PCB is to be backwired below the Arduino site

(it is needed to eliminate the internal switch mode PSU, which adds lots RFI)

Add a wire from T1 drain to RL17 pin 1