

Bill of Materials (1 of 3)

Item	Parts	Quantity	Value	Part name	Manufacturer	Description	Package name	Standard Dimensions Mm (inch)
1	C1, C2	2	470 μ F			Electrolysis 35V, \pm 10 %		8 \times 16
2	C3	1	47 μ F			Electrolysis 35V, \pm 10 %		6 \times 11
3	C4, C5, C9 C10, C11, C13, C15, C17, C18, C22, C23, C32, C36, C44	14	100 nF			Ceramic 50V, \pm 10 %		1.6 \times 0.8 (0603)
4	C6	1	100 μ F			Electrolysis 16V, \pm 10 %		5 \times 11
5	C7, C12, C24, C25, C26, C30	6	10 nF			Ceramic 50V, \pm 10 %		1.6 \times 0.8 (0603)
6	C8, C27, C28	3	4.7 μ F			Ceramic 50V, \pm 10 %		1.6 \times 0.8 (0603)
7	C14, C16, C29, C34, C35, C43, C45, C46	8	1 μ F			Ceramic 50V, \pm 10 %		1.6 \times 0.8 (0603)
8	C19, C20, C21	3	470 pF			Ceramic 50V, \pm 10 %		1.6 \times 0.8 (0603)
9	C31	1	10 μ F			Ceramic 35V, \pm 10 %		2.0 \times 1.2 (0805)
10	C33	1	47 nF			Ceramic 50V, \pm 10 %		1.6 \times 0.8 (0603)
11	C37, C41, C42	3	1 nF			Ceramic 50V, \pm 10 %		3.2 \times 1.6 (1206)
12	C38, C39, C40	3	100 nF			Ceramic 50V, \pm 10 %		2.0 \times 1.2 (0805)
13	R1, R5, R6, R7, R8, R24, R25, R26	8	4.7 k Ω			100 mW, \pm 10 %		1.6 \times 0.8 (0603)
14	R2, R3	2	1 k Ω			125 mW, \pm 10 %		2.0 \times 1.2 (0805)
15	R4	1	47 k Ω			100 mW, \pm 10 %		1.6 \times 0.8 (0603)
16	R9, R11, R27, R28, R32, R33, R34	7	0			Jumper		1.6 \times 0.8 (0603)

Bill of Materials (2 of 3)

Item	Parts	Quantity	Value	Part name	Manufacturer	Description	Package Name	Standard Dimensions Mm (inch)
17	R10	1	3.3 Ω			100 mW, ±10 %		1.6×0.8 (0603)
18	R14, R18	2	27 kΩ			100 mW, ±1 %		1.6×0.8 (0603)
19	R15	1	5.1 kΩ			100 mW, ±1 %		1.6×0.8 (0603)
20	R16, R20, R21, R22	4	10 kΩ			100 mW, ±1 %		1.6×0.8 (0603)
21	R17	1	2.7 kΩ			100 mW, ±1 %		1.6×0.8 (0603)
22	R19, R35, R36, R37, R38, R39, R42	7	10 kΩ			100 mW, ±10 %		1.6×0.8 (0603)
23	R23, R43, R44, R45, R47	5	100 Ω			100 mW, ±10 %		1.6×0.8 (0603)
24	R29, R30, R31	3	51 Ω			100 mW, ±10 %		1.6×0.8 (0603)
25	R40	1	3 Ω			250 mW, ±10 %		3.2×1.6 (1206)
26	R41, R51, R52, R53, R54, R55	6	3 kΩ			100 mW, ±10 %		1.6×0.8 (0603)
27	R46	1	5.1 Ω			100 mW, ±10 %		1.6×0.8 (0603)
28	R48, R49, R50	3	2 mΩ			3 W		6.4×3.2 (2512)
29	D1, D2	2	-	CUHS15F40	TOSHIBA	Schottky Barrier Diode	US2H	1.4×2.5
30	D3	1	-	BAS316	TOSHIBA	Switching diode	USC	1.25×2.5
31	Q1	1	-	2SA2056	TOSHIBA	High-speed switching PNP power transistor	TSM	2.8×2.9
32	Q2	1	-	2SC6061	TOSHIBA	High-speed switching NPN power transistor	TSM	2.8×2.9
33	Q3	1	-	TMBT3904	TOSHIBA	For low frequency amplification Transistor	SOT23	2.4×2.9
34	Q4, Q5, Q6, Q7, Q8, Q9	6	-	TPH1R204PB	TOSHIBA	N-ch power MOSFET	SOP Advance	5.0×6.0
35	IC1	1	-	L7812	STM	3-terminal regulator	TO-220	
36	IC2	1	-	L7805	STM	3-terminal regulator	TO-220	
37	U1, U2	2	-	TC75W58FK	TOSHIBA	Comparator	US8	2.0×3.1
38	U3	1	-	-	-	MCU	LQFP48	9.0×9.0
39	U4	1	-	DRV8323S	TI	Three-phase gate driver	WQFN40	6.0×6.0
40	NTC1	1	-	NCP18XV103J03RB	Murata Manufacturing	Thermistor		1.6×0.8 (0603)

Bill of Materials (3 of 3)

Item	Parts	Quantity	Value	Part name	Manufacturer	Description	Package name	Standard Dimensions Mm (inch)
41	J3	1	-	PH2.0-ZZ_5P	Risym	5-pin connector		
42	J4	1	-	1*6P 2.54mm	JICHENG	6-pin connector		
43	J5	1	-	PH2.0-ZZ_5P	Risym	4-pin connector		
44	J6	1	-	DC-005 2.1/2.5	BOTAIXIN	Power jack		
45	CON1, CON2	2	-	1*4P 2.54mm	JICHENG	4-pin connector		
46	P1	1	-	GH-20AB/AWB(A)	MINGYUE	Connector (male)		
47	P2	1	-	GH-20AB/AWB(A)	MINGYUE	Connector (female)		
48	BOOT1	1	-	1*2P 2.54mm	JICHENG	2-pin connector		
49	SW1	1	-	1.25T-8AWB(A)	Hong Yun	Switch		
50	S2, S3, S4	3	-	Microswitch	MUXIN	Switch		6.0×6.0
51	LED1	1	-	0603 Green	ZTSMLED	LED (green)		
52	LED2, LED3, LED4, LED5	4	-	0603 Red	ZTSMLED	LED (red)		

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