

Num	Designator	Value	Qty.	Footprint	Comment	Digi-Key Part Number
1	U8	ATmega328P-PU	1	DIP-28	IC MCU 8BIT 32KB Flash	ATMEGA328P-PU-ND
2	U1, U2, U3	HV513WG	3	SOIC-24W	IC Hight Voltage Register	HV513WG-GTR-ND
3	U4	MAX1771	1	SOIC-8	DC-DC Hight Voltage	MAX1771CSA+TR-ND
4	U5	RT8258 or LMR12010 (Need R20, D20)	1	SOT23-6	DC_DC 5V, if IC LMR12010X need mounting R20, D20 on PCB	1028-1044-2-NDorLMR12010XMKX/NOPB-ND
5	U6	DS1307Z	1	SOIC-8	RTC	DS1307Z+T&RTR-ND
6	U7	FT232RL	1	SSOP-28	USB-UART	768-1007-2-ND
7	U9	ULN2003D	1	SOIC16	Driver	497-2345-2-ND
8	C1, C2, C3, C12, C16, C18, C20, C21, C22, C23, C26, C27	100nF 50V	12	0805	Ceramic capacitor	CL21F104MBCNNND-ND
9	C4	220uF 25V	1	SMD 8x10.8mm or Lead 8x13mm	Aluminum Capacitors Low ESR	493-2192-2-ND
10	C5, C9, C11, C14	10uF 16V 0805	4	0805	Ceramic capacitor	CL21A106KQNNNF-ND
11	C6	10uF 250V	1	SMD 10.8x10.8mm or Lead 10x16mm	Aluminum Capacitors Low ESR (4,7-10uF)	493-6705-2-ND or493-12846-3-ND
12	C7, C28, C29, C30	100nF 250V	4	1206	Ceramic capacitor	311-1976-2-ND
13	C8, C10	10nF 0805	2	0805	Ceramic capacitor	CL21B103KBANNL-ND
14	C13	1000uF 16V	1	SMD 10.8x10.8mm or Lead 10x16mm	Aluminum Capacitor	UCM1C102MNL1GS-NDorB41821A4108M2-ND
15	C15, C17, C19	10uF 10V	3	Size-A (CPM3216)	Tantalum Capacitor	399-3684-2-ND
16	C24, C25	22pF 0805	2	0805	Ceramic capacitor	CL21C220JBANNND-ND
17	D13	LED Red	1	LED 1206	Any LED 10-20 mA	160-1187-2-ND
18	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D15	S1M or S2M	12	SMB or SMA	Diode	S2M-FDITR-ND
19	D14	ES2F	1	SMB	Diode	ES2F-M3/5BT-ND
20	D19	SS16 or SS26	1	SMB or SMA	Diode Schottky	SS26S-M3/5AT-ND
21	D18	BZV55-C5V1	1	SOD-80C	Diode Zener	568-4874-1-ND
22	D16	BZV55-C24V	1	SOD-80C	Diode Zener	568-12247-1-ND
23	D12	BZV55-C75V	1	SOD-80C	Diode Zener	568-6269-1-ND
24	D17	SMBJ220CA	1	SMB	Diode TVS	SMBJ220CALFCT-ND
25	D20	DL4148	1	SOD-80C	Diode, only installed if the IC U5 LMR12010	DL4148-TPMSCT-ND
26	L1	220uH 1.5A CDRH127 Sumida	1	Size 12x12mm	Power Inductor	308-2286-1-ND
27	L2	15uH 2A CDRH104R Sumida	1	Size 10x10mm	Power Inductor	308-2278-1-ND
28	F1	Fuse 2A 35V or Resistor 1206 0 ohm	1	1206	Fuse or Resistor 0 ohm	1276-3514-2-ND
29	J1	PWR_DJK-02A	1	KLD-0202 or EJ508A	DC Power 2.1x5.5mm	EJ508A-ND
30	J2	MiniUSB	1	UX60-MB	5 pin	ED90342CT-ND
31	KEYeX, Prog ICSP	PLD2-6	2	PLD-6	pich 2.54mm	A108539-ND
32	MAIN1, MAIN2	PBD-12	2	PBD-12	pich 2.54mm	SAM1212-03-ND
33	USBeX	PLS-4	1	PLS-4-3	Option install if you need external USB	TSW-104-15-T-S-ND
34	SW1, SW2, SW3	Button SWT-3	3	SWT-3 or Any External Button	If you need an external button it is connected via the plug on the PCB	
35	B1	Buzzer HCS0903G	1	SMD 8.5x8.5mm or Any Lead Passive Buzzer	If you need an external buzzer it is connected via the plug on the PCB	102-1198-2-ND
36	BT1	Battery Holder CR1220	1	CR1220		BC501SM-ND
37	Q1	IRF644 or IRF740S	1	D2PAK or TO-220	Transistor Power MOSFET	IRF644SPBF-ND or IRF740PBF-ND
38	R1, R2, R3, R4, R5, R6	1k	6	0805	Resistor	1276-5519-2-ND
39	R1, R2, R3, R4, R5, R6, R7, R19, R29, R31, R32, R33, R34, R35	1k	14	0805	Resistor	1276-5531-2-ND
40	R8, R15, R26, R27, R28	3.6k	1	0805	Resistor	1276-5300-2-ND
41	R9	1.5 MOhm	1	0805	Resistor	311-1.5MARTR-ND
42	R10	1 Ohm	1	1206	Resistor	1276-5843-2-ND
43	R11	300k	1	0805	Resistor	RMCF0805JT300KTR-ND
44	R12, R16, R30	10k	3	0805	Resistor	RMCF0805JT10K0TR-ND
45	R13	10K	1	0805	Resistor, only installed if the use IC U5 LMR12010	RMCF0805JT10K0TR-ND
46	R17	10k	1	3296W or 3266W	Adjust Resistor	3296W-1-103RLFTR-NDor3266W-103LF-ND
47	R18	127k or 130k	1	0805	Resistor	1276-5579-2-ND
48	R20	Option	1	0805	Resistor, not mount	
49	R21	0.1 Ohm	1	0805	Resistor	1276-6170-2-ND

50	R22	91k	1	0805	Resistor	1276-5575-2-ND
51	R23	17.4k	1	0805	Resistor	1276-5346-2-ND
52	R24, R25	0 Ohm	2	0805	Resistor, R25 not mount	1276-5466-2-ND
53	Z1	32,768 kHz	1	SMD 3.2x1.6mm or Lead 2x6m	Quartz	300-8814-1-ND300-8341-1-ND
54	Z2	16Mhz	1	SMD 6.0x3.5mm	Quartz	XC1664TR-ND
55	Addition need	DIP-28 Socket	1		For IC U8	110-87-328-41-005101-ND
56	Addition need	Battery CR1220 3V	1		For Battery holder BT1	P033-ND