

# Bill Of Materials

## 13 Capacitors

Quantity	References	Value	Description
3	C1,C4,C6	1n	SMD Multilayer Ceramic Capacitor, 1206
9	C2-C3,C5,C7-C10,C12-C13	0.1uF	SMD Multilayer Ceramic Capacitor, 1206
1	C11	47u	Electrolytic Capacitor, Low ESR, 47 µF, 25 V,

Sub-totals:

## 31 Resistors

Quantity	References	Value	Description
16	R1-R3,R7,R9,R12-R18,R22-R25	12K	SMD1206 250mW, 1%
3	R4-R6	680	SMD1206 250mW, 1%
1	R8	0.5	SMD1206 250mW, 1%
1	R10	2K2	SMD1206 250mW, 1%
1	R11	4K	SMD1206 250mW, 1%
2	R19-R20	270K	SMD1206 250mW, 1%
1	R21	10R	10W ResistorThrough Hole
1	R26	10K	SMD1206 250mW, 1%
1	R27	33K	SMD1206 250mW, 1%
1	R28	47K	SMD1206 250mW, 1%
3	R29-R31	470	SMD1206 250mW, 1%

Sub-totals:

## 9 Integrated Circuits

Quantity	References	Value	Description
3	U1-U3	ACS712ELCTR-20A-T	Fully Integrated, Hall Effect-Based Linear Current Sensor with High Voltage Isolation and a Low-Resistance Current Conductor.
1	U4	IA1224S	Isolated Board Mount DC/DC Converter, ITE, 2 Output, 1 W, 24 V, 21 mA, -24 V
2	U6,U8	PC817B	High Density Mounting Type Photocoupler.
2	U7,U9	AD822AP	Dual, Single Supply, Precision, Rail-To-Rail,Low Power, FET-Input Operational Amplifier (1.9MHz, 3V/us, 3V-36V)
1	U11	ATMEGA8	8 KBytes Flash, 1088 Bytes SRAM, 512 Bytes EEPROM, ADC, Analog Comparator, TWI, SPI, 3 Ports, 3 Timers, 1 USART

Sub-totals:

## 5 Transistors

Quantity	References	Value	Description
3	Q1-Q3	IRL2505	55V, 104A @ 25°C, 200W, Single N-Channel HEXFET Power MOSFET in a TO-220AB package
1	Q4	2SJ162	P-Channel MOSFET. Max. Voltage: 160V, Full Scale Current: 7A, Max. Power: 100W
1	Q5	BC337	Silicon NPN Low Power High Frequency Bipolar Transistor (625mW, 150eC)

Sub-totals:

## 5 Diodes

Quantity	References	Value	Description
5	D1-D5	LED-RED	LED 5MM

Sub-totals:

## 19 Miscellaneous

<u>Quantity</u>	<u>References</u>	<u>Value</u>	<u>Description</u>
1	BUZ1	ABT-407-RC	1 V to 3 V, 70 dB, Sounder, 15 mA,
4	J1,J3-J5	Banana Connector, 4mm, Jack, Panel Mount, 30A RED	Single pin terminal
3	J2,J6,J8	Banana Connector, 4mm, Jack, Panel Mount, 30A BLAC	Single pin terminal
1	J7	Banana Connector, 4mm, Jack, Panel Mount, 30A BLUE	Single pin terminal
1	LCD1	MC21605J6W-FPTLW-V2	Alphanumeric LCD, 16 x 2, Black on White, 5V,
4	RV1,RV5-RV7	12k	Trimmer Potentiometer, 10 kohm, 1 Turns, Through Hole
3	RV2-RV4	10k	Rotary Potentiometer, Carbon, 10 kohm, 1 Turns, Linear, 50 mW, $\pm$ 20%, PTV09A Series
1	SW1	1MD1T1B5M1QE	Toggle Switch, On-Off, DPDT, Non Illuminated, Panel
1	SW2	R13-24A-05-BB	Pushbutton Switch, Off-(On), SPST,

Sub-totals:

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Totals: