

Bill of Materials

| Part Name/Description | Unit | Quantity | Unit Prototype Cost | Total Prototype Cost | Unit Production Cost | Total Production Cost | Manufacturer | Manufacturer Part # | Vendor Link | Datasheet Link | Supplier | Supplier Part # | # Ordered | Date Ordered | # Received | Surplus | Schematic Reference Designators |
|--------------------------------------|------|----------|---------------------|----------------------|----------------------|-----------------------|---------------------|-----------------------|-------------|----------------|----------|------------------|-----------|--------------|------------|---------|---------------------------------|
| DS18B20 1-Wire Temperature Sensor | | 1 | \$ 14.950 | \$ 14.950 | \$ 14.950 | \$ 14.950 | Adafruit | 1528-2149-ND | Digikey | | Digikey | 1528-2149-ND | 3 | 2/19/2024 | 3 | 2 | |
| PELTIER TEC 40X40X3.8MM 6.0A | | 3 | \$ 23.450 | \$ 23.450 | \$ 23.450 | \$ 23.450 | Wakefield-Vette | 345-1739-ND | Digikey | | Digikey | 345-1739-ND | 5 | 2/20/2024 | 5 | 2 | |
| Fan | | 2 | \$ 16.040 | \$ 16.040 | \$ 16.040 | \$ 16.040 | Delta Electronics | 603-1159-ND | Digikey | | | 603-1159-ND | 4 | 2/21/2024 | 4 | 2 | |
| RES 4.7K OHM 5% 1/8W 0805 | | 10 | \$ 0.017 | \$ 0.017 | \$ 0.017 | \$ 0.017 | Stackpole Electro | RMCF0805JT4K70TR-ND | Digikey | | Digikey | RMCF0805JT4K70T | 12 | 2/22/2024 | 12 | 2 | |
| MOSFET N-CHANNEL 40V 58A DPAK | | 10 | \$ 0.914 | \$ 0.914 | \$ 0.914 | \$ 0.914 | Toshiba Semicon | TK3R1P04PLBQTR-ND | Digikey | | Digikey | TK3R1P04PLBQTR | 12 | 2/23/2024 | 12 | 2 | |
| CAP TANT POLY 10UF 16V 0805 | | 10 | \$ 0.523 | \$ 0.523 | \$ 0.523 | \$ 0.523 | KYOCERA AVX | 478-F981C106MSUAJGTR | Digikey | | Digikey | 478-F981C106MSUA | 12 | 2/24/2024 | 12 | 2 | |
| Heat Sink | | 3 | \$ 1.020 | \$ 1.020 | \$ 1.020 | \$ 1.020 | CUI Devices | FHS15-R20-P40 | Digikey | | Digikey | FHS15-R20-P40 | 5 | 2/25/2024 | 5 | 2 | |
| PTC Heating Element - 5V 100°C | | 3 | \$ 2.500 | \$ 2.500 | \$ 2.500 | \$ 2.500 | DFRobot | FTT0845 | Digikey | | Digikey | FTT0845 | 5 | 2/26/2024 | 5 | 2 | |
| Microcontroller | | 5 | \$ 1.760 | \$ 1.760 | \$ 1.760 | \$ 1.760 | Microchip Techn | PIC24FJ64GA702-I/SO | Digikey | | Digikey | PIC24FJ64GA702-I | 7 | 2/27/2024 | 7 | 0 | |
| 10uF capacitor | | 10 | \$ 0.070 | \$ 0.070 | \$ 0.070 | \$ 0.070 | Samsung Electro | 1276-1096-2-ND | Digikey | | Digikey | 1276-1096-2-ND | 12 | 2/28/2024 | 12 | 7 | |
| 300ohm resistor | | 10 | \$ 0.017 | \$ 0.017 | \$ 0.017 | \$ 0.017 | Stackpole Electro | 738-RMCF0805JT300RTR | Digikey | | Digikey | 738-RMCF0805JT30 | 12 | 2/29/2024 | 12 | 2 | |
| Pushbutton | | 6 | \$ 0.220 | \$ 0.220 | \$ 0.220 | \$ 0.220 | E-Switch | EG5354TR-ND | Digikey | | Digikey | EG5354TR-ND | 8 | 3/1/2024 | 8 | 2 | |
| 10kohm resistor | | 15 | \$ 0.038 | \$ 0.038 | \$ 0.038 | \$ 0.038 | Stackpole Electro | RMCF0805JT10K0TR-ND | Digikey | | Digikey | RMCF0805JT10K0T | 17 | 3/2/2024 | 17 | 2 | |
| 1uF capacitor | | 10 | \$ 0.030 | \$ 0.030 | \$ 0.030 | \$ 0.030 | Stackpole Electro | 1276-1102-2-ND | Digikey | | Digikey | 1276-1102-2-ND | 12 | 3/3/2024 | 12 | 2 | |
| LCD display | | 2 | \$ 11.410 | \$ 11.410 | \$ 11.410 | \$ 11.410 | Newhaven Display | NHD-C0220BHZ-FSW-FB | Digikey | | Digikey | NHD-C0220BHZ-FS | 4 | 3/4/2024 | 4 | 2 | |
| 0.1uF capacitor | | 15 | \$ 0.026 | \$ 0.026 | \$ 0.026 | \$ 0.026 | Aallen | 1276-1000-2-ND | Digikey | | Digikey | 1276-1000-2-ND | 17 | 3/5/2024 | 17 | 2 | |
| 1kohm resistor | | 10 | \$ 0.097 | \$ 0.097 | \$ 0.097 | \$ 0.097 | Aallen | YAG4489TR-ND | Digikey | | Digikey | YAG4489TR-ND | 12 | 3/6/2024 | 12 | 2 | |
| 300mA 100v diode | | 10 | \$ 0.119 | \$ 0.119 | \$ 0.119 | \$ 0.119 | Diodes Incorporated | 1N4148W-FDTR-ND | Digikey | | Digikey | 1N4148W-FDTR-N | 12 | 3/7/2024 | 12 | 2 | |
| IRLML2502TRPBF MOSFET N Channel | | 3 | \$ 0.420 | \$ 0.420 | \$ 0.420 | \$ 0.420 | Infineon Technol | IRLML2502TRPBF | Digikey | | Digikey | IRLML2502TRPBF | 5 | 3/8/2024 | 5 | 2 | |
| Switching Voltage Regulator | | 5 | \$ 4.320 | \$ 4.320 | \$ 4.320 | \$ 4.320 | Microchip Techn | 576-1217-ND | Digikey | | Digikey | 576-1217-ND | 7 | 3/9/2024 | 7 | 2 | |
| Inductor(68uH) | | 5 | \$ 0.520 | \$ 0.520 | \$ 0.520 | \$ 0.520 | Taiyo Yuden | 587-2632-2-ND | Digikey | | Digikey | 587-2632-2-ND | 7 | 3/10/2024 | 7 | 2 | |
| Schottky Diode | | 5 | \$ 0.460 | \$ 0.460 | \$ 0.460 | \$ 0.460 | Diodes Incorporated | B130LB-FDTR-ND | Digikey | | Digikey | B130LB-FDTR-ND | 7 | 3/11/2024 | 7 | 2 | |
| Capacitor 330uF , 6v | | 5 | \$ 1.040 | \$ 1.040 | \$ 1.040 | \$ 1.040 | KEMET | 399-11976-2-ND | Digikey | | Digikey | 399-11976-2-ND | 7 | 3/12/2024 | 7 | 2 | |
| Capacitor 3300pF, 6v | | 5 | \$ 0.230 | \$ 0.230 | \$ 0.230 | \$ 0.230 | KEMET | 490-8158-2-ND | Digikey | | Digikey | 490-8158-2-ND | 7 | 3/13/2024 | 7 | 2 | |
| Capacitor, 22uF 35V | | 5 | \$ 0.250 | \$ 0.250 | \$ 0.250 | \$ 0.250 | Cal-Chip Electro | 445-8045-2-ND | Digikey | | Digikey | 445-8045-2-ND | 7 | 3/14/2024 | 7 | 2 | |
| Resistor (2.37k , 1%, Surface Mount) | | 5 | \$ 0.100 | \$ 0.100 | \$ 0.100 | \$ 0.100 | YAGEO | 13-AC0805FR-072K37LTR | Digikey | | Digikey | 13-AC0805FR-072K | 7 | 3/15/2024 | 7 | 2 | |
| Resistor (1.24k , 1%, Surface Mount) | | 5 | \$ 0.100 | \$ 0.100 | \$ 0.100 | \$ 0.100 | Stackpole Electro | 311-1-24KJLTR-ND | Digikey | | Digikey | 311-1-24KJLTR-ND | 7 | 3/16/2024 | 7 | 2 | |
| Humidity Sensor | | 4 | \$ 3.450 | \$ 3.450 | \$ 3.450 | \$ 3.450 | Bosch Sensorte | B28-1063-2-ND | Digikey | | Digikey | 1649-1009-2-ND | 6 | 3/17/2024 | 6 | 2 | |
| Schottky Diode | | 4 | \$ 0.240 | \$ 0.240 | \$ 0.240 | \$ 0.240 | SMC Diode Solu | 1655-1N5819WTR-ND | Digikey | | Digikey | 1655-1N5819WTR | 6 | 3/18/2024 | 6 | 2 | |
| Capacitor 150uF | | 3 | \$ 1.070 | \$ 1.070 | \$ 1.070 | \$ 1.070 | Samsung Electro | 1276-3367-2-ND | Digikey | | Digikey | 1276-3367-2-ND | 5 | 3/19/2024 | 5 | 2 | |