

## Bill of Materials

Part Name/Description	Unit Quantity	Unit Prototype Cost	Total Prototype Cost	Unit Production Cost	Total Production Cost	Manufacturer	Manufacturer Part Number
RISC Microcontroller, 8-Bit, FLASH, PIC18 CPU, 64MHz, CMOS, PDSO28	1	\$ 1.31	\$ 1.31	\$ 1.29	\$ 1.29	Microchip	PIC18F27Q10-I/SO
Switching Regulator, Current-mode, 0.6A, 2100kHz Switching Freq-Max, PDSO6	1	\$ 3.49	\$ 3.49	\$ 1.99	\$ 1.99	Texas Instruments	LMR16006YQ3DDCRQ1
Serial Switch/Digital Sensor, 14 Bit(s), Rectangular, 8 Pin, Surface Mount	1	\$ 6.67	\$ 6.67	\$ 4.78	\$ 4.78	Honeywell	HIH6030-021-001
Absolute, 4.35113Psi Min, 15.95415Psi Max, 0.6-2.40V, Rectangular, Surface Mount	1	\$ 20.09	\$ 20.09	\$ 20.09	\$ 20.09	TE Connectivity	MS580301BA01-00
AS5600L-ASOM SOIC8 Lf T&rdp	1	\$ 4.54	\$ 4.54	\$ 1.82	\$ 1.82	Osram Opto	AS5600L-ASOM SOIC8 LF
Comparator, 1 Func, 1000uV Offset-Max, 4000ns Response Time, CMOS, PDSO5	1	\$ 0.39	\$ 0.39	\$ 0.30	\$ 0.30	Microchip	MCP6541RT-E/OT
Ceramic Capacitor, Multilayer, Ceramic, 25V, 10% +Tol, 10% -Tol, X7R, 15% TC, 0.1uF, Surface	6	\$ 0.10	\$ 0.60	\$ 0.02	\$ 0.14	KEMET	C1206C104K3RACTU
Ceramic Capacitor, Multilayer, Ceramic, 50V, 10% +Tol, 10% -Tol, X7R, 15% TC, 2.2uF, Surface	1	\$ 0.25	\$ 0.25	\$ 0.08	\$ 0.08	KEMET	C1206C225K5RACTU
Ceramic Capacitor, Multilayer, Ceramic, 25V, 10% +Tol, 10% -Tol, X7R, 15% TC, 0.22uF, Surface	1	\$ 0.15	\$ 0.15	\$ 0.05	\$ 0.05	KEMET	C1206C224K3RACTU
Ceramic Capacitor, Multilayer, Ceramic, 50V, 10% +Tol, 10% -Tol, X5R, 15% TC, 10uF, Surface	1	\$ 0.22	\$ 0.22	\$ 0.07	\$ 0.07	Samsung	CL31A106KBHNNNE
Rectifier Diode, Schottky, 1 Phase, 1 Element, 0.5A, 60V V(RRM), Silicon	1	\$ 0.25	\$ 0.25	\$ 0.07	\$ 0.07	STMicroelectronics	STPS0560Z
General Purpose Inductor, 6.8uH, 20%, 1 Element, SMD, 1616	1	\$ 0.18	\$ 0.18	\$ 0.12	\$ 0.12	Taiyo Yuden	NRS4018T6R8MDGJ
Fixed Resistor, Metal Glaze/thick Film, 0.25W, 10000ohm, 200V, 5% +/-Tol, 200ppm/Cel, Surface	7	\$ 0.10	\$ 0.70	\$ 0.01	\$ 0.07	Bourns	CR1206-JW-103ELF
Fixed Resistor, Metal Glaze/thick Film, 0.25W, 220ohm, 200V, 1% +/-Tol, 100ppm/Cel, Surface	1	\$ 0.11	\$ 0.11	\$ 0.02	\$ 0.02	Vishay	CRCW1206220RFKEA
5mm Slim Line Fuse holder	1	\$ 0.81	\$ 0.81	\$ 0.36	\$ 0.36	Keystone Electronics	4628
Board Connector, 8 Contact(s), 2 Row(s), Male, Straight, 0.1 inch Pitch, Solder Terminal, Guide	2	\$ 0.95	\$ 1.90	\$ 0.61	\$ 1.21	Molex	70246-0801
03 POS through Hole shrouded header Low insertion force type	1	\$ 0.17	\$ 0.17	\$ 0.11	\$ 0.11	JST	B3B-PH-KL(LF)(SN)
Connector Housing, PH Series, 3 Positions, 2.00mm, Crimp, Detent Lock, Natural	1	\$ 0.10	\$ 0.10	\$ 0.04	\$ 0.04	JST	PHR-3
2.0 x 6.5 mm, 2.5 A, Horizontal, Through Hole, Tapered Pins, Dc Power Jack Connector	1	\$ 0.65	\$ 0.65	\$ 0.42	\$ 0.42	Same Sky	PJ-102A
0.100 in. pitch, 10 pin male header	3	\$ 0.49	\$ 1.47	\$ 0.30	\$ 0.91	Molex	423751863

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Vendor Link	Datasheet Link	Supplier	Supplier Part Number	Ordered	Date Ordered	Received	Surplus	Reference Designators
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://ww1.microchip.com/">https://ww1.microchip.com/</a>	Digikey	PIC18F27Q10-I/SO-ND	3	2/28/2025	3	2	U1
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.ti.com/lit/ds/">https://www.ti.com/lit/ds/</a>	Digikey	296-42514-1-ND	3	2/28/2025	3	2	U2
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://prod-edam.honeywell.com/">https://prod-edam.honeywell.com/</a>	Digikey	480-5704-1-ND	3	2/28/2025	3	2	U3
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.te.com/com/">https://www.te.com/com/</a>	Digikey	223-1623-5-ND	2	2/28/2025	2	1	U4
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.digikey.com/">https://www.digikey.com/</a>	Digikey	4991-AS5600L-ASOMCT-ND	2	2/28/2025	2	1	U5
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://ww1.microchip.com/">https://ww1.microchip.com/</a>	Digikey	MCP6541RT-E/OTCT-ND	3	2/28/2025	3	2	U6
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://content.kemet.com/">https://content.kemet.com/</a>	Digikey	399-C1206C104K3RACTUCT-ND	20	2/28/2025	20	14	C1, C4, C7, C8, C9, C10
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://content.kemet.com/">https://content.kemet.com/</a>	Digikey	399-C1206C225K5RACTUCT-ND	5	2/28/2025	5	4	C2
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://content.kemet.com/">https://content.kemet.com/</a>	Digikey	399-C1206C224K3RACTUCT-ND	5	2/28/2025	5	4	C3
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://mm.digikey.com/V/">https://mm.digikey.com/V/</a>	Digikey	1276-2876-1-ND	5	2/28/2025	5	4	C5
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.st.com/cont/">https://www.st.com/cont/</a>	Digikey	497-3787-1-ND	3	2/28/2025	3	2	D1
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	N/A	Digikey	587-2894-1-ND	3	2/28/2025	3	2	L1
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://bourns.com/docs/">https://bourns.com/docs/</a>	Digikey	CR1206-JW-103ELFCT-ND	20	2/28/2025	20	13	R3, R4, R5, R6, R7, R8, R10
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.vishay.com/d/">https://www.vishay.com/d/</a>	Digikey	541-220FCT-ND	5	2/28/2025	5	4	R9
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.keyelco.com/">https://www.keyelco.com/</a>	Peralta 109	N/A	0		1	0	F1
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.molex.com/e/">https://www.molex.com/e/</a>	Digikey	900-0702460801-ND	9	2/28/2025	9	7	J1, J3
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.jst-mfg.com/">https://www.jst-mfg.com/</a>	Digikey	455-B3B-PH-KL-ND	1	2/28/2025	1	0	J2
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.jst-mfg.com/">https://www.jst-mfg.com/</a>	Digikey	455-1126-ND	1	2/28/2025	1	0	J4
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://www.sameskydevi.com/">https://www.sameskydevi.com/</a>	Peralta 109	N/A	0		1	0	J6
<a href="https://www.digikey.com/">https://www.digikey.com/</a>	<a href="https://mm.digikey.com/V/">https://mm.digikey.com/V/</a>	Peralta 109	N/A	0		3	0	P3, P1, P2, J7, J8