

BOM - Power Board													
Total Cost:		\$86.77											
POWER BOARD													
Category	Component	Board Name	Component Sku. (Manu #)	Manufacturer	Source	Value/Rating	Voltage Rating	Package	In Eagle?	Quantity	Unit Price	Total Price	Link
5V Domain	Voltage Reg 5v (VREG_5)	VREG_5V	MAXM17572AMC+T	Texas Instruments	Mouser	5V, 1A	12V-60V	Cust.		1	\$9.92	\$9.92	grated/MAXM17572AMC+T
	C_VREG_5_VSS	C3	GRM188R71A225KE15D	Murata Electornics	Mouser	2.2uF	10V	0603		1	\$0.16	\$0.16	s/GRM188R71A225KE15D
	VREG_5_LX/BST, C_VREG_5_EXTV	C4,C5	GRM21B7U1A104JA01L	Murata Electronics	Mouser	0.1 uF	10V	0805		2	\$0.28	\$0.56	s/GRM21B7U1A104JA01L
	C_VREG_5_5V0	C6	GRM32ER71E226KE15L	Murata Electronics	Mouser	22 uF	10V	1210		1	\$0.66	\$0.66	GRM32ER71E226KE15L
	C_VREG_5_SS	C7	GRM1857U1A562JA44D	Murata Electronics	Mouser	5600pF	10V	0603		1	\$0.13	\$0.13	s/GRM1857U1A562JA44D
	C_VREG_5_IN	C8	GRM31CZ72A475KE11L	Murata Electronics	Mouser	4.7 uF	100V	3216		1	\$0.67	\$0.67	mk4q%3D%3D&sr=rs=GAEPiMZZMv
	R_VREG_5_VIN	R1	ERJ-P06J335V	Panasonic	Mouser	3.3 MOhm	0.5W	0805		1	\$0.11	\$0.11	=sGAEPiMZZMv
	R_VREG_5_EN/UVLO	R2	RK73H2ATTD7323F	KOA-Speer	Mouser	732 kOhm	0.25W	0805		1	\$0.10	\$0.10	ATTD7323F?qs=
	R_VREG_5_5V0	R3	ERJ-PB6D1183V	Panasonic	Mouser	118 kOhm	0.25W	0805		1	\$0.22	\$0.22	s=sGAEPiMZZMv
	R_VREG_5_FB	R4	ERJ-P06F2552V	Panasonic	Mouser	25.5 kOhm	0.5W	0805		1	\$0.18	\$0.18	f2552V?qs=sGA
	R_VREG_5_SYNC	R5	ESR10EZPD2152	ROHM Semiconductor	Mouser	21.5 kOhm	0.4W	0805		1	\$0.28	\$0.28	?7?qs=sGAEPiMZZMv
	R_VREG_5_EXTVCC	R6	CRCW08054K70FKEC	Vishay/Dale	Mouser	4.7 kOhm	.125W	0805		1	\$0.11	\$0.11	K70FKEC?qs=sG
12V Domain	Voltage Reg 12v (VREG_12)	VREG_12V	LM2675MX-12/NOPB	Texas Instruments	Mouser	12V	6.5V-40V	SOIC-8		1	\$4.71	\$4.71	ts/LM2675MX-12
	L_VREG_12	L1	P0752.154NLT	Pulse Electronics	Mouser	150 uH	1A	Cust.		1	\$1.13	\$1.13	onics/P0752.154N
	COUT_VREG_12	C12	595D476X9020D2T	Vishay/Sprague	Mouser	47 uF	20V	3017		1	\$4.20	\$4.20	gue/595D476X9020D2T
	D_VREG_12	D1	B120-13-F	Diodes Inc.	Mouser	1 A	20V	SMA-2		1	\$0.24	\$0.24	porated/B120-13-F
	CIN_VREG_12	C13	TCMU686M040R0050E	KYOCERA AVX	Mouser	68 uF	40V	2924		1	\$7.13	\$7.13	TCMU686M040R0050E
	CBYPASS_VREG_12	C14	KGM21NR71H103JT	KYOCERA AVX	Mouser	.01 uF	50V	0805		1	\$0.15	\$0.15	/KGM21NR71H103JT
Protection	PPTC Thermistor	F1-F2	ASMD100F-2	Littelfuse	Mouser	2.16A trip	30V	2920		2	\$0.77	\$1.54	lfuse/ASMD100F-2
	Relay	RELAY1-3	G5PZ-1A4-E DC12	Omron Electronics	Mouser	SPST-NO	12V Coil	Cust.		3	\$3.71	\$11.13	https://www.ou
	Control Transistor	Q1-3	NSS12201LT1G	onsemi	Mouser	2A	12V	SOT-23		3	\$0.35	\$1.06	mi/NSS12201LT1G
	Indicator LEDs	LED1-LED5	ASCKCG00-NW5X5020302	Broadcom/Avago	Mouser	Green	3.3Vf	0603		5	\$0.33	\$1.63	CKCG00-NW5X5020302
	LED Resistors	R7-R10		Booklet	Mouser					5	\$0.00	\$0.00	
	Reverse Polarity Diode	D2, D3	RF201L2SDDTE25	ROHM Semiconductor	Mouser	2A	200V	SOD-106-2		2	\$0.86	\$1.72	tor/RF201L2SDDTE25
DATA BOARD													
Category	Component	Board Name	Component Sku. (Manu #)	Manufacturer	Source	Value/Rating	Voltage Rating	Package	In Eagle?	Quantity	Unit Price	Total Price	Link
CAN Bus	CAN Transceiver	CAN1-3	MCP2561-H/P	Microchip Technologies	Mouser	NA	3V-5V	PDIP-8		3	\$1.37	\$4.11	echnology/MCP2561-H/P
	PDIP Socket	NA	1-2199298-2	TE Connectivity	Mouser	NA	NA	PDIP-8		3	\$0.26	\$0.78	99298-2?qs=fk&sr=rs=GAEPiMZZMv
	CAN Bypass Capacitor	C3-C5	GRM21B7U1A104JA01L	Murata Electornics	Mouser	0.1 uF	10V	0805		3	\$0.28	\$0.84	s/GRM21B7U1A104JA01L
	CAN Bus Capacitor	C6-C8	CL21B472KC6WPNC	Samsung Electro-Mech	Mouser	4700pF	100V	0805		3	\$0.16	\$0.47	echanics/CL21B472KC6WPNC
	CAN SPLIT Fault Resistor	R9,R6,R2	SFR10EZPF3000	ROHM Semiconductor	Mouser	300Ohm	150V	0805		3	\$0.15	\$0.44	0EZPF3000?qs=
	CAN Bus Resistor	4,R5,R7,R8,R10,R1	SDR10EZPF60R4	ROHM Semiconductor	Mouser	60.4Ohm	400V	0805		6	\$0.25	\$1.47	https://www.mou
	TVS Diode	D1-D3	DESD1CAN2WQ-7	Diodes Inc.	Mouser	300Ohm	24V	SOT323		3	\$0.24	\$0.72	rated/DESD1CAN2WQ-7
IO/Connections	Teensy 4.1 Socket (Fem. Headers)	NA	CES-124-01-T-S	Samtec	Mouser	24Pos 1Row		2.54mm pitch		2	\$3.24	\$6.48	https://www.mou
	Male Headers	NA		Dubbin				2.54mm pitch		48	\$0.00	\$0.00	
	2Pos Connectors Fem/Male	NA		JST	Amazon			2.54mm pitch		1	\$8.99	\$8.99	https://www.ama
	4Pos Connectors Fem/Male	NA		JST	Amazon			2.54mm pitch		16	\$0.00	\$0.00	https://www.ama
LED	Indicator LED 5V	LED1	ASCKCG00-NW5X5020302	Broadcom/Avago	Mouser	Green	3.3Vf	0603		1	\$0.00	\$0.00	CKG00-NW5X5020302
	Indicator LED 3.3V	LED2	ASCKCG00-NW5X5020303	Broadcom/Avago	Mouser	Green	3.3Vf	0603		1	\$0.00	\$0.00	CKG00-NW5X5020303
	Indicator 5V series resistor	R1		Booklet			100 Ohm	0805		1	\$0.00	\$0.00	
	Indicator 3.3V series resistor	R3		Booklet			0 Ohm	0805		1	\$0.00	\$0.00	
	RGB LED	RGBLED1-3	S1.32-VUVX-EQ+BTBV-D8+1	ams OSRAM	Mouser	RGB	2.05, 2.65, 2.85	Cust.		3	\$0.48	\$1.43	https://www.mou
	Red Resistor	NA		Booklet			60 Ohm	0805		3	\$0.00	\$0.00	
	Blue Resistor	NA		Booklet			30 Ohm	0805		3	\$0.00	\$0.00	
	Green Resistor	NA		Booklet			20 Ohm	0805		3	\$0.00	\$0.00	
Power	Power Switch	NA	SLW-1276864-4A-D	CUI Devices	Mouser	30VDC		Thru Hole		1	\$0.79	\$0.79	https://www.mou
	Bypass Capacitor	C1,C2	GRM219R61A335KE19D	Murata Electronics	Mouser	3.3uF	10V	0805		2	\$0.42	\$0.84	A335KE19D?qs=
ENCODER BOARD													
Category	Component	Board Name	Component Sku. (Manu #)	Manufacturer	Source	Value/Rating	Voltage Rating	Package	In Eagle?	Quantity	Unit Price	Total Price	Link
Encoder Boards	On-Axis Encoder		AS5047P-ATSM	ams-OSRAM USA INC.	Digikey					1	\$9.42	\$9.42	
	Off-Axis Encoder		630-AEAT-9922-Q24	Broadcom	Mouser					1	\$21.07	\$21.07	
	Vertical Connector		501331-0607	Molex	Mouser	6 Pos	1A	1mm pitch		1	\$0.76	\$0.76	ex/501331-0607?c
	Right Angle Connector		202396-0607	Molex	Mouser	6 Pos	1A	1mm pitch		1	\$1.50	\$1.50	x/202396-0607?c
	Capactor 1												https://www.mou
	Capactor 2												v/LMK212SD104#