

## Power Distribution Controller



**CAL POLY RACING**  
SAN LUIS OBISPO

Design By: Daniel Baron & Edward Sernas  
Layout By: Edward Sernas

Comment	Created_By	MfrPartNo	Models	Manufacturer 1	Link	Description	Designator	Footprint	LibRef	Quantity	
Capacitor MLCC 0.10u	Nick Mah		1				C1	CAP 0603/1608	943	1	
Capacitor MLCC 4700p	Nick Mah		1				C2	CAP 0603/1608	929	1	
Capacitor MLCC 0.10u	Nick Mah		1				C3	CAP 0603/1608	223	1	
Capacitor MLCC 0.10u	Nick Mah		1				C4, C6, C24, C25, C26	CAP 0603/1608	583	5	
Capacitor MLCC 100pf	Nick Mah		1				C5	CAP 0603/1608	529	1	
Capacitor MLCC 220pf	Nick Mah		1				C7, C8, C9, C10, C11, C	CAP 0402/1005	57	12	
Capacitor MLCC 10uf	Nick Mah		1				C19, C20	CAP 0603/1608	235	2	
Capacitor MLCC 2.2uf	Nick Mah		1				C21, C22	CAP 0603/1608	231	2	
Capacitor MLCC 4700p	Nick Mah		1				C23	CAP 0805/2012	689	1	
AZ23C4V7-7-F Dual Ze	Angel Delgado	AZ23C4V7-7-F	1		<a href="https://www.digik">https://www.digik</a>	DIODE ZENER ARRAY 4	D2, D3, D4	SOT23-3		14	3
NUP2105LT1		NUP2105LT1-ND	1		<a href="https://www.digik">https://www.digik</a>	ESD Protection Diode	D3	SOT-23 (TO-236)		6	1
DIODE		1N5819HW1-7-F, 1	1		<a href="https://www.digik">https://www.digik</a>	Diode Super Barrier 40	D5, D6	SOD123F	2, 4		2
DDZ9701-7		DDZ9701-7	1		<a href="https://www.digik">https://www.digik</a>	Zener Diode 14V 500m	D7	SOD123F		10	1
DIODE_2A1K		FSV20100V	1		<a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>		D8	TO-277		11	1
			1		<a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>		D9, D10	0805_LED	2, 1		2
LED		AD5314ARMZ	1		<a href="https://www.digik">https://www.digik</a>	10bit 4 channel DAC	DAC1	MSOP10 (RM-10)		25	1
Fuse			1				F1, F2	3568-MiniFuseHolder		3	2
Op-Amp LT1716		LT1716IS5#PBF	1				IC1, IC2, IC3, IC4	SOT23-5		4	4
MMPQ3906 PNP General Purpose Amp			1				IC5	SOIC-16-NB		20	1
LT1161ISWPBF MOSFET	Eunice Bernardo		1				IC6, IC7, IC8	SO-20		16	3
LT6100HMS8PBF Curr	Eddy		1				IC9, IC10, IC11, IC12, IC	MSOP-8		13	12
MAX6350CSA+ 5V	Albert Panuco	MAX6350CSA+	1		<a href="https://www.digik">https://www.digik</a>	IC VREF SERIES 5V 850	IC17	SOIC-8		10	1
1981568-1	Aiku	1981568-1	1		<a href="https://www.mouser.com/ProductDetail">https://www.mouser.com/ProductDetail</a>	USB Micro Type B	J1	TECO-1981568-5_V		5	1
LED			1		[NoParam], <a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>		LED1, LED2	0805_LED		2	2
PSMN2R2-25YLC 25V	Nick	PSMN2R2-25YLC,1	1		<a href="https://www.digik">https://www.digik</a>	N-Channel 25V 100A (	M1, M2, M3, T1, T2, T3	LFPAK-SO8		3	20
RCU-OC		RCU-OC	1		<a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>	OVP_G, PWR_IN, PWR				5	11
5103309-1	Aiku	5103309-1	1		<a href="https://www.digik">https://www.digik</a>	2 row connector	P1	HDR2X5_SMT		4	1
PTC Fuse	Angel	2920L500/16MR	3		<a href="https://www.digik">https://www.digik</a>	Fuse	PTC Fuse1, PTC Fuse2,	PTC Fuse 2920/07351		6	8
MMPQ3904	Angel Delgado	MMPQ3904	1		<a href="https://www.mouser.com/ProductDetail">https://www.mouser.com/ProductDetail</a>		Q1	SOIC-16-NB		5	1
Resistor 10k 0603 1/10	Nick Mah		1				R1, R4, R7, R10, R23	RES 0603/1608		313	5
Resistor 10k 0805 1/10	Nick Mah		1				R2, R5, R8, R11, R16	RES 0805/2012		529	5
Resistor 3.0k 0603 1/10	Nick Mah		1				R3, R6, R9, R12	RES 0603/1608		300	4
Resistor 62 0603 1/10	Nick Mah		1				R13, R14	RES 0603/1608		1340	2
Resistor 100 0603 1/10	Nick Mah		1				R15	RES 0603/1608		2293	1
Resistor 2.2k 0603 1/10	Nick Mah		1				R17, R18, R19, R20, R2	RES 0603/1608		297	6
Resistor 10k 0603 1/10	Nick Mah		1				R24	RES 0603/1608		1393	1
Resistor .002 2010 1.5	Angel	CSNL2010FT2L00	1		<a href="https://www.digik">https://www.digik</a>	Current Sense Resistor	R25, R28, R31, R34	RES 2010/5025		2702	4
Resistor 27k 0805 1/10	Nick Mah		1				R26, R29, R32, R35, R3	RES 0805/2012		2430	12
Resistor 10k 0402 1/10	Nick Mah		1				R27, R30, R33, R36, R3	RES 0402/1005		97	12
Resistor .02 2010 1W	Angel	CSRN2010FK20L0	1		<a href="https://www.digik">https://www.digik</a>	Current Sense Resistor	R37, R40, R43, R46, R4	RES 2010/5025		2701	8
Resistor 39k 0805 1/10	Nick Mah		1				R61	RES 0805/2012		2432	1
Resistor 10k 0805 1/4	Nick Mah		1				R62	RES 0805/2012		2533	1
Resistor 1.0k 0805 1/10	Nick Mah		1				R63	RES 0805/2012		2413	1
Resistance			1		<a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>		R64	RES 0805/2012		2703	1
Resistor 100k 0805 1/10	Nick Mah		1				R65	RES 0805/2012		553	1
Resistor 47k 0805 1/10	Nick Mah		1				R66	RES 0805/2012		545	1
Resistor 470 0805 1/10	Nick Mah		1				R67	RES 0805/2012		497	1
Resistor 1.0k 0805 1/4	Nick Mah		1				R68, R69, R70, R71	RES 0805/2012		721	4
Resistor 100k 0805 1/2	Nick Mah		1				R7	RES 0805/2012		985	1
MCP2561 CAN Transce	Angel Delgado	MCP2561	1		<a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>		U1	SOIC-8		5	1
			1				U2	TQFP64		1	1
BA50DD0WHFP-TR Linear Voltage Regula		BA50DD0WHFP-TR	1		<a href="https://www.mouser.com/ProductDetail">https://www.mouser.com/ProductDetail</a>		U5	HRP5		6	1
LT1910			1			Protected High Side M	U8	SOIC-8		18	1
MCP970x		MCP9701T-E/TT	2		<a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>		U9	SOT23-3		23	1
FT232RL	Kyle	FT232RL	1		<a href="https://www.digikey.com/product-detail">https://www.digikey.com/product-detail</a>		U10	SSOP-28		3	1
Jumper		XG8T-0231	1		<a href="https://www.digik">https://www.digik</a>	Jumper headers	W1	XG8T-0231		18	1
3-6437285-2		3-6437285-2	2		<a href="https://www.te.co">https://www.te.co</a>	90 Degree	X1	SUPERSEAL 60POS 90D		3	1