

Dual Motor Controller - engineering bill-of-materials										
Index	#	Part Ref.	Description	Temp (°C)	Manuf.	Manuf PN	Distr.	Distr. PN	Price / 100	Price / Unit
1	5	C1 C4 C6 C13 C16	CAP CER 4.7uF 10V +20/-80% Y5V 0805**	-30 to 85	Yageo	CC0805ZRY5V6BB475	Digi-Key	311-1371-1-ND	\$0.033	\$0.163
2	8	C2 C5 C7 C8 C9 C11 C14 C15	CAP .22UF 50V CERAMIC Y5V 0805**	NA	Samsung	CL21F224ZBAK	FAI	CL21F224ZBAK	\$0.015	\$0.120
3	2	C10 C12	330UF 35V RADIAL 1.79MA RIP**	-40 to 105	Panasonic	EEU-FM1V331	Digi-Key	P12413-ND	\$0.316	\$0.633
4	10	D1 D2 D3 D4 D5 D6 D9 D10 D12 D13	DIODE ULTRA-FAST 1.5A 100V SMA**	-55 to 150	International Rect.	10MQ100NPBF	Digi-Key	10MQ100NPBF-ND	\$0.200	\$2.000
5	1	D7	SMT 1206 RED LED RoHS	-55 to 85	LiteOn	LTST-C150EKT	Digi-Key	160-1168-1-ND	\$0.110	\$0.110
6	1	D8	SMT 1206 GREEN LED RoHS	-55 to 85	LiteOn	LTST-C150GKT	Digi-Key	160-1169-1-ND	\$0.110	\$0.110
7	1	D11	SMT 1206 AMBER LED RoHS	-55 to 85	LiteOn	LTST-C150AKT	Digi-Key	160-1166-1-ND	\$0.110	\$0.110
8	2	F1 F2	AUTO TYPE FUSE CLIPS PC MOUNT 2 PIECES*	NA	Keystone	3564	Digi-Key	3564K-ND	\$0.100	\$0.200
9	1	J1	USB Mini Type B**	NA	OST	USB-M26FTR	Digi-Key	ED2992CT-ND	\$0.546	\$0.546
10	2	J2 J4	CONN TERM BLOCK 4POS 2.54MM**	NA	OST	OSTVND04A150	Digi-Key	ED10563-ND	\$0.684	\$1.368
11	1	J3	CONN HEADER .050" 5POS PCB GOLD	NA	Sullins	GRP051VWVN-RC	Digi-Key	S9014E-05-ND	\$0.075	\$0.075
12	1	Q1	DUAL N-CHANNEL SOT23-6	-60 to 150	Diodes Inc.	DMN2004DMK-7	Digi-Key	DMN2004DMKDICT-ND	\$0.270	\$0.270
13	6	R1 R3 R7 R8 R9 R10	RES 10K OHM 1/10W 5% 0805 SMD**	NA	Panasonic	ERJ-6GEYJ103	Digi-Key	P10KACT-ND	\$0.020	\$0.120
14	1	R2	PHOTOCELL 4-20KOHM**	-30 to 75	Advanced Photonics	PDV-P7002	Digi-Key	PDV-P7002-ND	\$1.480	\$1.480
15	3	R4 R5 R6	RES 1.0K OHM 1/10W 5% 0805 SMD**	NA	Panasonic	ERJ-6GEYJ102V	Digi-Key	P1.0KATR-ND	\$0.020	\$0.060
16	6	SW1 SW2 SW3 SW4 SW5 SW6	SWITCH TACT 160GF H=1.5MM SMT	no info	E-Switch	TL3342F160QG/TR	Digi-Key	EG2531TR-ND	\$0.060	\$0.360
17	1	U1	USB TO SERIAL CONVERTER	-40 to 85	FTDI	FT232RL	Digi-Key	768-1007-1-ND	\$3.650	\$3.650
18	1	U2	5V 500mA REG TO252, RoHS	-40 to 85	ST Micro	L78M05AB	Digi Key	497-1201-1-ND	\$0.430	\$0.430
19	1	U3	SOT23-5 150mA 24VIN 3.3VOUT ROHS	-40 to 85	Micrel	MIC5235-3.3YM5	Digi-key	576-2784-1-ND	\$0.580	\$0.580
20	2	U4 U6	40V 30A H-BRIDGE	-40 to 85	ST Micro.	VNH3SP30-E	Future	VNH3SP30-E	\$4.740	\$9.480
21	1	U5	Microcontroller RoHS	-40 to 85	Microchip	PIC16F1789-I/PT	Digi-Key	PIC16F1789-I/PT-ND	\$1.840	\$1.840
22	1	U7	3D ACCEL. GYRO MAGNETOMETER LGA-24	-40 to 85	ST Micro.	LSM9DS0TR	Digi-Key	497-13902-1-ND	\$8.600	\$8.600
23	1	Y1	OSC SMD 7MMx5MM 8MHZ 5V, RoHS***	-20 to 70	CTS Frequency Co	CB3-31-8M0000	Digi-Key	CTX264CT-ND	\$1.450	\$1.450
NOTES:	*		requires automotive fuses not listed in BOM						<b>Total:</b>	<b>\$33.754</b>
	**		commodity part, PN may be out of date, alternative manufacturers exist							
	***		do not load							