

EV CHARGER CONTROL CARD BOM

Item	Quantity	Reference	Part	PCB Footprint	Description		
1	2	CY3,CY4	1nF/2KV	C1812	Multilayer Ceramic Capacitor MLCC-SMD/SMT 2kV 1000pf 10% X7R	Johnson Dielectrics	
2	2	CY5,CY6	2.2nF/400VAC	Safety Radial Leaded Ceramic disc Capacitors, Lead Spacing: 10mm	Safety Capacitors 440V/250V 2200pf Y5U 20% LS=10mm, Mouser Part Number:C751U222MTWDBAWL25	KEMET	C751U222MTWDBA WL25
3	2	C3,C876	300pf/50V	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT 0603 300pf 50V C0G 10% HI FREQ	Vishay Semiconductor	
5	8	C5,C75,C91,C92,C93,C94,C280,C748,	10nf/10V,10% Tolerance	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
	30	C49,C50,C51,C52,C53,C54,C56,C58,C59,C60,C61,C62,C63,C64,C78,C79,C80,C81,C82,C83,C84,C85,C86,C87,C88,C89,C90,C276,C277,C278	100nf/10V, Tolerance:10%	C0402	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
6	79	C6,C7,C8,C9,C10,C11,C12,C43,C274,C388,C586,C634,C639,C640,C641,C642,C643,C645,C646,C647,C648,C649,C650,C651,C652,C653,C654,C655,C656,C663,C765,C768,C773,C776,C781,C784,C789,C792,C797,C800,C805,C808,C813,C816,C821,C824,C841,C858,C57	100nf/10V, Tolerance:10%	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
7	13	C13,C14,C15,C16,C68,C69,C70,C71,C73,C74,C76,C122,C123	22uf/10V, 10% Tolerance	C1206	Multilayer Ceramic Capacitor MLCC-SMD/SMT 1206 10VDC,22uF 10% X5R	Taiyo	
8	26	C17,C18,C19,C20,C21,C22,C23,C24,C25,C26,C27,C28,C29,C30,C31,C32,C33,C34,C35,C36,C37,C38,C39,C40,R853,R854	DNP				
9	4	C41,C44,C67,C279	10nf/16V, 5% Tolerance	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT 16V 0.01uf X8R 0603 5%	Kemet	

10	19	C45,C47,C48,C583,C592,C836,C851,C868,C879,C880,C882,C893,C921,C922,C923,C924,C925,C926,C929	100nF/16V,5% Tolerance	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT 16V 0.1uF X7R 0603 5%		
11	2	C46,C66	1uF/16V10% Tolerance	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 16VDC 1uF 10% X7R		
12	1	C65	22uF/16V,10% Tolerance	C1206	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
13	1	C72	1uF/10V,10% Tolerance	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 16VDC 1uF 10% X7R		
14	2	C76,C77,C584	2.2uF/10V,10% Tolerance	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
15	8	C180,C621,C622,C734,C736,C888,C890,C892	4.7uF/50V,10% Tolerance	C1206	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
16	72	C181,C657,C658,C660,C762,C763,C764,C767,C770,C771,C772,C775,C778,C779,C780,C783,C786,C787,C788,C791,C794,C795,C796,C799,C802,C803,C804,C807,C810,C811,C812,C815,C818,C819,C820,C823,C831,C832,C833,C834,C844,C845,C848,C849,C861,C862,C865,C866,C887,C889,C891,C935,C938,C550,C551,C554,C555,C556,C557,C558,C559,C560,C561,C896,C897,C898,C899,C900,C901,C932,C933,C382	100nF/50V,10% Tolerance	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
17	1	C281	33pF/10V,5% Tolerance	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT 0603 33pF 16V C0G 5%	Vishay Semiconductor	
18	18	C381,C659,C761,C766,C769,C774,C777,C782,C785,C790,C793,C798,C801,C806,C809,C814,C817,C822	1nF/50V	C0603	Multilayer Ceramic Capacitor MLCC-SMD/SMT 0603 1000pF 50V 5%		

20	3	C448,C618,C620	330uF/50V	Aluminium Electrolytic	Aluminium Electrolytic Capacitor-SMD 330uf 50VDC 20% Anti-Vibe AEC-Q200	Panasonic	MAL215099112E3
21	4	C536,C537,C874,C875	4.7uf/50V Tantalum	C2917	4.7 µF Molded Tantalum Capacitors 50 V 2917 (7343 Metric) 1.2Ohm	Kemet	
22	2	C538,C877	10nf/10V,5% Tolerance	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 16V 0.01uF X7R 0603 5%	Kyocera	
23	2	C541,C878	10pf/50V	C0603	10 pF ±5% 50V Ceramic Capacitor C0G, NP0 0603 (1608 Metric)	Kyocera	
26	12	C564,C565,C567,C568,C846,C847,C852,C853,C863,C864,C869,C870	470nf/10V	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT WCAP-CSGP 0.47uF 0603 10% 10V MLCC	Würth Elektronik	
27	4	C585,C591,C599,C930	4.7uf/16V	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 4.7UF 16V 10% 0603	Murata Electronics	
28	1	C609	680uF/50V	Aluminium Electrolytic Capacitors - SMD	Aluminium PolymerElectrolytic Capacitors - SMD 63VDC 680uF 20% Anti-Vibe AEC-Q200	Würth Elektronik	865060663014
29	2	C610,C611	2.2uF/50V	C1206	Multilayer Ceramic Capacitor MLCC-SMD/SMT		
30	2	C613,C617	220uF/50V	Aluminium Electrolytic Capacitors - SMD	Aluminium Electrolytic Capacitors - SMD 220uF 50V 20%	Würth Elektronik	865080657018
31	1	C614	1uF/50V	C1206			
32	1	C623	10uF/16V	CASEC, 2412	Tantalum Capacitors - Solid SMD 10uF 10% 16V ESR 1.4 C case Molded		
33	1	C625	470µf/16V	Aluminium Electrolytic Capacitors - SMD	Aluminium Electrolytic Capacitors - SMD 470uF 16V 20%		865060353009
34	2	C638,C644	10uF/10V	C0805	10 µF ±10% 10V Ceramic Capacitor X7R 0805 (2012 Metric)		
35	6	C835,C881,C883,C884,C885,C886	22nf/10V	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 10VDC 22nF 10% Low Distort		
36	10	C837,C854,C855,C856,C871,C872,C873,C939,C940,C941	68pf/50V	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 68pF 50volts 5%		

37	2	C838,C839	68pf/10V	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 68pF 50volts 5%		
38	2	C840,C857	4.7uf/10V	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 4.7UF 16V 10% 0603	Murata Electronics	
39	1	C894	1uF/16V,X7R	C0603	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 16VDC 1uF 10% X7R		
40	1	C895	2.2uF/16V,X7R	C0805	Multilayer Ceramic Capacitors MLCC - SMD/SMT 16V 2.2uF X7R 0805 5% Flex AEC-Q200		
41	20	C902,C903,C904,C905,C906,C907,C908,C909,C910,C911,C912,C913,C914,C915,C916,C917,C918,C919,C936,C937	22pf/16V	0805(2012 metric)	SMD multilayer capacitor,22pf,16V,0805		
43	10	LED1,LED2,LED3,LED4,LED5,LED6,LED7,LED8,LED9,LED10	IN-S63BTG	0603	Green 527nm LED Indication - Discrete 3.3V 0603 (1608 Metric)	Inolux	
44	19	D11,D12,D13,D14,D15,D16,D17,D18,D19,D20,D21,D22,D23,D24,D25,D26,D58,D59,D60	1N4148	DO-35	Diode Standard 100 V 200mA Through Hole DO-35	onsemi	
45	4	D28,D29,D52,D53	CDBC540-G	DO-214AB-2	SCHOTTKY DIODE 5A, 40V	Comchip	
47	1	F1	FUSE 4 Amps (C1F 4)	SMT/SMD, 1206	4 A 125 V AC 63 V DC Fuse Board Mount (Cartridge Style Excluded) Surface Mount 1206 (3216 Metric)	Bel Fuse Inc.	
48	1	F2	FUSE 2 Amps (C1F 2)	SMT/SMD, 1206	2 A 125 V AC 63 V DC Fuse Board Mount (Cartridge Style Excluded) Surface Mount 1206	Bel Fuse Inc.	
49	3	JP14,JP15,J90	JUMPER	Burg Stick Connector	BERG_1X2		
50	1	J1	14-PIN HEADER	2.54mm Pitch 7x2 Header			
51	9	RTD1,RTD2,RTD3,J43,J68,J70,J89,J92,J93	CON6	734-166	WAGO 6-pin	WAGO	
52	1	J44	MUSB-05-S-B-SM-A	USB - mini B	USB - mini B USB 2.0 Receptacle Connector 5 Position Surface Mount, Right Angle	Samtec Inc.	
53	17	J56,J71,J72,J73,J74,J75,J76,J77,J78,J79,J80,J81,J82,J83,J84,J85,J86	CON3	734-103	Female connector,3-Pole,Pin Spacing:3.5mm,1.5 sqmm	WAGO	

54	4	J57,J60,J67,J87	CON8	734-168	Female connector,8-Pole,Pin Spacing:3.5mm,1.5 sqmm	WAGO	PINs are square. so pin holes should be provided with 1.414* Pin_raduís or more
55	5	J62,J63,J64,J65,J91	CON10	734-170	Female connector,10-Pole,Pin Spacing:3.5mm,1.5 sqmm	WAGO	
56	1	J88	CON2	734-102	Female connector,10-Pole,Pin Spacing:3.5mm,1.5 sqmm,10 Amps	WAGO	
57	1	L1	600 OHM	742792040	2.00mm x 1.20mm, 600 Ohms @ 100 MHz 1 Signal Line Ferrite Bead 0805 (2012 Metric) 2A 150mOhm	Würth Elektronik	
58	2	L2,L3	1uH	ILSB1206 1 10% TR	1 uH Fixed Inductor, 1206 SMD	Vishay Semiconductor	
59	2	L4,L14	1.2K	74279216	Ferrite Beads, 1206 (3216 metric), SMD,1.2 Kohms	Würth Elektronik	
60	1	L20	3.3µH	78439369033 (11.6mmx 10.5mmx8.8mm)	Fixed inductor WE-XHMA 10903.3uH,15A,3.4 Ohms, SMD	Würth Elektronik	
61	1	L21	4.7µH/2.2A	74408943047 (4.80mm x 4.80mm)	4.7 µH Shielded Drum Core, Wirewound Inductor 2.2 A 52mOhm Max Nonstandard	Würth Elektronik	
62	2	L22,L23	220 Ohms Ferrite Bead	490-1054-1-ND(0805)	220 Ohms Power Line Ferrite Bead 0805 (2012 metric) 2A	Murata Electronics	
63	6	MH1,MH2,MH3,MH4,MH5,MH6	Mounting Holes				
64	1	MOV1	S20K30	B72214S0381K101 (Disc 14mm)	620 V 4.5 kA Varistor 1 Circuit Through Hole Disc 14mm	EPCOS - TDK Electronics	
65	2	Q3,Q5	NDS355AN	SOT-23-3	N-Channel 30 V 1.7A (Ta) 500mW (Ta) Surface Mount SOT-23-3	onsemi	
66	2	R1,R1354	5.6k 0.1% to 0.5%	R0805	ThiK Film Resistors SMD 0805 5.6Kohms 0.1% 10ppm AEC-Q200		
67	2	R3,R1356	61.5k, 1%	R0805	ThiK Film Resistors SMD 0805 61.5Kohms 1%		
68	2	R4,R1357	4.2k,0.1% to 0.5%	R0805	ThiK Film Resistors SMD 0805 4.2Kohms 1%		

69	73	R7,R357,R425,R691,R694,R695,R698,R699,R702,R703,R706,R707,R710,R711,R714,R715,R718,R719,R722,R723,R724,R725,R726,R727,R728,R729,R730,R731,R732,R733,R734,R735,R736,R737,R738,R739,R740,R741,R742,R743,R744,R745,R746,R747,R748,R749,R750,R751,R752,R753,R754,R872,R1120,R1132,R1142,R1154,R1164,R1176,R1186,R1198,R1208,R1220,R1230,R1242,R1252,R1264,R1274,R1286,R1358,R1365,R1366,R1367,R1389	1k, 1%	R0805			
70	15	R8,R49,R50,R176,R1037,R1038,R1295,R1296,R1299,R1308,R1309,R1310,R1311,R1312,R1313	2.2k,1%	R0805			
71	2	R9,R383	100R, 1%	R0805			
72	4	R10,R11,R856,R860	4.7k,1%	R0805			
73	5	R12,R175,R858,R859,R1113	1.5k,1%	R0805			
74	36	R16,R17,R18,R19,R20,R21,R22,R23,R24,R25,R26,R27,R28,R29,R30,R31,R32,R33,R34,R35,R36,R37,R38,R39,R172,R173,R386,R387,R397,R850,R851,R861,R1111,R1112,R1361,R1384	0R,1%	R0805			
75	50	R40,R42,R692,R693,R696,R697,R700,R701,R704,R705,R708,R709,R712,R713,R716,R717,R720,R721,R863,R874,R1125,R1134,R1147,R1156,R1169,R1178,R1191,R1200,R1213,R1222,R1235,R1244,R1257,R1266,R1279,R1288,R1368,R1369,R1370,R1371,R1372,R1373,R1374,R1375,R1377,R1378,R1382,R1385,R1387,R1390	10K,1%	R0805			

76	14	R41,R44,R1035,R1036,R1039,R1040,R1314,R1315,R1318,R1319,R1334,R1335,R1338,R1339	10R,0.1%	R0805	Thin Film Resistors 1/8watts 10 ohm .1%		
77	4	R45,R46,R47,R48	1R	R0805	Thick Film Resistors - SMD 10hms 1/8W 0805 10%		
78	9	R154,R762,R770,R1320,R1330,R1340,R1350,R1376,R1379	33 Ohms $\pm 0.1\%$ 0.125W	R0805	Thin Film Resistors 33ohm .1% 25ppm		
79	1	R177	500R,1%	R0805			
80	3	R389,R849,R855	120R,1%				
81	36	R423,R424,R870,R871,R1118,R1119,R1130,R1131,R1140,R1141,R1152,R1153,R1162,R1163,R1174,R1175,R1184,R1185,R1196,R1197,R1206,R1207,R1218,R1219,R1228,R1229,R1240,R1241,R1250,R1251,R1262,R1263,R1272,R1273,R1284,R1285	R	0.5 Watt Through Hole Resistors	Burdern resistors		
82	1	R601	5K_POT	RES_POT_3296W			
83	2	R686,R1355	8.2k,0.1%	R0805	Thin Film Resistors 0805 8.2K 0.1% 10ppm SMD		
84	2	R689,R1359	100k	R0805			
85	2	R690,R1360	200k	R0805			
86	13	R765,R766,R771,R772,R857,R1321,R1322,R1331,R1332,R1341,R1342,R1351,R1352	470 Ohms $\pm 0.1\%$ 0.125W	R0805	Thin Film Resistors 0805 0.1% 470ohm 25ppm SMD		
87	42	R767,R778,R869,R875,R880,R1116,R1122,R1129,R1135,R1139,R1144,R1151,R1157,R1161,R1166,R1173,R1179,R1183,R1188,R1195,R1201,R1205,R1210,R1217,R1223,R1227,R1232,R1239,R1245,R1249,R1254,R1261,R1267,R1271,R1276,R1283,R1289,R1293,R1324,R1333,R1344,R1353	47 Ohms $\pm 0.1\%$ 0.125W	R0805	Thin Film Resistors 0805 0.1% 47ohm 25ppm SMD		
88	4	R841,R842,R1055,R1056	15K,1%	R0805			

89	37	R843,R866,R867,R877,R878,R1127,R1128,R1136,R1138,R1149,R1150,R1158,R1160,R1171,R1172,R1180,R1182,R1193,R1194,R1202,R1204,R1215,R1216,R1224,R1226,R1237,R1238,R1246,R1248,R1259,R1260,R1268,R1270,R1281,R1282,R1290,R1292	3K,1%	R0805			
90	18	R862,R873,R1124,R1133,R1146,R1155,R1168,R1177,R1190,R1199,R1212,R1221,R1234,R1243,R1256,R1265,R1278,R1287	20K_POT	RES_POT_3296W			
91	38	R865,R876,R1115,R1117,R1121,R1123,R1126,R1137,R1143,R1145,R1148,R1159,R1165,R1167,R1170,R1181,R1187,R1189,R1192,R1203,R1209,R1211,R1214,R1225,R1231,R1233,R1236,R1247,R1253,R1255,R1258,R1269,R1275,R1277,R1280,R1291,R1386,R1391	20K,1%	R0805			
92	2	R1297,R1298	820R,1%	R0805	Thick Film resistor		
93	8	R1316,R1317,R1326,R1327,R1336,R1337,R1346,R1347	2k,1%	R0805			
94	8	R1323,R1325,R1328,R1329,R1343,R1345,R1348,R1349	2.4k,1%	R0805	Thick Film Resistors-SMd 0805 2.4 K Ohms		
95	1	R1364	20K_POT(DNP)	RES_POT_3296W			
96	2	R1383,R1388	200R,0.1%	R0603	This film Resistor 200 Ohms 0.1% 0603		
97	1	SW1(SW PUSHBUTTON)	HP0315AFKP2-R	 6.20mm x 6.20mm	SWITCH TACTILE SPST-NO 3VA 28V	NKK Switches	
98	1	SW2 (SW DIP-2)	219-2LPSTR	2.54mm pitch 2 pin	SWITCH SLIDE DIP SPST 100MA 20V	CTS Electrocomponents	
146	5	U-1,U-2,U-3,U-4,U-8	ULN2803ADWRG4	18-SOIC	Bipolar (BJT) Transistor Array 8 NPN Darlington 50V 500mA Surface Mount 18-SOIC	Texas Instruments	
147	1	U-6	URA2415LD-30WR3	DIP,50.8*25.4*11.8 mm	DC-DC Coverter	Mornsun	

148	1	U-7	VRB2405XLD-15WR3	DIP,50.8*25.4*11.8 mm	DC-DC Coverter	Mornsun	
149	1	U1	TMS320F28379DZWTT	337-LFBGA	C28x series Microcontroller IC 32-Bit Dual-Core 200MHz 1MB (512K x 16) FLASH 337-NFBGA (16x16)	Texas Instruments	
150	9	U3,U4,U5,U6,U7,U8,U9,U10,U12 1	TPD4E001QDBVRQ1	SOT-23-6	16V (Typ) Clamp 5.5A (8/20μs) Ipp Tvs Diode Surface Mount SOT-23-6	Texas Instruments	
151	2	U11,U193	AD8656ARMZ-REEL	8-MSOP	CMOS Amplifier 2 Circuit Rail-to-Rail 8-MSOP	Analog Devices Inc.	
152	1	U12	REF5030IDGKT	 8-VSSOP	Series Voltage Reference IC Fixed 3V V ±0.05% 10 mA 8-VSSOP	Texas Instruments	
153	1	U13	LM2852YMXA-3.3/NOPB	 14-HTSSOP	Buck Switching Regulator IC Positive Fixed 3.3V 1 Output 2A 14-TSSOP (0.173", 4.40mm Width) Exposed Pad	Texas Instruments	
154	1	U14	LM2852XMXA-1.2/NOPB	14-HTSSOP	Buck Switching Regulator IC Positive Fixed 1.2V 1 Output 2A 14-TSSOP (0.173", 4.40mm Width) Exposed Pad	Texas Instruments	
155	1	U15	TPS3702CX33DDCT	TSOT-23-6 (SMD/SMT)	Supervisory Circuits High-ACC, 3.3V Fixed Thresold OV/UV Monitoring	Texas Instruments	
156	1	U16	TPS3702CX12DDCT	TSOT-23-6 (SMD/SMT)	Supervisory Circuits High-ACC, 1.2V Fixed Thresold OV/UV Monitoring	Texas Instruments	
157	1	U51	33MHz Crystal Oscillator	ABM11W-33.3330MHZ-4-D1X-T3	SMD/SMT, 2mmx1.6mm	Abracon	
158	1	U79	MAX6816EUS+T	SOT-143-4	IC DEBOUNCER SOT143-4	Analog Devices Inc./Maxim Integrated	
159	9	U93,U94,U95,U96,U97,U98,U99, U100,U194	MCT6-X009	SMD-8	Optocouplers	Vishay Semiconductor	
	1	U109	TEL 5-1211	31.8mm x 20.3mm x 10.2mm	Isolated Module DC DC Converter 1 Output 5V 1A 9V - 18V Input	Traco Power	
160	1	U110	LD39150DT25-R	 DPAK	Linear Voltage Regulator IC Positive Fixed 1 Output 1.5A DPAK	STMicroelectronics	

161	2	U115,U116	SN65HVD235D	8-SOIC	IC TRANSCEIVER HALF 1/1 8SOIC	Texas Instruments	
162	2	U117,U118	MAX3221EIPWR	16-TSSOP	1/1 Transceiver Full RS232 16-TSSOP	Texas Instruments	
163	1	U119	ADM2587EBRWZ-REEL7	20-SOIC	DGT ISO 2.5KV RS422/RS485 20SOIC	Analog Devices Inc.	
164	1	U120	MCP-2221A	14-SOIC	USB Bridge, USB to I ² C/UART USB 2.0 I ² C, UART Interface 14-SOIC	Microchip Technology	
165	6	U139,U141,U186,U187,U188,U189	ACPL-7900-300E	DIP-8 Gull wing, SMD.SMT	Optically Isolated Amplifier	Broadcom/Avago	
166	12	U156,U168,U169,U170,U171,U172,U173,U174,U175,U185,U190,U195	LM324DT	SOIC-14	Operational Amplifier	ST Microelectronics	
167	1	U183	CD4049UBD	SOIC-Narrow-16	CMOS HEX Inverting Buffer	Texas Instruments	
168	2	U184,U191	LT1208CS8#PBF	SOIC-8	High speed operational OP-AMP	Analogue Devices	
169	1	U192	TLV75515PDBVR	SOT-23-5 (SMD)	LDO Voltage regulators 500-mA PSSR,low-IQ	Texas Instruments	