

UVS140 Universal Labor Verstärker 140Vpp 360V/us

Verstärker LE0010 - Rev 1.02: Schaltplan, Bestückung, Material Liste



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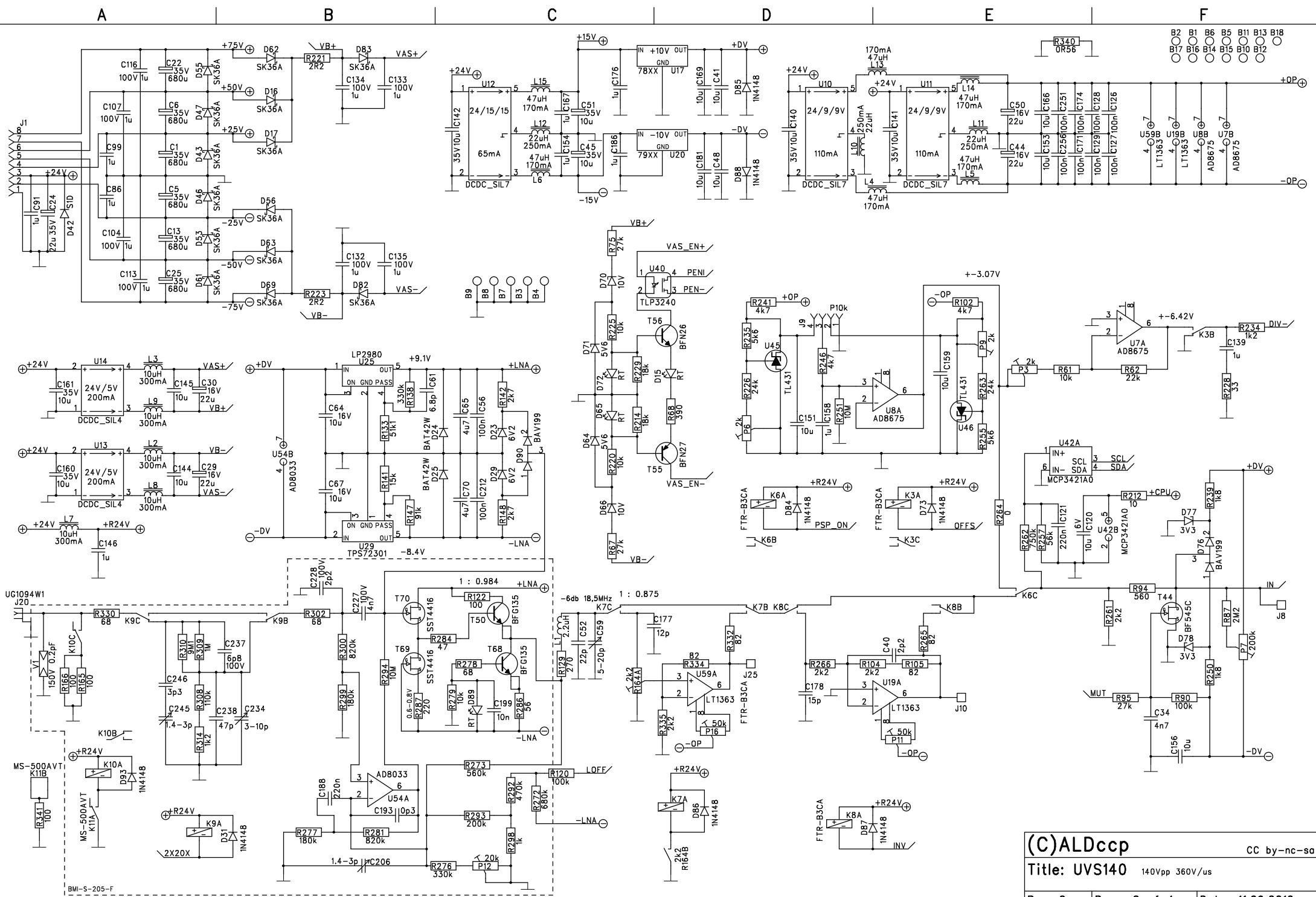
19.09.2016

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(C)ALDccp

CC by-nc-sa

Title: UVS140

140Vpp 360V/us

Rev: 2

Page: 2 of 4

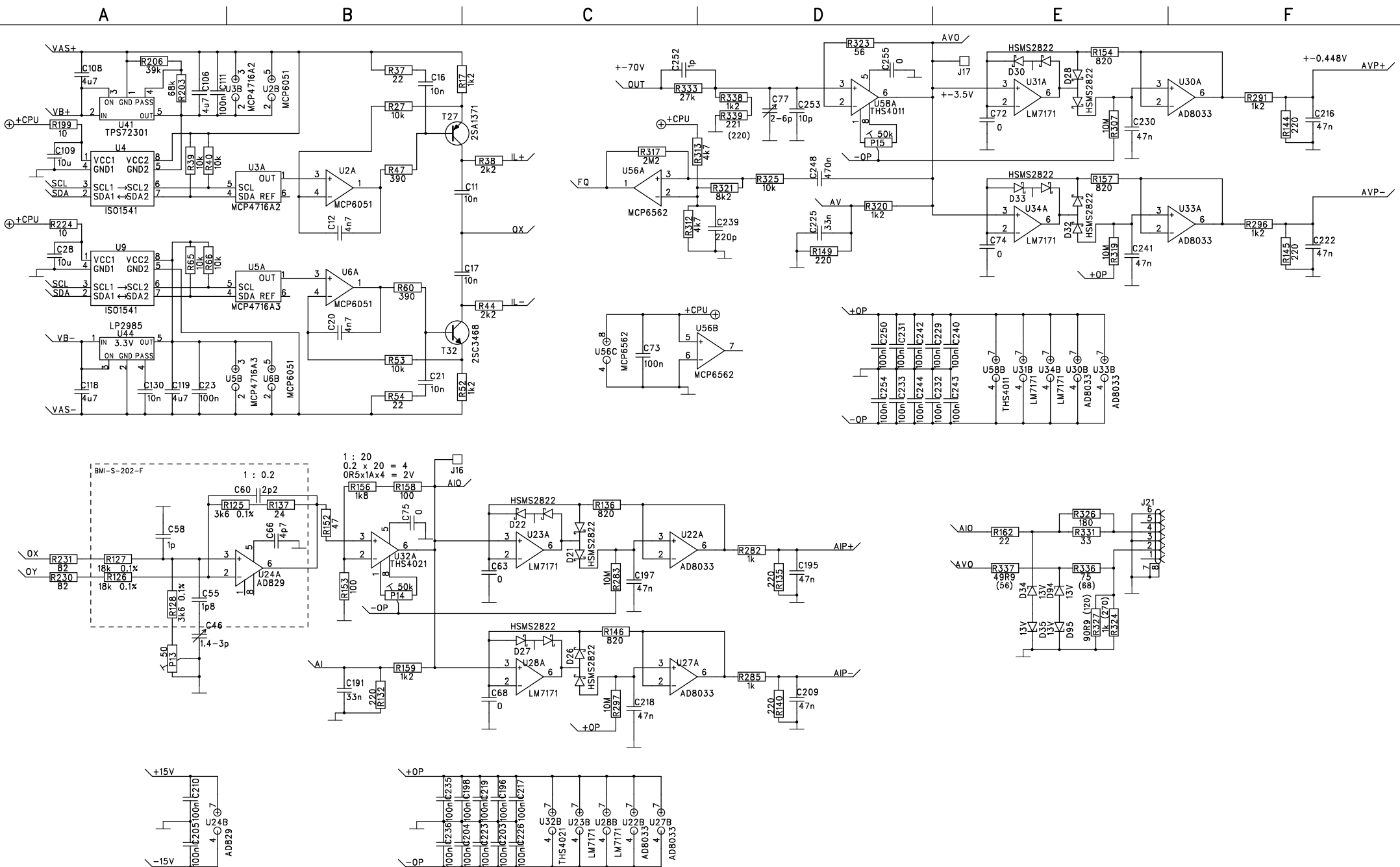
Date: 11.09.2016

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(C)ALDccp

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Title: UVS140

140Vpp 360V/us

Rev: 1

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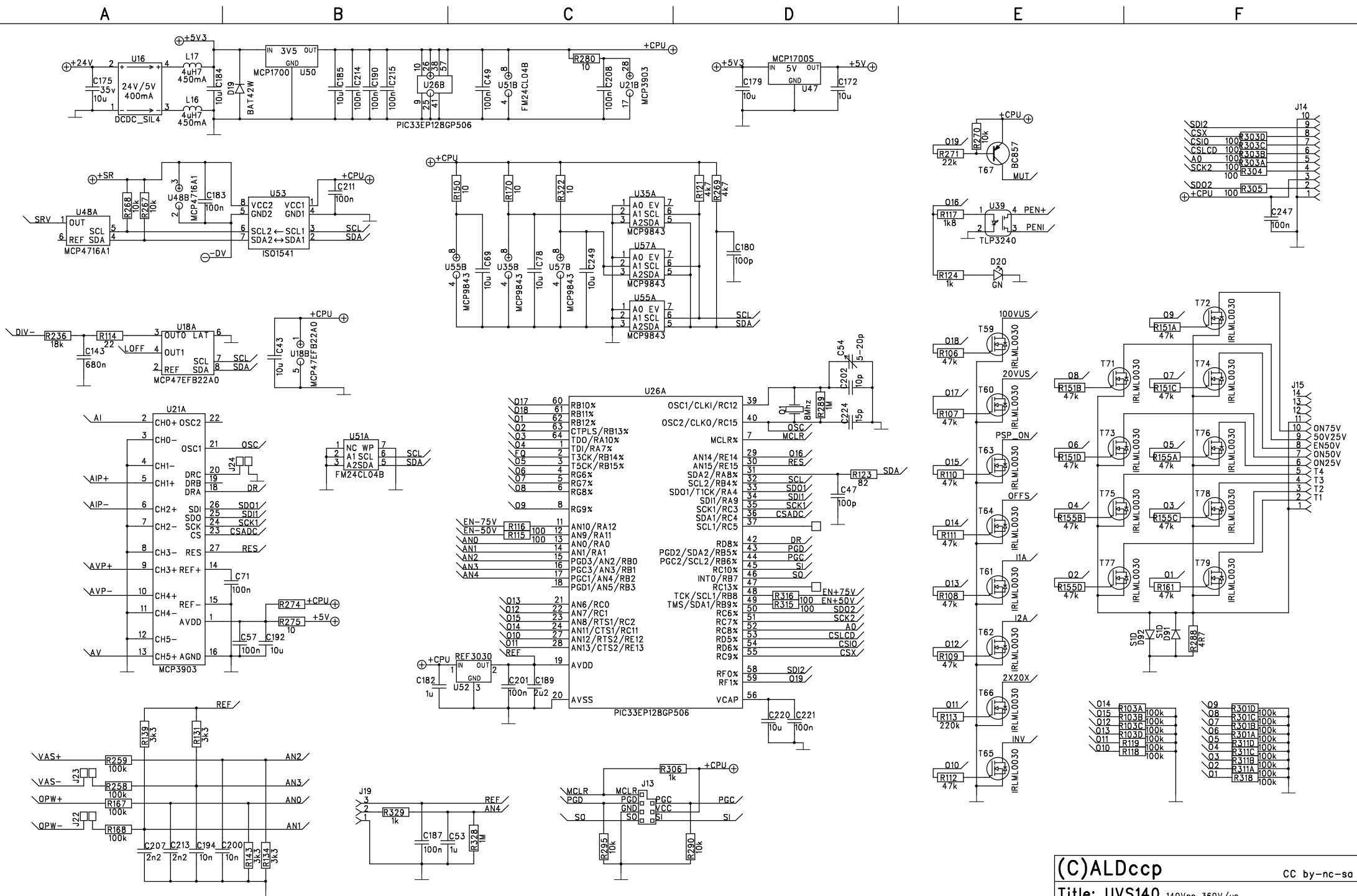
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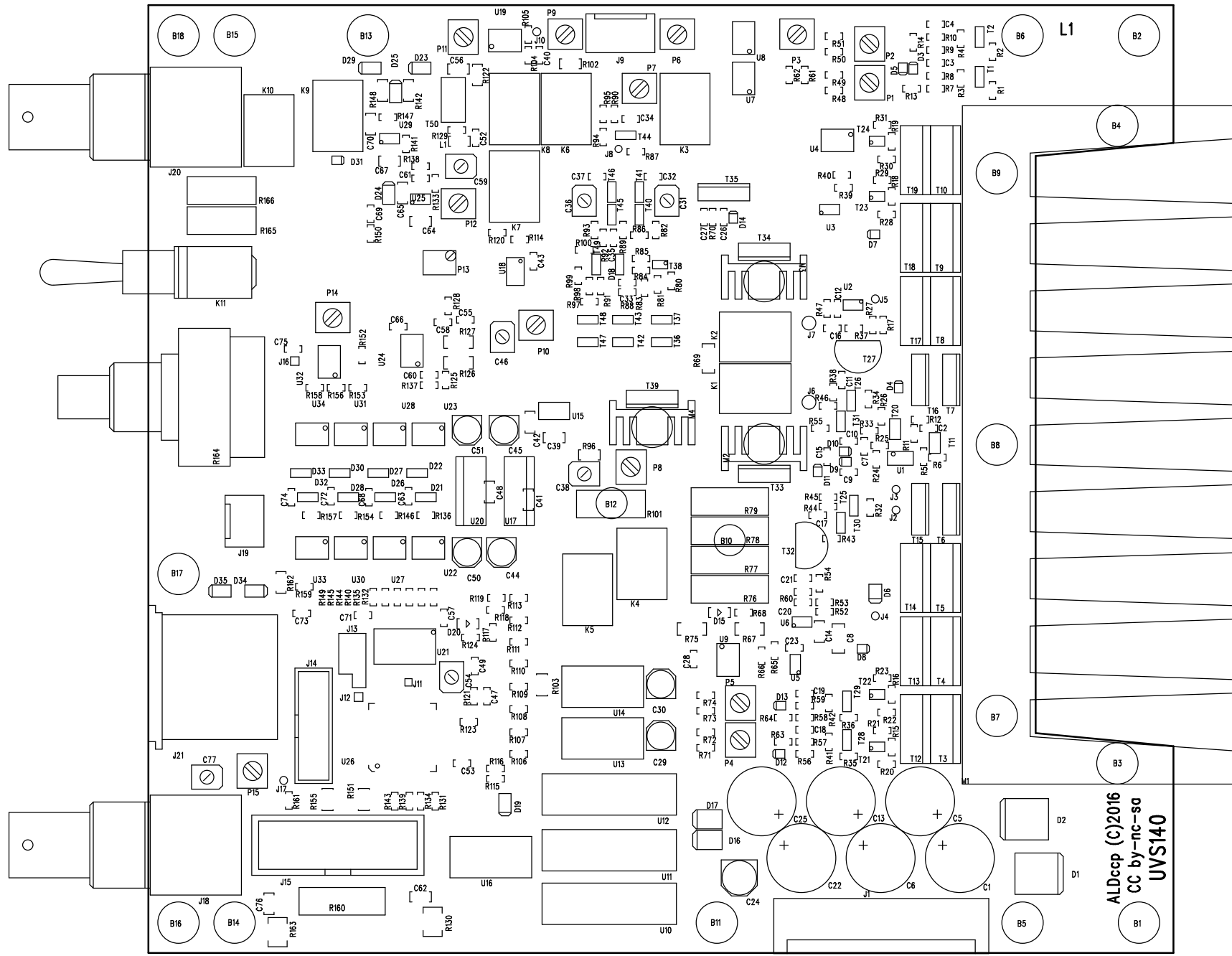
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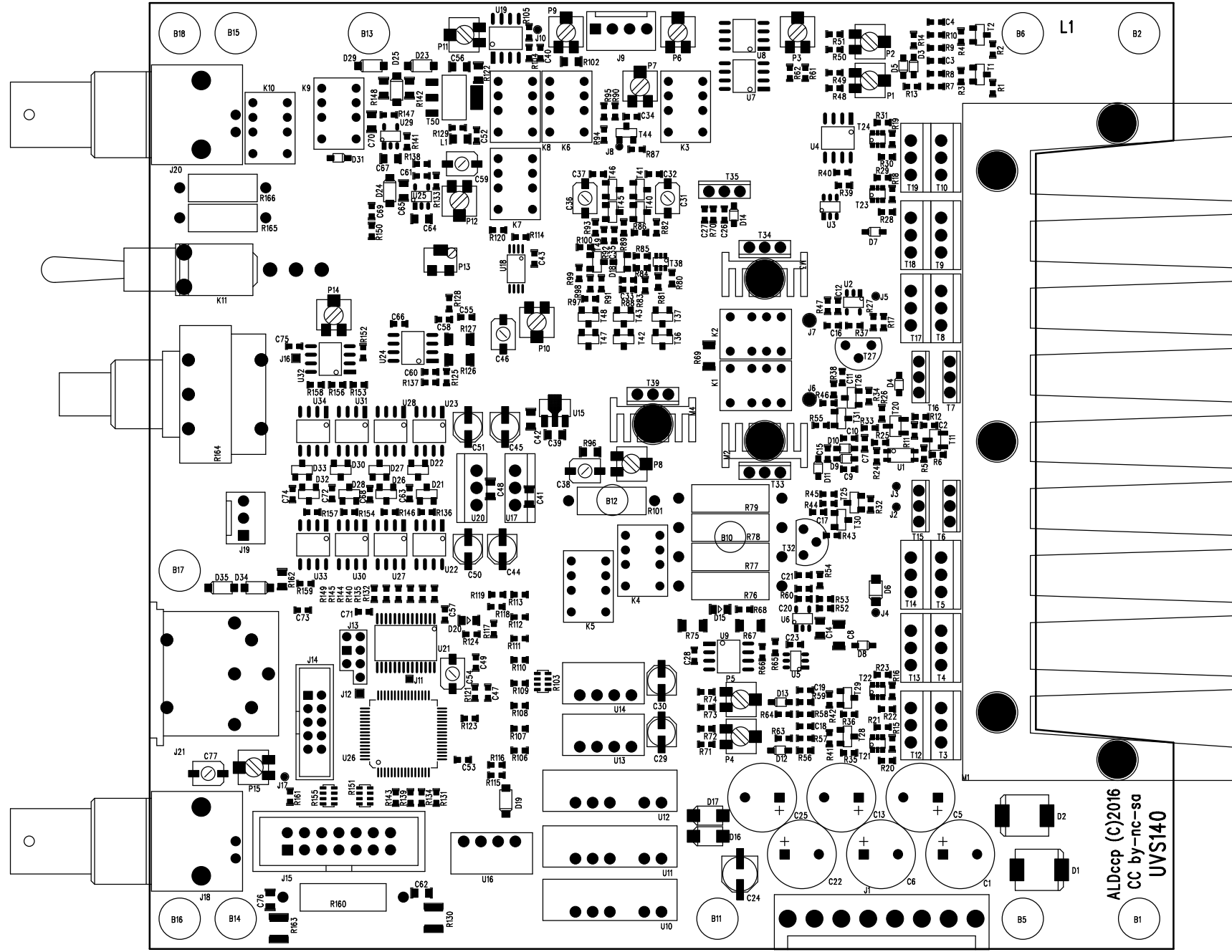
Title: UVS140 140Vpp 360V/us

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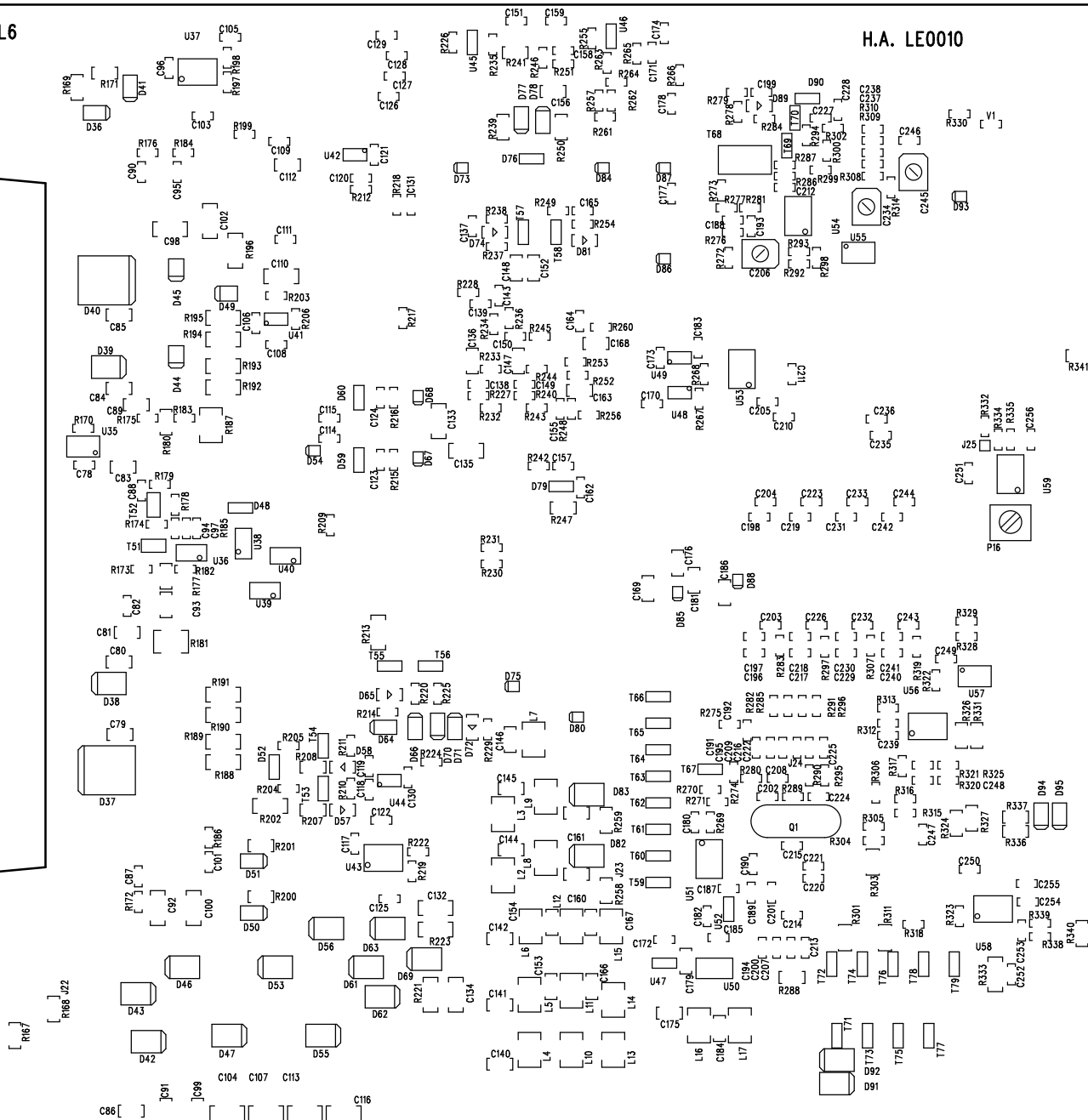
Date: 13.03.2016





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H.A. LE0010



Bill Of Materials for UVS140.sch on Mon Sep 19 18:30:15 2016

Item	Qty	Reference	Part Name	Wert	Wert2	PCB DECAL
1	19	D3 D5 D9-10 D12-14 D31 D67-68 D73 D75 D80 D84-88 D93	1N4148			SOD-323F
2	1	T27	2SA1371			T092-MP
3	3	T6 T15 T34	2SA1381			T0126
4	1	T39	2SA1538			T0126
5	4	T4-5 T13-14	2SA1930			T0220
6	1	T32	2SC3468			T092-MP
7	3	T7 T16 T33	2SC3503			T0126
8	1	T35	2SC3953			T0126
9	4	T8-9 T17-18	2SC5171			T0220
10	2	T20 T52	50A02CH			CPH3
11	2	T11 T51	50C02CH			CPH3
12	1	U17	78XX	+10V		T0220
13	1	U20	79XX	-10V		T0220
14	1	U24	AD829			S08
15	2	U7-8	AD8675			S08
16	2	D48 D52	BAS40-4			S0T23
17	3	D19 D24-25	BAT42W			S0D-123
18	5	D4 D7-8 D11 D54	BAV20			S0D-323F
19	2	D76 D90	BAV199			S0T23
20	1	T67	BC857			S0T23
21	5	T28-29 T41 T45 T57	BF550			S0T23
22	5	T1-2 T40 T46 T58	BF840			S0T23
23	1	T44	BF545C			S0T23
24	2	T50 T68	BFG135			S0T223
25	2	T53 T56	BFN26			S0T23
26	2	T54-55	BFN27			S0T23
27	1	T31	BFR92			S0T23
28	1	T49	BFR92A			S0T23
29	3	T25 T42-43	BFR93A			S0T23
30	1	T30	BFT92			S0T23
31	5	T26 T36-37 T47-48	BFT93			S0T23
32	1	T38	BFU520Y			S0T363
35	1	C2	C	22n		0603
36	5	C3-4 C18-19 C82	C	1n		0603
37	56	C10 C23 C49 C57 C71 C73 C9 C96 C111 C117 C126-129 C131 C137 C162 C165 C170-171 C174 C183 C187 C190 C196 C198 C201 C203-205 C208 C210-212 C214-215	C	100n		0603

		C217 C219					
		C221 C223					
		C226 C229					
		C231-233					
		C235-236					
		C240					
		C242-244					
		C247					
		C250-251					
		C254 C256					
38	2	C83 C81	C	2p2	100V	0805	
39	4	C85 C79-80	C	3n3	100V	0805	
		C84					
40	1	C89	C	18p	100V	0805	
41	3	C90 C138	C	150p		0603	
		C149					
42	1	C93	C	6p8	100V	0805	
43	2	C94 C155	C	68p		0603	
44	9	C7 C195 C197	C	47n		0603	
		C209 C216					
		C218 C222					
		C230 C241					
45	16	C105	C	10n		0603	
		C122-125 C21					
		C11 C130					
		C164 C194					
		C199-200					
		C103 C16 C88					
		C17					
46	2	C121 C188	C	220n		0603	
47	14	C107 C110 C8	C	1u	100V	1206	
		C132-135 C92					
		C113 C98					
		C116 C100					
		C102 C104					
48	2	C32 C37	C	6p8		0603	
49	6	C139	C	1u		0603	
		C157-158					
		C182 C53 C15					
50	18	C145 C148	C	10u	16V	0805	
		C152-153					
		C156 C163					
		C166					
		C168-169					
		C179 C181					
		C184 C41-42					
		C48 C64 C67					
		C144					
51	2	C150 C177	C	12p		0603	
52	4	C34 C173 C12	C	4n7		0603	
		C20					
53	8	C146 C91	C	1u		0805	
		C176 C154					
		C186 C167					
		C99 C86					
54	13	C28 C172	C	10u	6V	0603	
		C185 C151					
		C192 C43					
		C109 C159					
		C220 C69 C78					
		C249 C120					
55	5	C141-142	C	10u	35V	0805	
		C160-161					
		C140					

56	1	C97	C	6n8		0603
57	2	C191 C225	C	33n		0603
58	2	C47 C180	C	100p		0603
59	2	C40 C60	C	2p2		0603
60	2	C202 C253	C	10p		0603
61	1	C52	C	22p		0603
62	1	C143	C	680n		0603
63	2	C207 C213	C	2n2		0603
64	1	C175	C	10u	35v	0805
65	1	C56	C	100n		0805
66	4	C14 C112	C	100n	100V	0805
		C147 C136				
67	1	C61	C	6.8p		0603
68	4	C26-27 C239	C	220p		0603
		C87				
69	2	C178 C224	C	15p		0603
70	2	C62 C76	C	56p	100V	0805
71	1	C95	C	150p	100V	0603
72	4	C108 C118	C	4u7		0603
		C106 C119				
73	1	C193	C	0p3		0603
74	1	C55	C	1p8		0603
75	7	C68 C33 C72	C	0		0603
		C74-75 C63				
		C255				
76	1	C101	C	220p	100V	0603
77	1	C66	C	4p7		0603
78	1	C58	C	1p		0603
79	1	C115	C	100p	100V	0603
80	2	C70 C65	C	4u7		0805
81	1	C246	C	3p3		0603
82	1	C114	C	270p	100V	0603
83	1	C248	C	470n		0603
84	1	C227	C	4n7	100V	0603
85	1	C35	C	82p		0603
86	1	C237	C	6p8	100V	0603
87	1	C252	C	1p		0805
88	1	C39	C	2u2		0805
89	1	C228	C	2p2	100V	0603
90	1	C238	C	47p		0603
91	1	C189	C	2u2		0603
92	2	U13-14	DCDC_SIL4	24V/5V	200mA	SIL4
93	1	U16	DCDC_SIL4	24V/5V	400mA	SIL4
94	2	U10-11	DCDC_SIL7	24/9/9V	110mA	SIL7X5
95	1	U12	DCDC_SIL7	24/15/15	65mA	SIL7X5
96	1	J21	DIN6B			DIN6B
97	2	D23 D29	DZ	6V2		SOD-123
98	4	D34-35	DZ	13V		SOD-123
		D94-95				
99	2	D39 D38	DZ	82V	3W	DO214AC
100	2	D50 D41	DZ	51V		SOD-123
101	2	D64 D71	DZ	5V6		SOD-123
102	2	D70 D66	DZ	10V		SOD-123
103	2	D77-78	DZ	3V3		SOD-123
104	2	D36 D51	DZ	25V		SOD-123
105	6	C1 C5-6 C13	EC	680u	35V	EC200D100
		C22 C25				
106	1	C24	EC	22u	35V	EC-SMD-D50
107	4	C29-30 C44	EC	22u	16V	EC-SMD-D40
		C50				
108	2	C45 C51	EC	10u	35V	EC-SMD-D40
109	10	K1-10	FTR-B3CA			REL_FTR-B3
110	2	D44-45	HS1DL			SSMA
111	8	D21-22	HSMS2822			SOT23

		D26-28 D30				
		D32-33				
112	1	D18	HSMS2824			S0T23
113	1	U51	I2C-6-MEM	FM24CL04B		S08
114	2	T3 T12	IRF630	I0R	IRF630N	T0220
115	2	T10 T19	IRF9630	I0R		T0220
116	17	T59-66	IRLML0030			S0T23
		T71-79				
117	3	U4 U9 U53	IS01541			S08
118	5	L2-3 L7-9	L	10uH	300mA	1210
119	6	L4-6 L13-15	L	47uH	170mA	1210
120	3	L10-12	L	22uH	250mA	1210
121	2	L16-17	L	4uH7	450mA	1210
122	6	D15 D65 D72	LED_SMD	RT		0805D
		D74 D81 D89				
123	2	D58 D57	LED_SMD	GE		0805D
124	1	D20	LED_SMD	GN		0805D
125	3	D59-60 D79	LM4040	3.0V		S0T23
129	1	U25	LP2980			S0T23-5
130	1	U44	LP2985	3.3V		S0T23-5
131	2	U19 U59	LT1363			S08
132	1	L1	L_SMD	2.2uH		0805
133	1	U50	MCP1700	3V5		S0T89
134	1	U15	MCP1703	3V3		S0T89
135	1	U42	MCP3421	MCP3421A0		S0T23-6
136	1	U21	MCP3903			SS0P28
137	3	U37 U43 U56	MCP6562			S08
138	3	U35 U55 U57	MCP9843			TSS0P8
139	1	U47	MCP1700S	5V		S0T23
140	1	U18	MCP47FEBX2	MCP47EFB22A		TSS0P8
				0		
141	1	U3	MCP47X6	MCP4716A2		S0T23-6
142	1	U5	MCP47X6	MCP4716A3		S0T23-6
143	1	U48	MCP47X6	MCP4716A1		S0T23-6
144	1	K11	MS-500AVT			MS500AVT
145	2	T21-22	NPN_2X	BC547BD		S0T363
146	5	U22 U27 U30	OP1	AD8033		S08
		U33 U54				
147	4	U31 U28 U34	OP1	LM7171		S08
		U23				
148	1	U32	OP3	THS4021		S08
149	1	U58	OP3	THS4011		S08
150	3	U2 U6 U49	OP-S0T23-5	MCP6051		S0T23-5
151	1	R164	PC20BU_PC1S	2k2		PC20BU_PC1S
152	1	U26	PIC33EP128GP506			TQFP64
153	1	J13	PICPG7			PICPG7_79
154	2	T23-24	PNP_2X	BC557BD		S0T363
155	7	P1-6 P9	POTI	2k		P5L_SMD
156	1	P8	POTI	10k		P5L_SMD
157	1	P7	POTI	200k		P5L_SMD
158	1	P10	POTI	200		P5L_SMD
159	4	P11 P14-16	POTI	50k		P5L_SMD
160	1	P13	POTI	50		P5SS_SMD
161	1	P12	POTI	20k		P5L_SMD
162	1	Q1	Q	8Mhz		Q
163	8	R1-2 R35-36	R	18k		0603
		R73 R214				
		R229 R236				
164	6	R9 R56 R58	R	5k6		0603
		R7 R235 R255				
165	12	R15-16	R	3k3		0603
		R18-19 R131				
		R134 R139				
		R143				

		R197-198					
		R219 R222					
166	26	R27 R3-4	R	10k			0603
		R39-42 R53					
		R61 R65-66					
		R74 R99					
		R215-216					
		R220 R225					
		R238 R249					
		R267-268					
		R270 R279					
		R290 R295					
		R325					
167	3	R34 R117 R32	R	1k8			0603
168	4	R10 R57 R59	R	1k5			0603
		R8					
169	6	R60 R68 R98	R	390			0603
		R11 R260 R47					
170	8	R37 R114 R54	R	22			0603
		R172 R176					
		R184 R186					
		R256					
171	6	R38 R6 R237	R	2k2			0603
		R44 R254					
		R335					
172	3	R80 R97 R203	R	68k			0603
173	2	R83 R129	R	270			0603
174	4	R85 R89 R93	R	5R6			0603
		R84					
175	3	R86 R152	R	47			0603
		R284					
176	5	R92 R62 R71	R	22k			0603
		R271 R51					
177	14	R81 R100	R	82			0603
		R105 R123					
		R21 R23 R31					
		R230-231					
		R248 R265					
		R29 R332					
		R334					
178	8	R112 R161	R	47k			0603
		R106-111					
179	5	R120 R90	R	100k			0603
		R318					
		R118-119					
180	2	R125 R128	R	3k6	0.1%		0603
181	2	R127 R126	R	18k	0.1%		1206
182	1	R88	R	150k			0603
183	2	R130 R163	R	1k			1210
184	5	R132 R135	R	220	0.5%		0603
		R140 R145					
		R149					
185	1	R137	R	24			0603
186	3	R138 R82	R	330k			0603
		R276					
187	1	R141	R	15k			0603
188	2	R142 R148	R	2k7			0805
189	1	R144	R	220	0.5%		0805
190	1	R133	R	51k1			0603
191	4	R146 R136	R	820			0603
		R154 R157					
192	11	R150 R170	R	10			0603
		R199 R209					
		R212					

		R217-218				
		R224 R275				
		R280 R322				
193	4	R17 R234	R	1k2		0603
		R314 R52				
194	4	R168	R	100k		0805
		R258-259				
		R167				
195	4	R69 R213 R75	R	27k		1206
		R67				
196	5	R70 R233	R	180		0603
		R244				
		R252-253				
197	2	R181 R187	R	18k		1210
198	4	R183 R182	R	3R3		0603
		R173 R175				
199	2	R94 R5	R	560		0603
200	8	R189-195	R	R47		1206
		R188				
201	3	R102 R241	R	4k7		0805
		R96				
202	2	R200-201	R	12k		0805
203	2	R202 R196	R	68k		1206
204	9	R204-205	R	1k		0603
		R210-211				
		R174 R298				
		R306 R329				
		R124				
205	1	R185	R	988		0603
206	2	R208 R207	R	220k		0805
207	2	R55 R264	R	0		0603
208	7	R158	R	100		0603
		R115-116				
		R304-305				
		R315-316				
209	1	R43	R	39		0603
210	2	R226 R263	R	24k		0603
211	5	R228 R240	R	33		0603
		R24 R227 R26				
212	3	R177 R242	R	10		0805
		R180				
213	4	R63 R13-14	R	470		0603
		R64				
214	1	R12	R	9k1		0603
215	4	R30 R28 R20	R	3k9		0603
		R22				
216	8	R245-246	R	4k7		0603
		R121 R72				
		R269 R50				
		R312-313				
217	4	R76 R78 R77	R	1	2W 1%	R2W
		R79				
218	1	R257	R	56k		0603
219	3	R169 R48	R	10k		0805
		R171				
220	3	R261 R266	R	2k2	0.1%	0603
		R104				
221	1	R147	R	91k		0603
222	2	R33 R25	R	1		0603
223	2	R46 R45	R	330		0603
224	2	R165-166	R	100	2W 1%	R2W
225	1	R95	R	27k		0603
226	1	R272	R	680k		0603
227	1	R273	R	560k		0603

228	1	R274	R			0603
229	1	R160	R	2R2	2W	R2W
230	2	R243 R232	R	6R8		0603
231	3	R278 R302	R	68		0603
		R330				
232	2	R281 R300	R	820k	0.1%	0603
233	6	R283 R294	R	10M		0603
		R297 R307				
		R251 R319				
234	2	R289 R328	R	1M		0603
235	4	R291 R296	R	1k2	0.5%	0603
		R159 R320				
236	1	R153	R	100	0.1%	0603
237	2	R292 R91	R	470k		0603
238	2	R178 R287	R	220		0603
239	2	R282 R285	R	1k	0.5%	0603
240	2	R221 R223	R	2R2		1206
241	1	R206	R	39k		0603
242	2	R286 R323	R	56		0603
243	1	R309	R	1M	0.1%	0603
244	1	R310	R	9M1	1%	0603
245	2	R299 R277	R	180k	0.1%	0603
246	1	R247	R	6k8		0805
247	1	R179	R	1R5		0603
248	1	R293	R	200k		0603
249	2	R317 R87	R	2M2		0603
250	1	R288	R	4R7		0805
251	1	R49	R	18k		0805
252	1	R321	R	8k2		0603
253	1	R162	R	22		0805
254	1	R308	R	110k	0.1%	0603
255	1	R324	R	1k		0805
256	2	R239 R250	R	1k8		0805
257	1	R327	R	90R9	0.1%	0805
258	1	R326	R	180		0805
259	1	R262	R	750k		0603
260	1	R113	R	220k		0603
261	1	R331	R	33		0805
262	2	R122 R341	R	100		0805
263	1	R156	R	1k8	0.1%	0603
264	1	R101	R	4k7	2W 1%	R2W
265	1	R336	R	75	0.1%	0805
266	1	R337	R	49R9	0.1%	0805
267	1	R338	R	1k2	0.1%	0603
268	1	R339	R	221	0.1%	0603
269	1	R340	R	0R56		0805
270	1	R333	R	27k	0.1%	1206
271	3	R103 R301	RA4	100k		0603X4
		R311				
272	2	R151 R155	RA4	47k		0603X4
273	1	R303	RA4	100		0603X4
274	1	U52	REF30XX	REF3030		S0T23
275	2	D6 D49	RSFDL		4V 4pF	SSMA
276	3	D42 D91-92	S1D			SMAD
277	14	D16-17 D43	SK36A			SMAD
		D46-47 D53				
		D55-56				
		D61-63 D69				
		D82-83				
278	4	D1-2 D37 D40	SK86C			SMCD
279	3	M2-4	SK95-25			SK95-25
280	1	J19	SL3			PSS254_3G
281	1	J9	SL4			PSS254_4G
282	1	J1	SL8			SL156_8_MTA

283	1	J14	SL10			SL79U_2X10
284	1	J15	SL14			SL100U_2X14
285	2	T69-70	SST4416			SOT23
286	4	C31 C36 C54	TC	5-20p		TC5SMD
		C59				
287	4	C38 C46 C206	TC	1.4-3p		TC5SMD
		C245				
288	1	C234	TC	3-10p		TC5SMD
289	1	C77	TC	2-6p		TC5SMD
290	2	U45-46	TL431-SMD	TL431		SOT23
291	3	U38-40	TLP3240			SSOP4
292	2	U1 U36	TLP3914			SSOP4
293	2	U29 U41	TPS72301			SOT23-5
294	2	J18 J20	UG1094W1			BNC_UG1094W1
295	1	V1	V	150V 0.2pF	82306120029	0603
296	1	M1	V7331			KUEL_V7331

Extra:

HF-Schirme:

Verwendetes Material:

Hersteller: "Laird Technologies"

1x BMI-S-202-F + BMI-S-202-C

1x BMI-S-205-F + BMI-S-205-C

1x BMI-S-209-F + BMI-S-209-C

Externe Poti.:

10k lin. an J19 (Strom)

10k lin. 10-Gang an J9 (Spannung)

Achtung:

Die Widerstände "R281:R277" zu "R300:R299" sollten ein um ca. 0.1% kleineres Teilverhältnis haben.

R300 (820k) : R299 (180k) --> 4.5555:1

R281 (820k) : R277 (180k) --> 4.550:1

zB.: R277 (180.2K) oder R281 (819k)

(Ein 500 Ohm Poti. + R277 wäre besser gewesen)

Im Prototyp R300=819,88k R299=179,80k R281=819,70k R277=180,02k

Die Präzisions Widerstände R125,R126,R127,R128 benötigen eine hohe Thermische Stabilität.