

**SC4905A/B Isolated 36V TO 72V Vin
RCD reset Single switch Forward
12V 120W Output
non Synchronous Rectification**

POWER MANAGEMENT**Start up**

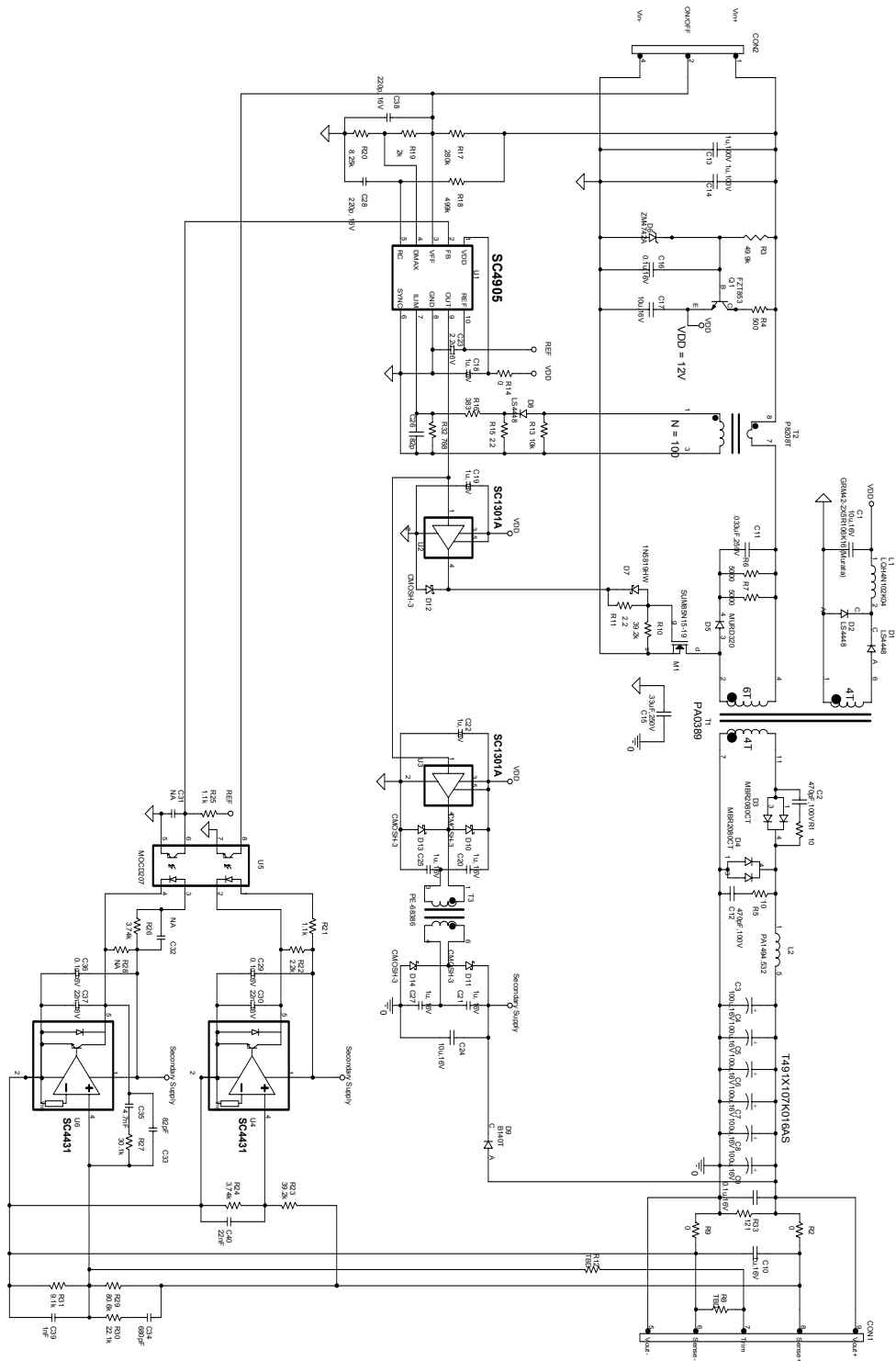
An input supply voltage for the VIN ranging from 36V to 72V should be applied to CON2 Pin 1 (Positive), and CON2 Pin 4 (Negative).

The output voltage of 12V @ 120W (Vout) can be loaded at CON1 Pin 9 (Positive), and CON1 Pin 5 (Negative) and verified at CON1 Pin 8 (Positive), and CON1 Pin 6 (Negative).

An ON/OFF (ON open, OFF pulled to input ground) is also provided at CON1 Pin 2.

Before applying the supply voltage, following steps should be performed by the user to analyze the SC4905 evaluation board:

- 1- Connect the supply to above mentioned terminals. If possible minimize all stray inductance due to long wiring by using twisted wires or short wire connection from the power supply to the terminals.
- 2- Connect all instruments (DVM, current meters, Loads, oscilloscope probes, etc.). More accurate measurements can be achieved if all stray inductances are minimized.
- 3- Apply the VIN supply Voltage. Loads and analyze the board.



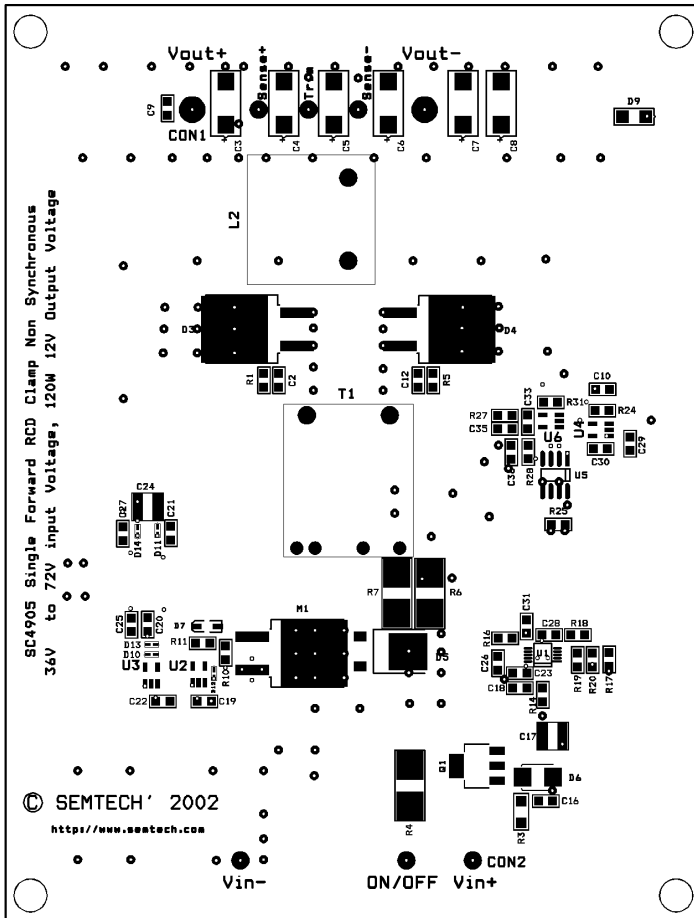
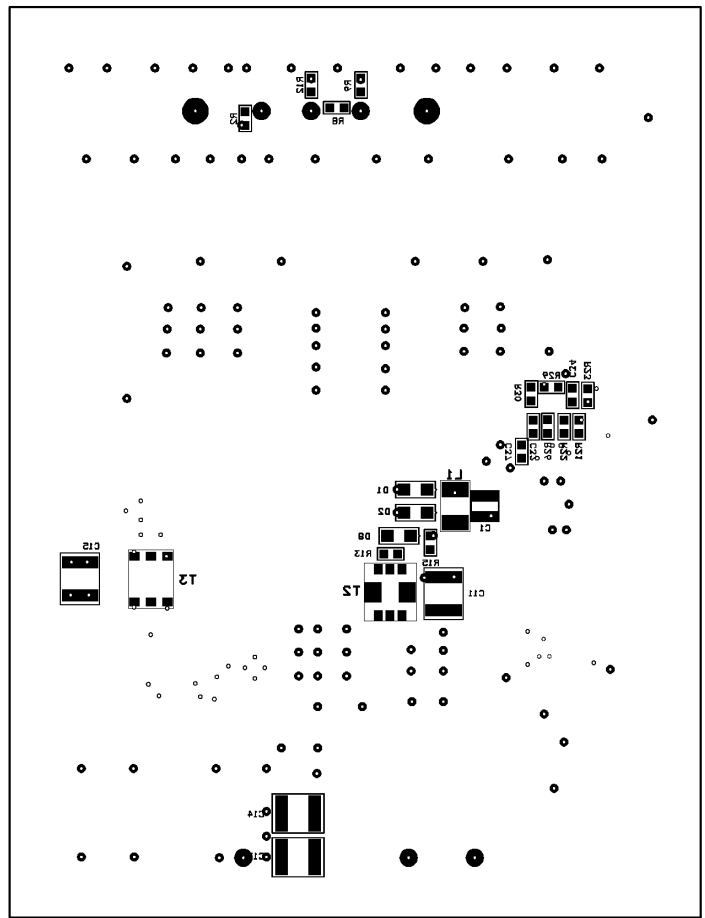
SEMTECH CORPORATION		
Title	SC4905 Isolated non_sync 12V 120W (36V to 72V input voltage)	
Size	Document Number	Rev
	SC4905 Isolated non_sync 12V 120W (36V to 72V input voltage)	1.2
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Evaluation Board Bill of Materials

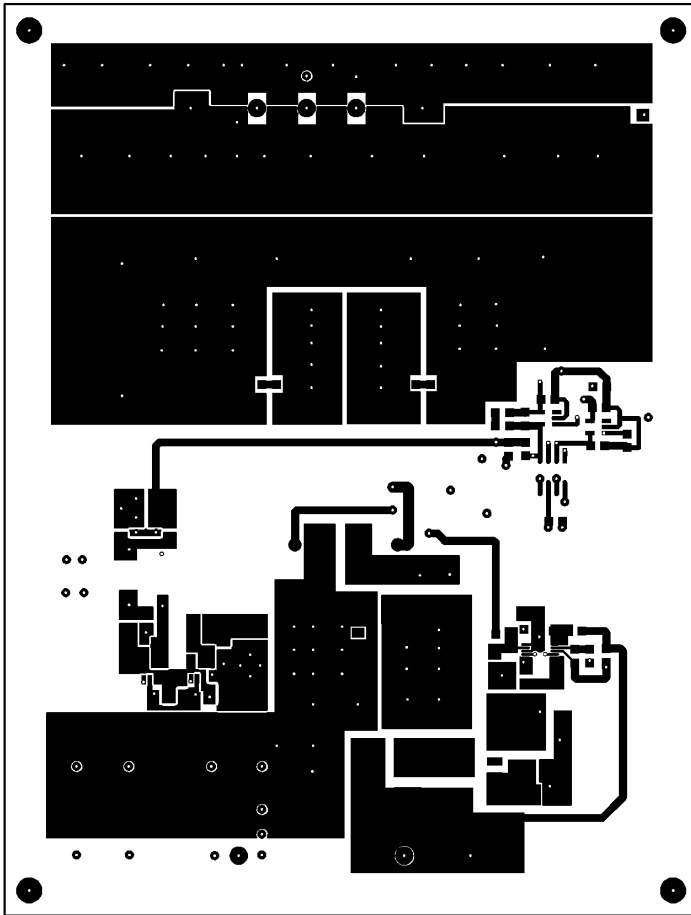
Bill Of Materials

Item	Quantity	Reference	Part	Manufacturer #	Foot Print
1	1	CON1	5output_half_brick		CON\5OUTPUT_HALF_BRICK
2	1	CON2	3input_half_brick		CON\3INPUT_HALF_BRICK
3	3	C1,C17,C24	10u,16V	GRM42-2X5R106K16 (Murata)	SM/C_1210_GRM
4	2	C12,C2	470pF,100V		SM/C_0805
5	6	C3,C4,C5,C6,C7,C8	100u,16V		EEJL1CD476R
6	4	C9,C16,C29,C36	0.1u,16V		SM/C_0805
7	1	C10	1u,16V		SM/C_0805
8	1	C11	.033uF,250V	GHM1530X7R333K250 (Murata)	SM/C_2220
9	2	C13,C14	1u,100V	GRM44-1X7R105K250AL (Murata)	SM/C_2220
10	1	C15	.33uF,250V	GHM1545X7R334K250 (Murata)	SM/C_2220
11	7	C18,C19,C20,C21,C22,C25,C27	1u, 16V		SM/C_0805
12	1	C23	2.2u, 16V		SM/C_0805
13	1	C26	82p		SM/C_0805
14	2	C38,C28	220p, 16V		SM/C_0805
15	2	C30,C37	22n, 16V		SM/C_0805
16	2	C31,C32	NA		SM/C_0805
17	1	C33	82pF		SM/C_0805
18	1	C34	680pF		SM/C_0805
19	1	C35	4.7nF		SM/C_0805
20	1	C39	1nF		SM/C_0805
21	1	C40	22nF		SM/C_0805
22	3	D1,D2,D8	LS4448		SM/DO213AC
23	2	D3,D4	MBR2080CT		DIODE_D2PAK
24	1	D5	MURD320		DIODE_DPAK
25	1	D6	ZM4742A	ZM4742A (Diodes Inc.)	SMB/DO214
26	1	D7	1N5819HW		SOD123
27	1	D9	B140T		SM/DO213AC
28	5	D10,D11,D12,D13,D14	CMOSH-3	CMOSH-3 (Central Semiconductor)	SOD523
29	1	L1	LQH4N102K04	LQH4N102K04 (Murata)	SDIP0302
30	1	L2	PA1494.532		PA1494
31	1	M1	SUM85N15-19		D2PAKFET
32	1	Q1	FZT853	FZT853 (Zetex)	SM/SOT223_BCEC
33	2	R5,R1	10		SM/R_0805
34	3	R2,R9,R14	0		SM/R_0805
35	1	R3	49.9k		SM/R_1206
36	1	R4	500	MRC1-100-5000-F-7	SM/R_1210_MCR
37	2	R6,R7	5000	MRC1-100-5001-F-7	SM/R_1210_MCR
38	2	R8,R12	TBD		SM/R_0805
39	2	R23,R10	39.2k		SM/R_0805
40	2	R11,R15	2.2		SM/R_0805
41	1	R13	10k		SM/R_0805
42	1	R16	383		SM/R_0805
43	1	R17	280k		SM/R_0805
44	1	R18	499k		SM/R_0805
45	1	R19	2k		SM/R_0805
46	1	R20	8.25k		SM/R_0805
47	2	R25,R21	1.1k		SM/R_0805
48	1	R22	2.2k		SM/R_0805
49	2	R26,R24	3.74k		SM/R_0805
50	1	R27	30.1k		SM/R_0805
51	1	R28	NA		SM/R_0805
52	1	R29	80.6k		SM/R_0805
53	1	R30	22.1k		SM/R_0805
54	1	R31	9.1k		SM/R_0805
55	1	R32	768		SM/R_0805
56	1	R33	121		SM/R_0805
57	1	T1	PA0389		PA0389
58	1	T2	P8208T		P8208T
59	1	T3	PE-68386	PE-68386 (Pulse)	PE-68386
60	1	U1	SC4905	SC4905 (Semtech)	MSOP10
61	2	U3,U2	SC1301A	SC1301A (Semtech)	SOT23_5PIN
62	2	U4,U6	SC4431	SC4431 (Semtech)	SOT23_5PIN
63	1	U5	MOCD207	MOCD207 (Fairchild)	SO-8

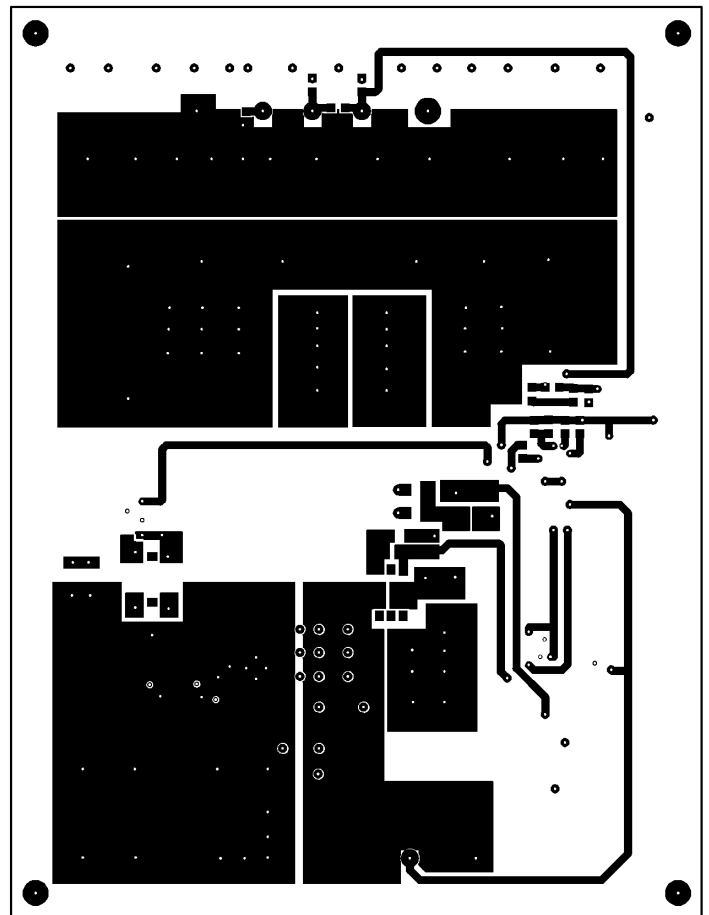

Board Layout Assembly Top

Board Layout Assembly Bottom

POWER MANAGEMENT

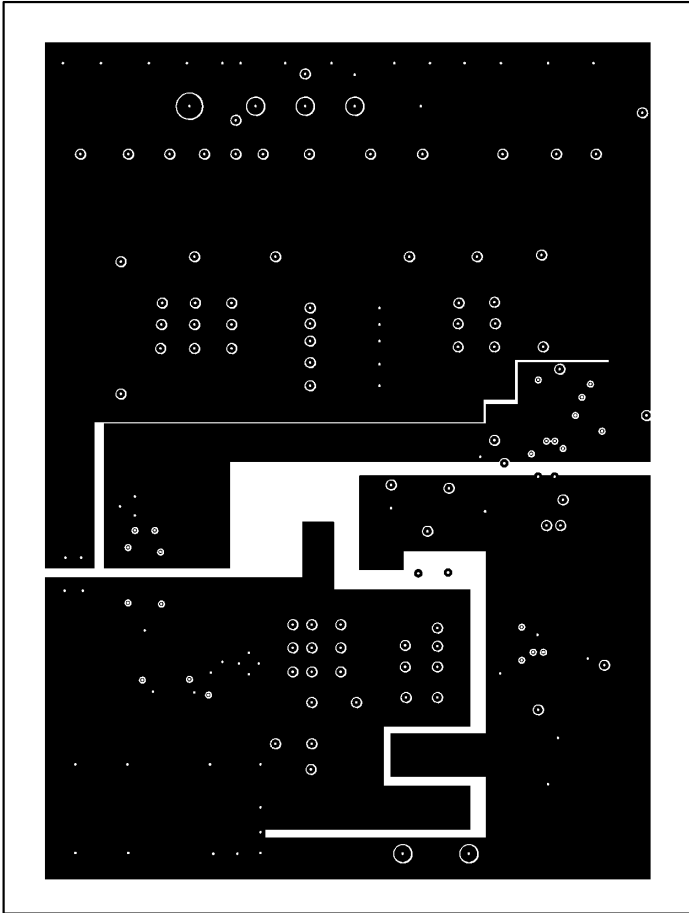
Evaluation Board Gerber Plots



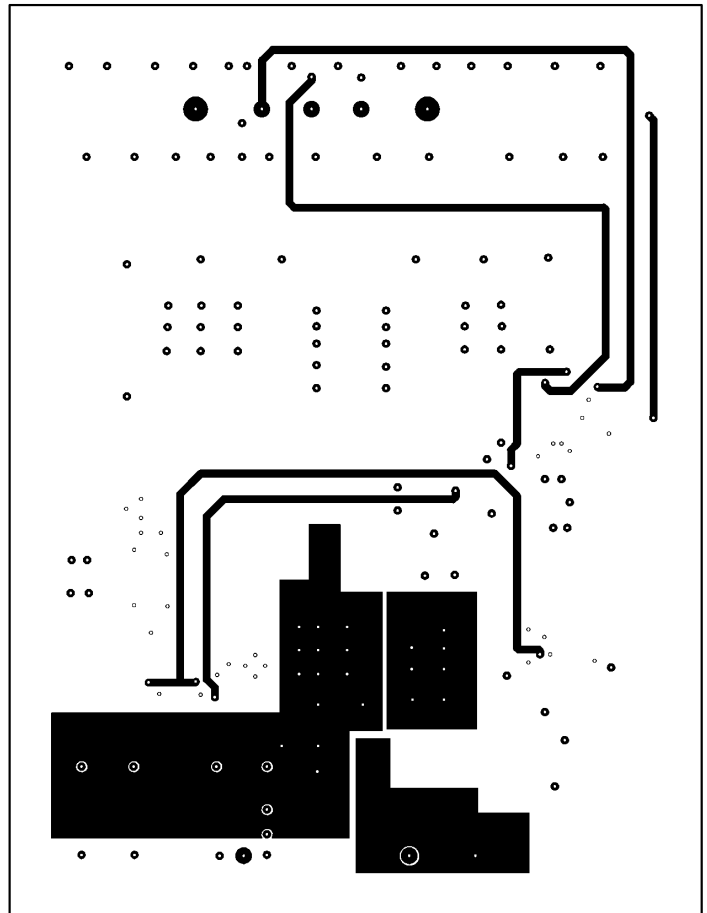
Board Layout Top



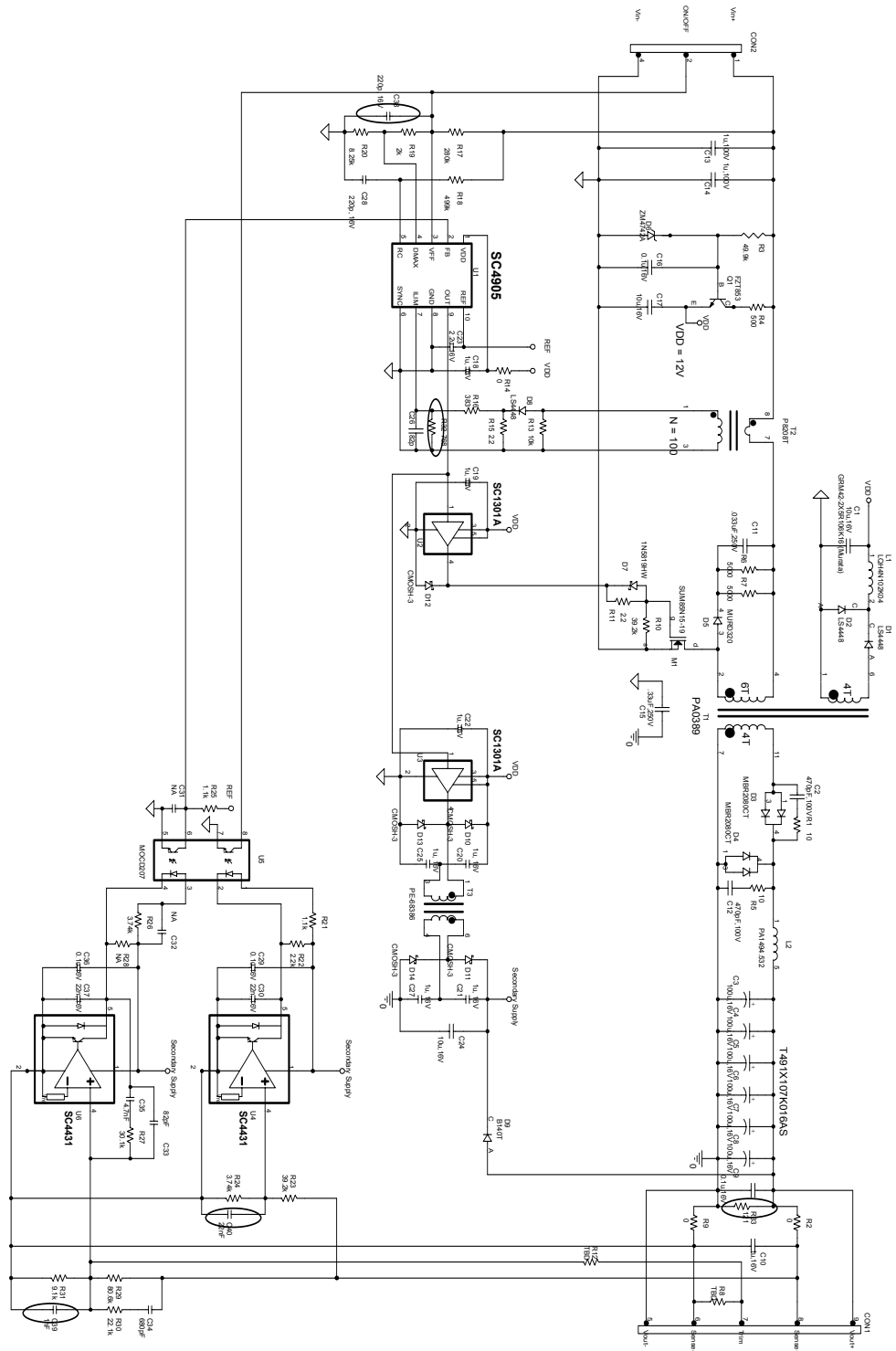
Board Layout Bottom



Board Layout INNER1



Board Layout INNER2



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