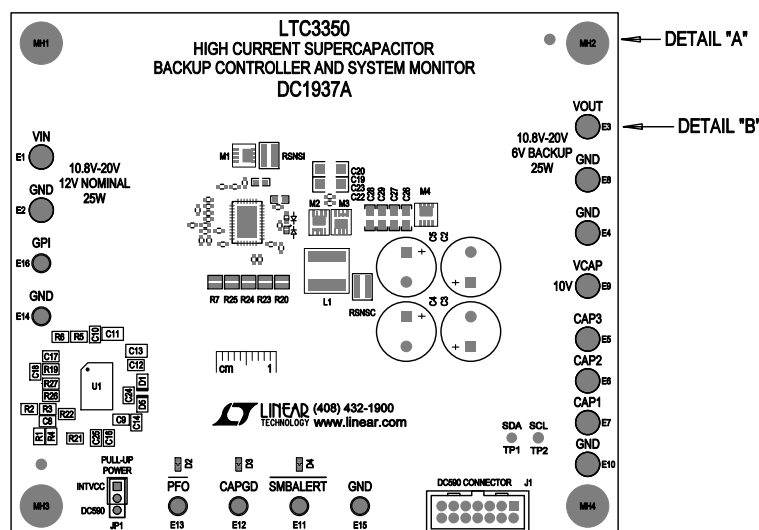


Item	Qty	Reference	Part Description	Manufacturer / Part #	Kit Qty
				NUMBER OF BOARDS =	225
1	4	C1, C12, C16, C24	CAP, CHIP, X5R, 0.1µF, ±10%, 16V, 0402	MURATA, GRM155R71C104KA88	
2	4	C2-C5	CAP, ELECTRIC DOUBLE LAYER, 10F, 2.7V	NESSCAP, ESHSR 0010C0 002R7	
3	3	C6, C7, C11	CAP, CHIP, X5R, 1µF, ±10%, 25V, 0603	MURATA, GRM188R61E105KA12D	
4	1	C8	CAP, CHIP, X5R, 120pF, ±5%, 25V, NPO, 0402	MURATA, GRM1555C1E121JA01D	
5	0	C9, C17	CAP, CHIP, 0402		
6	2	C10, C25	CAP, CHIP, X5R, 0.1µF, ±10%, 25V, 0402	TDK, C1005X5R1E104K050BC	
7	1	C13	CAP, CHIP, X5R, 4.7µF, ±10%, 6.3V, 0603	TDK, C1608X5R0J475K	
8	1	C14	CAP, CHIP, X5R, 1µF, ±10%, 16V, 0402	TDK, C1005X5R1C105K050BC	
9	1	C15	CAP, 27µF, 25V, Alum. Electro, 20%, 6.3 X 4.5	SUN ELECT, 25HVH27M	
10	1	C18	CAP CER 10000PF 16V 10% X7R 0402	AVX, 0402YC103KAT2A	
11	2	C19, C20	CAP, CHIP, X5R, 47µF, ±20%, 25V, 1206	TDK, C3216X5R1E476M160AC	
12	0	C21	CAP, 27µF, 25V, Alum. Electro, 20%, 6.3 X 4.5	SUN ELECT., 25HVH27M	
13	2	C22, C23	CAP, CHIP, X5R, 2.2µF, ±10%, 25V, 0402	TDK, C1005X5R1E225K050BC	
14	4	C26, C27, C28, C29	CAP, CHIP, X5R, 22µF, ±10%, 16V, 0805	TDK, C2012X5R1C226K125AC	
15	1	D1	DIODE SWITCH, 80V, 0.125A, SOD-523	DIODES INC, 1N4448HWT-7	
16	3	D2, D3, D4	DIODE, LED, RED, 0603, 8mmx.8mm	LUMEX, SML-LX0603SRW-TR	
17	0	D5	DIODE ZENER, 5.6V, 250MW, DFN1006-2	DIODES INC, BZT52C5V6LP-7	
18	10	E1 - E10	TURRET, 0.09 DIA	MILL-MAX, 2501-2-00-80-00-00-07-0	
19	6	E11 - E16	TURRET, 0.061 DIA	MILL-MAX, 2308-2-00-80-00-00-07-0	
20	1	J1	CONN, 2x14 2mm HEADER	MOLEX, 87831-1420	
21	1	JP1	HEADER, 3PINS, 2mm	WURTH, 62000311121	
22	1	XJP1 (SHUNT)	SHUNT 2mm 1X3	WURTH, 60800213421	
23	1	L1	IND, SMT, 3.3µH, ±20%	COILCRAFT, XAL7030-332MEB	
24	2	M1, M4	FET, N-MOS, 20V, POWER-PAK 1212-8	VISHAY, SIS438DN-T1-GE3	
25	2	M2, M3	MOSFET, N-CH 25V, 40A, TSDSON-8	INFINEON, BSZ060NE2LS	
26	1	M5	MOSFET, N-CH 20V, 6A, SOT-23	VISHAY, SI2312CDS-T1-GE3	
27	2	R1, R2	RES, CHIP, 20Ω, ±1%, 1/16W, 0402	VISHAY, CRCW040220R0FKED	
28	1	R3	RES, CHIP, 649KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402649KFKED	
29	1	R4	RES, CHIP, 162KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402162KFKED	
30	1	R5	RES, CHIP, 787KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402787KFKED	
31	1	R6	RES, CHIP, 100KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402100KFKED	
32	5	R7, R20, R23, R24, R25	RES, CHIP, 2.7Ω, ±1%, 1/2W, 0805 WIDE	ROHM SEMI, LTR10EVHFL2R70	
33	2	R8, R9	RES, CHIP, 100KΩ, ±5%, 1/16W, 0402	VISHAY, CRCW0402100KJNED	
34	0	R10, R11	RES, CHIP, 0402		
35	3	R12, R13, R14	RES, CHIP, 1KΩ, ±5%, 1/16W, 0402	VISHAY, CRCW04021K00JNED	
36	3	R15, R16, R18	RES, CHIP, 5.1KΩ, ±5%, 1/16W, 0402	VISHAY, CRCW04025K10JNED	
37	1	R17	RES, CHIP, 1MΩ, ±1%, 1/16W, 0402	VISHAY, CRCW04021M00FKED	
38	1	R19	RES, CHIP, 0Ω JUMPER, 1/16W, 0402	VISHAY, CRCW04020000Z0ED	
39	1	R21	RES, CHIP, 121Ω, ±1%, 1/16W, 0402	VISHAY, CRCW0402121RFKED	
40	2	R22	RES, CHIP, 71.5KΩ, ±1%, 1/16W, 0402	VISHAY, CRCW040271K5FKED	
41	1	R26	RES, CHIP, 866KΩ, ±1%, 1/16W, 0402	VISHAY, CRCW0402866KFKED	
42	1	R27	RES, CHIP, 118KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402118KFKED	
43	1	RSNSC	RES, CHIP, 6mΩ, ±1%, 1W, 1632	SUSUMU, PRL1632-R006-FT1	
44	1	RSNSI	RES, CHIP, 16mΩ, ±1%, 1W, 1632	SUSUMU, PRL1632-R016-FT1	
45	1	U1	SUPERCAP BACKUP CONTROLLER	LINEAR TECH., LTC3350EUHF#PBF	
46	1	U2	I2C EEPROM	MICROCHIP, 24LC025-I/ST	
47	4		STAND-OFF NYLON, 0.375" TALL (SNAP-ON)	KEYSTONE, 8832 (SNAP ON)	
48	1		FAB.PRINTED CIRCUIT BOARD	DEMO CIRCUIT 1937A-2	
49	2		TOP & BOTTOM STENCILS	STENCIL, DC1937A-2	

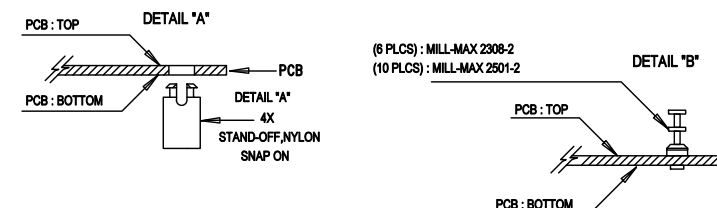
Item	Qty	Reference	Part Description	Manufacturer / Part #
REQUIRED CIRCUIT COMPONENTS:				
1	4	C2-C5	CAP, ELECTRIC DOUBLE LAYER, 10F, 2.7V	NESSCAP, ESHSR 0010C0 002R7
2	1	C11	CAP, CHIP, X5R, 1uF, ±10%, 25V, 0603	MURATA, GRM188R61E105KA12D
3	1	C8	CAP, CHIP, X5R, 120pF, ±5%, 25V, NPO, 0402	MURATA, GRM1555C1E121JA01D
4	2	C10, C25	CAP, CHIP, X5R, 0.1uF, ±10%, 25V, 0402	TDK, C1005X5R1E104K050BC
5	3	C12, C16, C24	CAP, CHIP, X5R, 0.1uF, ±10%, 16V, 0402	MURATA, GRM155R71C104KA88
6	1	C13	CAP, CHIP, X5R, 4.7uF, ±10%, 6.3V, 0603	TDK, C1608X5R0J475K
7	1	C14	CAP, CHIP, X5R, 1uF, ±10%, 16V, 0402	TDK, C1005X5R1C105K050BC
8	1	C15	CAP, 27uF, 25V, Alum. Electro, 20%, 6.3 X 4.5	SUN ELECT, 25HVH27M
9	1	C18	CAP CER 10000PF 16V 10% X7R 0402	AVX, 0402YC103KAT2A
10	2	C19, C20	CAP, CHIP, X5R, 47uF, ±20%, 25V, 1206	TDK, C3216X5R1E476M160AC
11	2	C22, C23	CAP, CHIP, X5R, 2.2uF, ±10%, 25V, 0402	TDK, C1005X5R1E225K050BC
12	4	C26, C27, C28, C29	CAP, CHIP, X5R, 22uF, ±10%, 16V, 0805	TDK, C2012X5R1C226K125AC
13	1	D1	DIODE SWITCH, 80V, 0.125A, SOD-523	DIODES INC, 1N4448HWT-7
14	1	L1	IND, SMT, 3.3uH, ±20%	COILCRAFT, XAL7030-332MEB
15	2	M1, M4	FET, N-MOS, 20V, POWER-PAK 1212-8	VISHAY, SIS438DN-T1-GE3
16	2	M2, M3	MOSFET N-CH 25V, 40A TSDSON-8	INFINEON, BS2060NE2LS
17	1	R3	RES, CHIP, 649KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402649KFKED
18	1	R4	RES, CHIP, 162KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402162KFKED
19	1	R5	RES, CHIP, 787KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402787KFKED
20	1	R6	RES, CHIP, 100KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402100KFKED
21	5	R7, R20, R23, R24, R25	RES, CHIP, 2.7Ω, ±1%, 1/2W, 0805 WIDE	ROHM SEMI, LTR101EVHFL2R70
22	2	R8, R9	RES, CHIP, 100KΩ, ±5%, 1/16W, 0402	VISHAY, CRCW0402100KJNED
23	3	R12, R13, R14	RES, CHIP, 1KΩ, ±5%, 1/16W, 0402	VISHAY, CRCW04021K00JNED
24	1	R17	RES, CHIP, 1MΩ, ±1%, 1/16W, 0402	VISHAY, CRCW04021M00FKED
25	1	R19	RES, CHIP, 0Ω JUMPER, 1/16W, 0402	VISHAY, CRCW0402000Z0ED
26	1	R21	RES, CHIP, 121Ω, ±1%, 1/16W, 0402	VISHAY, CRCW0402121RFKED
27	2	R22	RES, CHIP, 71.5KΩ, ±1%, 1/16W, 0402	VISHAY, CRCW040271K5FKED
28	1	R26	RES, CHIP, 866KΩ, ±1%, 1/16W, 0402	VISHAY, CRCW0402866KFKED
29	1	R27	RES, CHIP, 118KΩ, ±1%, 0.1W, 0402	VISHAY, CRCW0402118KFKED
30	1	RSNSC	RES, CHIP, 6mΩ, ±1%, 1W, 1632	SUSUMU, PRL1632-R006-FT1
31	1	RSNSI	RES, CHIP, 16mΩ, ±1%, 1W, 1632	SUSUMU, PRL1632-R016-FT1
32	1	U1	SUPERCAP BACKUP CONTROLLER	LINEAR TECH., LTC3350EUHF#PBF
ADDITIONAL DEMO BOARD CIRCUIT COMPONENTS:				
33	1	C1	CAP, CHIP, X5R, 0.1uF, ±10%, 16V, 0402	MURATA, GRM155R71C104KA88
34	2	C6, C7	CAP, CHIP, X5R, 1uF, ±10%, 25V, 0603	MURATA, GRM188R61E105KA12D
35	0	C9, C17	CAP, CHIP, 0402	
36	0	C21	CAP, 27uF, 25V, Alum. Electro, 20%, 6.3 X 4.5	SUN ELECT, 25HVH27M
37	3	D2, D3, D4	DIODE, LED, RED, 0603, .8mmx.8mm	LUMEX, SML-LX0603SRW-TR
38	0	D5	DIODE ZENER, 5.6V, 250MW, DFN1006-2	DIODES INC, BZT52C5V6LP-7
39	2	R1, R2	RES, CHIP, 20Ω, ±1%, 1/16W, 0402	VISHAY, CRCW040220R0FKED
40	0	R10, R11	RES, CHIP, 0402	
41	3	R15, R16, R18	RES, CHIP, 5.1KΩ, ±5%, 1/16W, 0402	VISHAY, CRCW04025K10JNED
42	1	M5	MOSFET, N-CH 20V, 6A, SOT-23	VISHAY, SI2312CDS-T1-GE3
43	1	U2	I2C EEPROM	MICROCHIP, 24LC025-I/ST
HARDWARE FOR DEMO BOARD ONLY:				
44	10	E1-E10	TURRET, 0.09 DIA	MILL-MAX, 2501-2-00-80-00-00-07-0
45	6	E11-E16	TURRET, 0.061 DIA	MILL-MAX, 2308-2-00-80-00-00-07-0
46	1	J1	CONN, 2x14 2mm HEADER	MOLEX, 87831-1420
47	1	JP1	HEADER, 3PINS, 2mm	WURTH, 62000311121
48	1	XJP1	SHUNT 2mm 1X3	WURTH, 60800213421
49	4		STAND-OFF, NYLON, 0.50" tall	KEYSTONE, 8833(SNAP ON)
50	1		FAB, PRINTED CIRCUIT BOARD	DC1937A-2

REVISION HISTORY				
ECO	REV	DESCRIPTION	APPR	DATE
-	2	PRODUCTION	MM	5-23-14

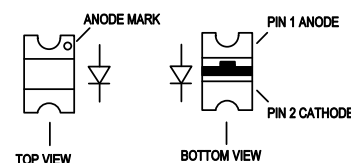


NOTES: UNLESS OTHERWISE SPECIFIED

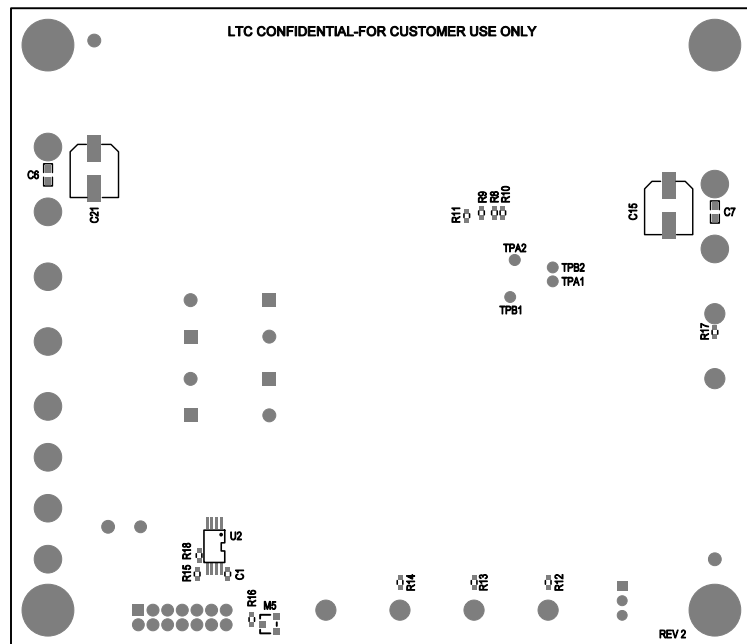
1. WORKMANSHIP SHALL BE IN ACCORDANCE WITH IPC-A-610.
2. ASSEMBLY REFLOW PROFILE SHALL BE IN ACCORDANCE WITH J-STD-020 WITH MAXIMUM SOLDER TEMPERATURE OF 250 DEGREES CELSIUS.
3. PARTS TO OMIT WILL BE SPECIFIED ON THE BILL OF MATERIALS
LOCATIONS OF OMITTED PARTS SHALL BE FREE OF SOLDER.
MASK THE SOLDER STENCIL WHERE SMT PARTS ARE OMITTED.
4. INSTALL SHUNTS AS SHOWN ON ASSY DRAWING.
5. DEPANELIZE BOARDS AFTER ASSEMBLY AND ROUTE-OUT THE BREAKOUT TABS ON FOUR SIDES OF THE BOARD EDGE.
6. APPLY ASSEMBLY STAMP OR QA STAMP TO BOTTOM OF BOARD (UNSHOWY AREA).
7. INSTALL TURRETS, STAND-OFFS AND BANANA JACKS AS SHOWN BELOW:




8. INSTALL LED'S D2, D3 AND D4 AS SHOWN:



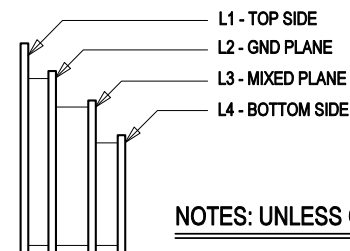
APPROVALS		LINEAR TECHNOLOGY		
PCB DES.	NC	TITLE: TOP ASSEMBLY DRAWING: HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR		
APP ENG.	MM			
		SIZE	IC NO. LTC3350EUHF	REV.
		N/A	DEMO CIRCUIT 1937A	2
SCALE = NONE		FILENAME: DC1937A-2.PCB		SHT 1 of 2



APPROVALS		 <div> 1630 MCCARTHY BLVD MILPITAS, CA 95035 Ph: (408)432-1900 www.Linear.com LTC CONFIDENTIAL- FOR CUSTOMER USE ONLY </div>	
PCB DES.	NC		
APP ENG.	MM	TITLE: BOTTOM ASSEMBLY DRAWING: HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR	
		SIZE	IC NO. LTC3350EUHF
		N/A	DEMO CIRCUIT 1937A
			REV. 2
SCALE = NONE		FILENAME: DC1937A-2.PCB <div>SHT 2 of 2</div>	

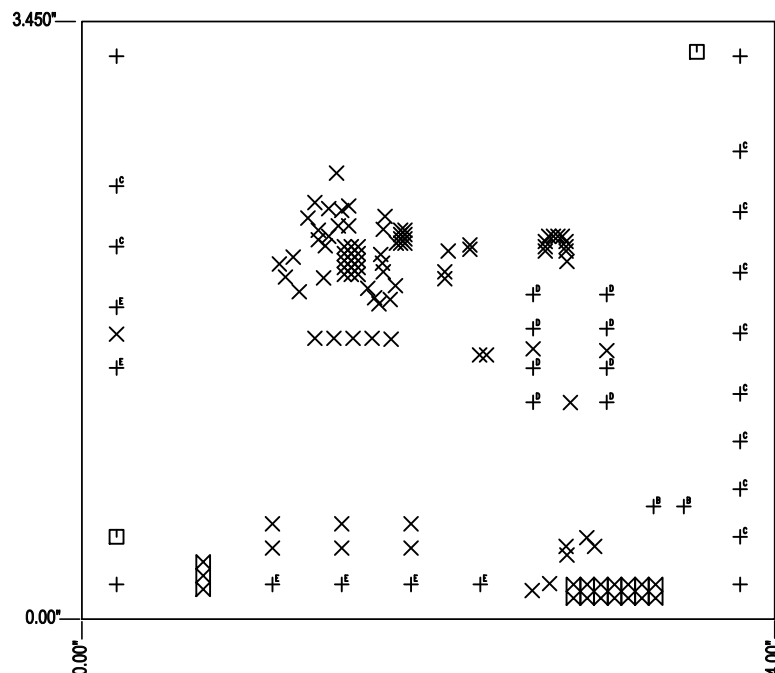
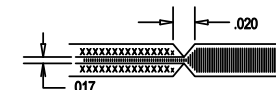
REVISION HISTORY				
ECO	REV	DESCRIPTION	APPR	DATE
-	2	PRODUCTION	MM	5-23-14

LAYER STRUCTURE


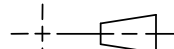


NOTES: UNLESS OTHERWISE SPECIFIED

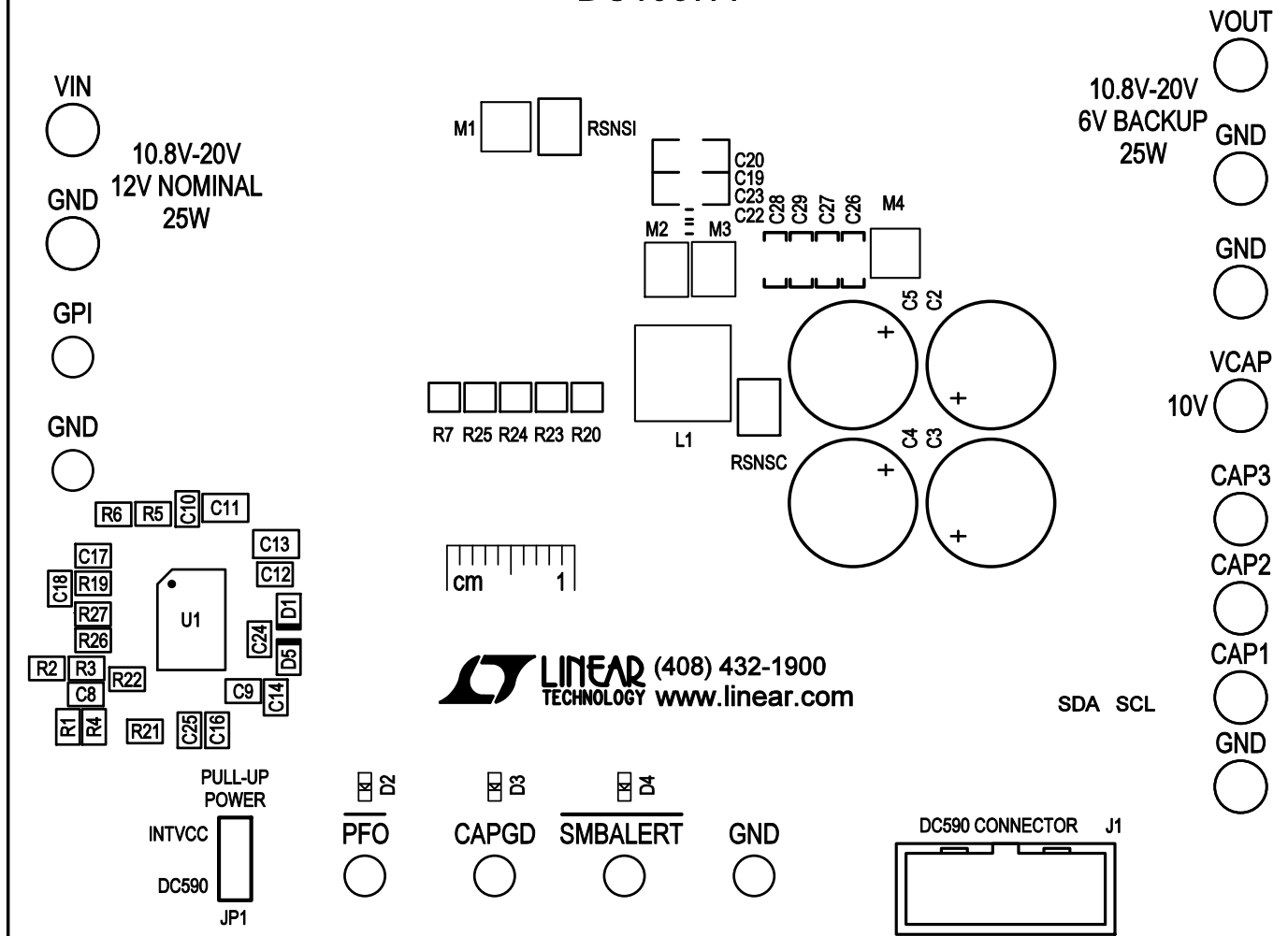
- FAB PER IPC-A-600.
- MATERIAL: -EPOXY FIBERGLASS, NEMA GRADE FR-4
-FINISHED THICKNESS TO BE 0.062" +/- .005"
-TOTAL OF 4 LAYERS WITH 2 OZ. CU ON THE OUTER LAYERS
AND 2 OZ. CU ON THE INNER LAYERS.
-FLAMMABILITY RATING: 94 V-0 MINIMUM.
- SIZE: CUT TO DIMENSIONS AND TOLERANCES SHOWN.
0.00 ARE PRIMARY DATUMS.
- DRILLING: -DRILL HOLES PER SCHEDULE. PLATE THROUGH
HOLES WITH COPPER, 0.001" THICK MIN.
-ALL HOLE SIZES ARE SPECIFIED AFTER PLATING.
-HOLE LOCATION TOLERANCES ARE +/-0.003"
IN RELATION TO CENTER
- FINISH: -SMOBC USING LPI BOTH SIDES, COLOR GREEN.
-GOLD IMMERSION BOTH SIDES.
(LEAD FREE SOLDER CAN BE USED FOR PROTOTYPE)
-FOR SILKSCREEN: BOTH SIDES USE WHITE NON-CONDUCTIVE INK.
- DO NOT ALTER ARTWORK e.g. TO ADD LOGO OR DATE CODE.
PAD SIZE CAN BE MODIFIED TO MEET END FINISH.
- PCBS ARE TO BE RoHS COMPLIANT.
- DO NOT ALTER SOLDER MASK MAINTAIN .0018" OVERSIZE
ON SMT PADS. A .005" WEBBING IS REQUIRED BETWEEN SMD PADS.
- SCORING FOR PANELIZED PCB: "PRODUCTION FAB ONLY"



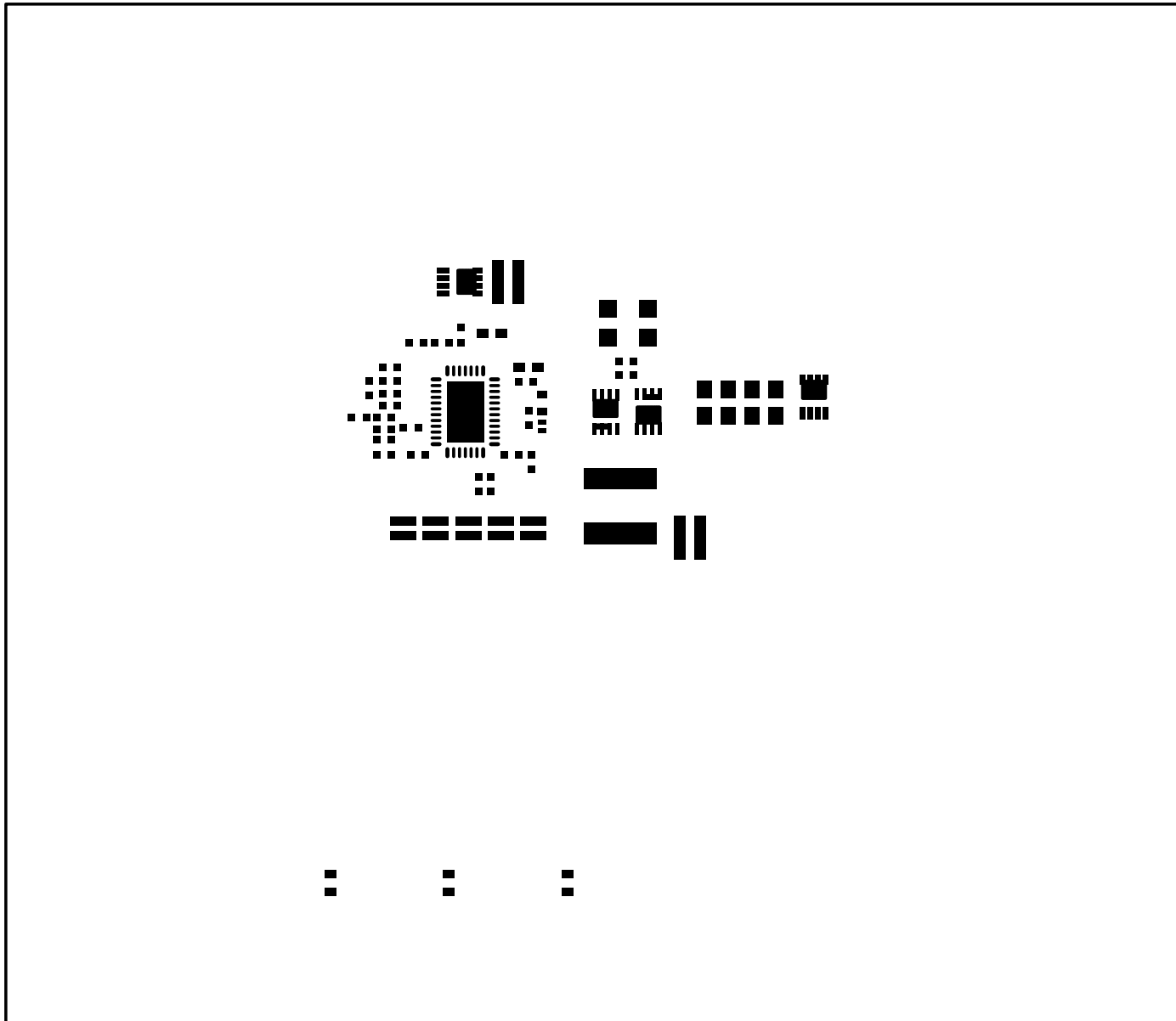
SIZE	QTY	SYM	PLATED	TOL
0.19	4	+	YES	+/-0.003
0.01	90	X	YES	+/-0.003
0.07	2	□	NO	+/-0.003
0.035	17	⊠	YES	+/-0.003
0.045	2	⊠	YES	+/-0.003
0.094	10	⊠	YES	+/-0.003
0.03268	8	⊠	YES	+/-0.003
0.063	6	⊠	YES	+/-0.003

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON ANGLE 1° ± 0.000° = 0.01° 0.000° = 0.005° INTERPRET DIM AND TOL PER ASME Y14.5M-1994	APPROVALS			1830 MCCARTHY BLVD MILPITAS, CA 95035 PH: (408)432-1900 www.linear.com LTC CONFIDENTIAL- FOR CUSTOMER USE ONLY			
	PCB DES.	NC		TITLE: FABRICATION DRAWING: HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR			
	APP ENG.	MM					
	THIRD ANGLE PROJECTION						
				SIZE	IC NO.	LTC3350EUHF DEMO CIRCUIT 1937A	REV.
DO NOT SCALE DRAWING	SCALE: NONE		FILENAME: DC1937A-2.PCB			SHT 1 of 1	

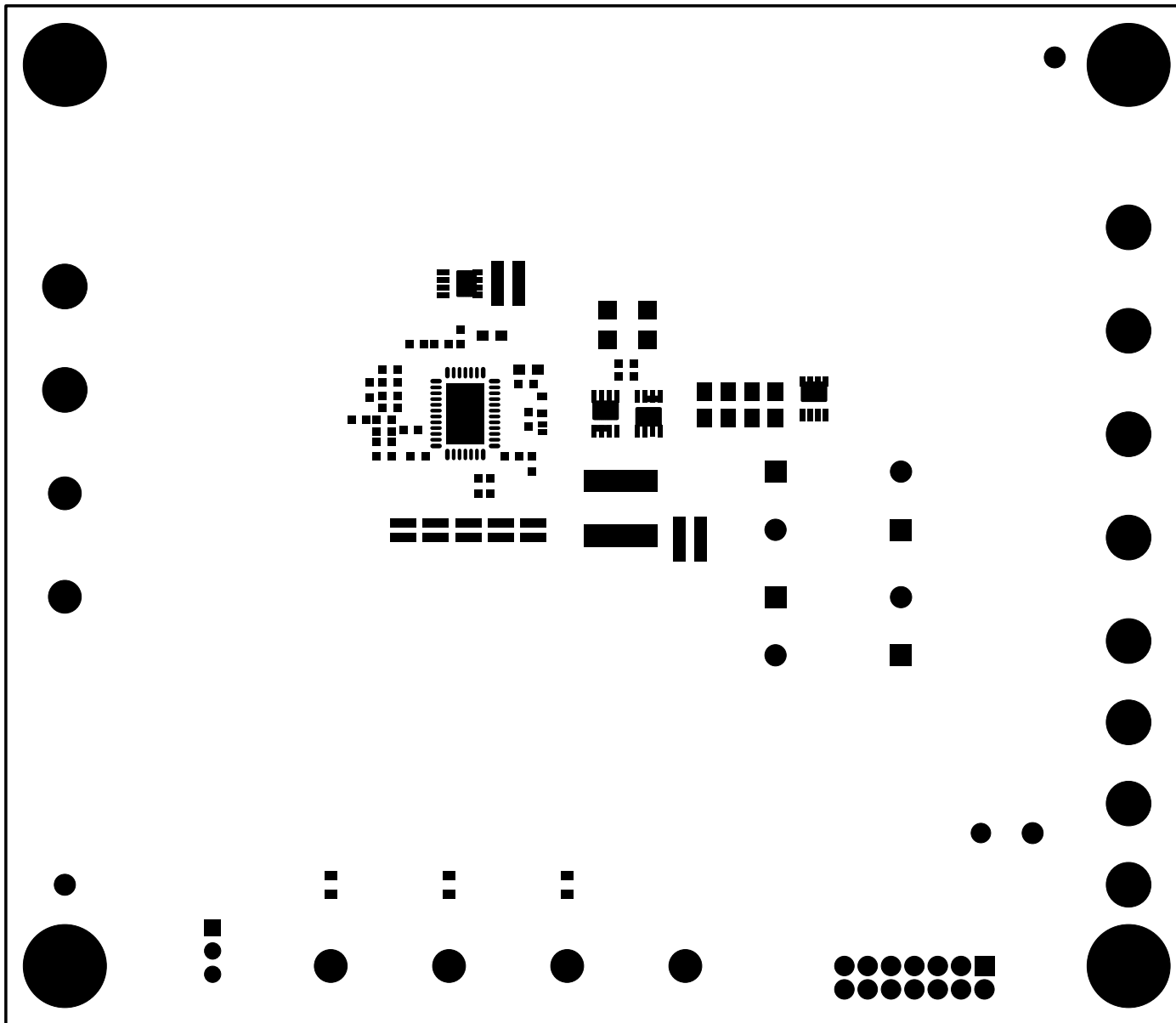
LTC3350
HIGH CURRENT SUPERCAPACITOR
BACKUP CONTROLLER AND SYSTEM MONITOR
DC1937A



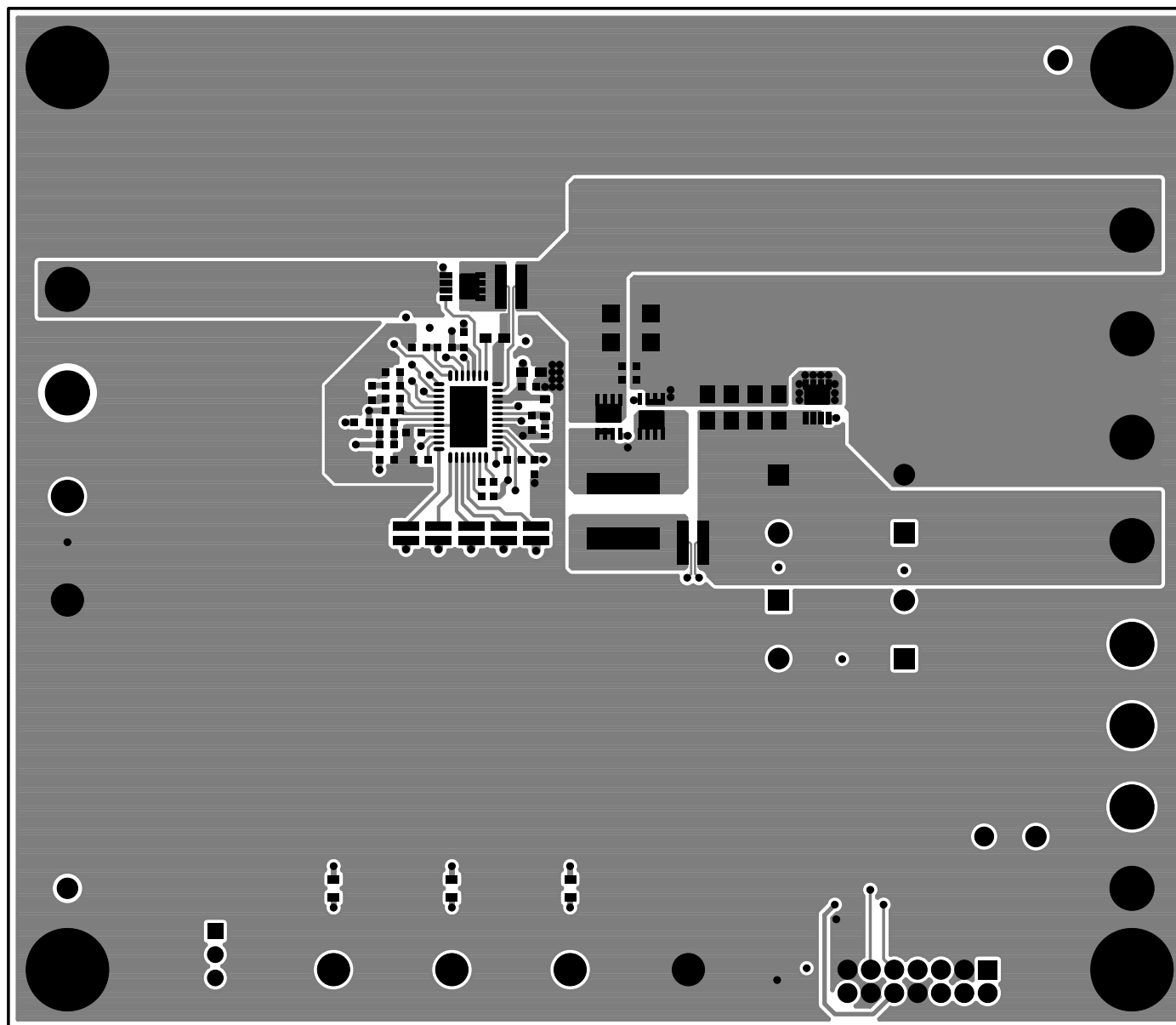
TOP SILKSCREEN
 LINEAR TECHNOLOGY
 DEMO CIRCUIT 1937A-2 * LTC3350
 HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
 5 - 23 - 14



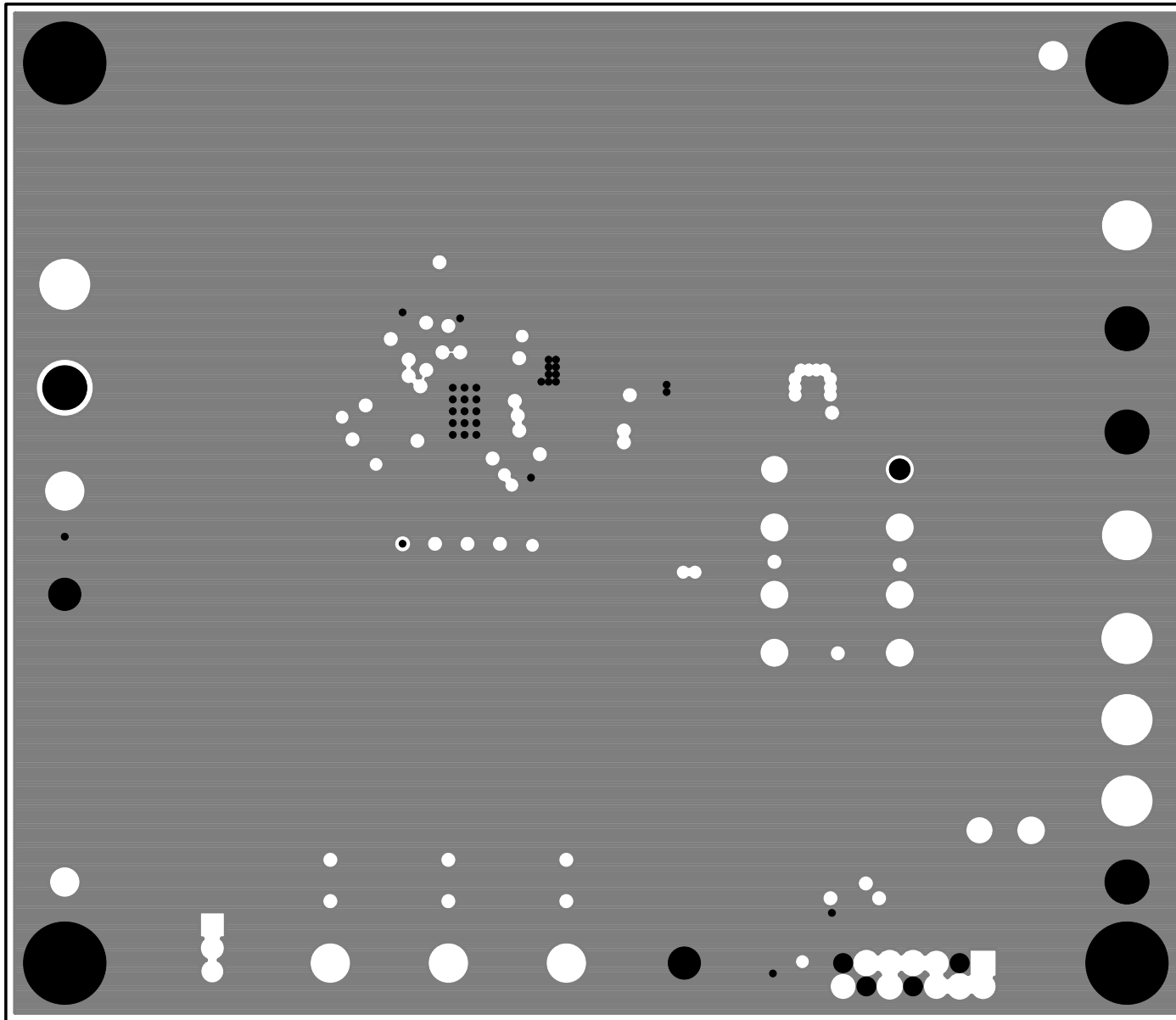
TOP SOLDER PASTE
LINEAR TECHNOLOGY
DEMO CIRCUIT 1937A-2 * LTC3350
HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
5 - 23 - 14



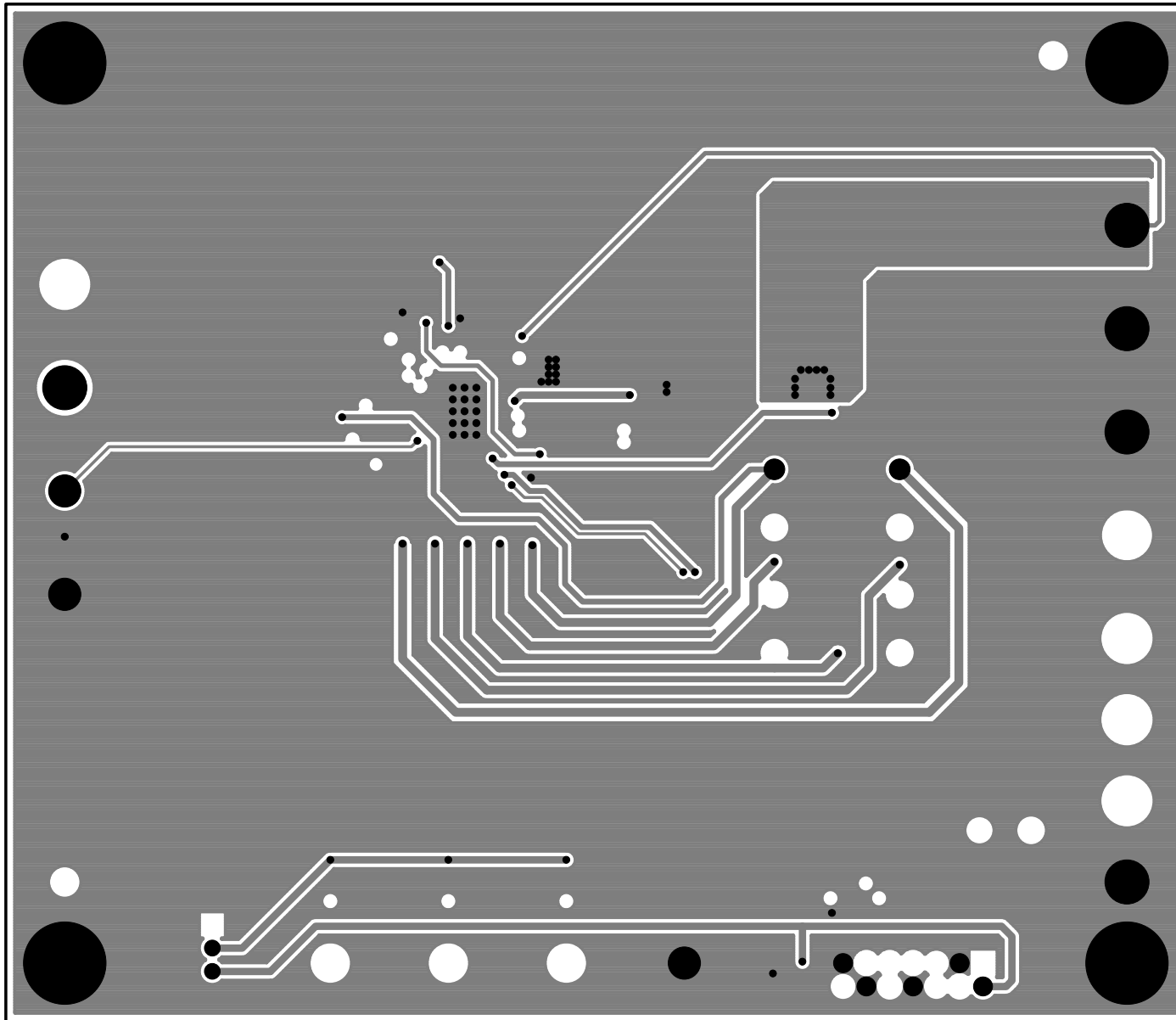
TOP SOLDER MASK
LINEAR TECHNOLOGY
DEMO CIRCUIT 1937A-2 * LTC3350
HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
5 - 23 - 14



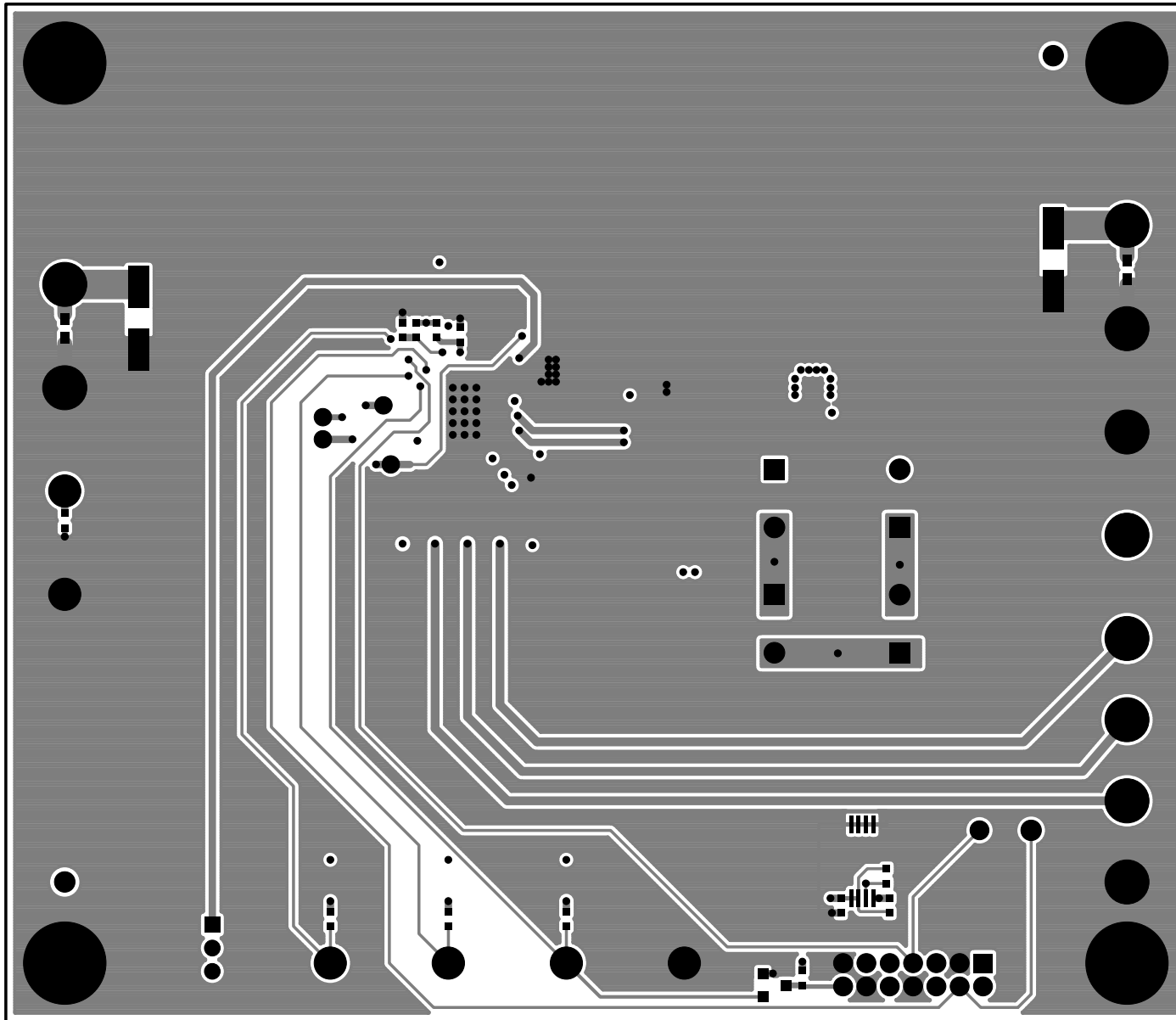
LAYER 1 - TOP SIDE
LINEAR TECHNOLOGY
DEMO CIRCUIT 1937A-2 * LTC3350
HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
5 - 23 - 14



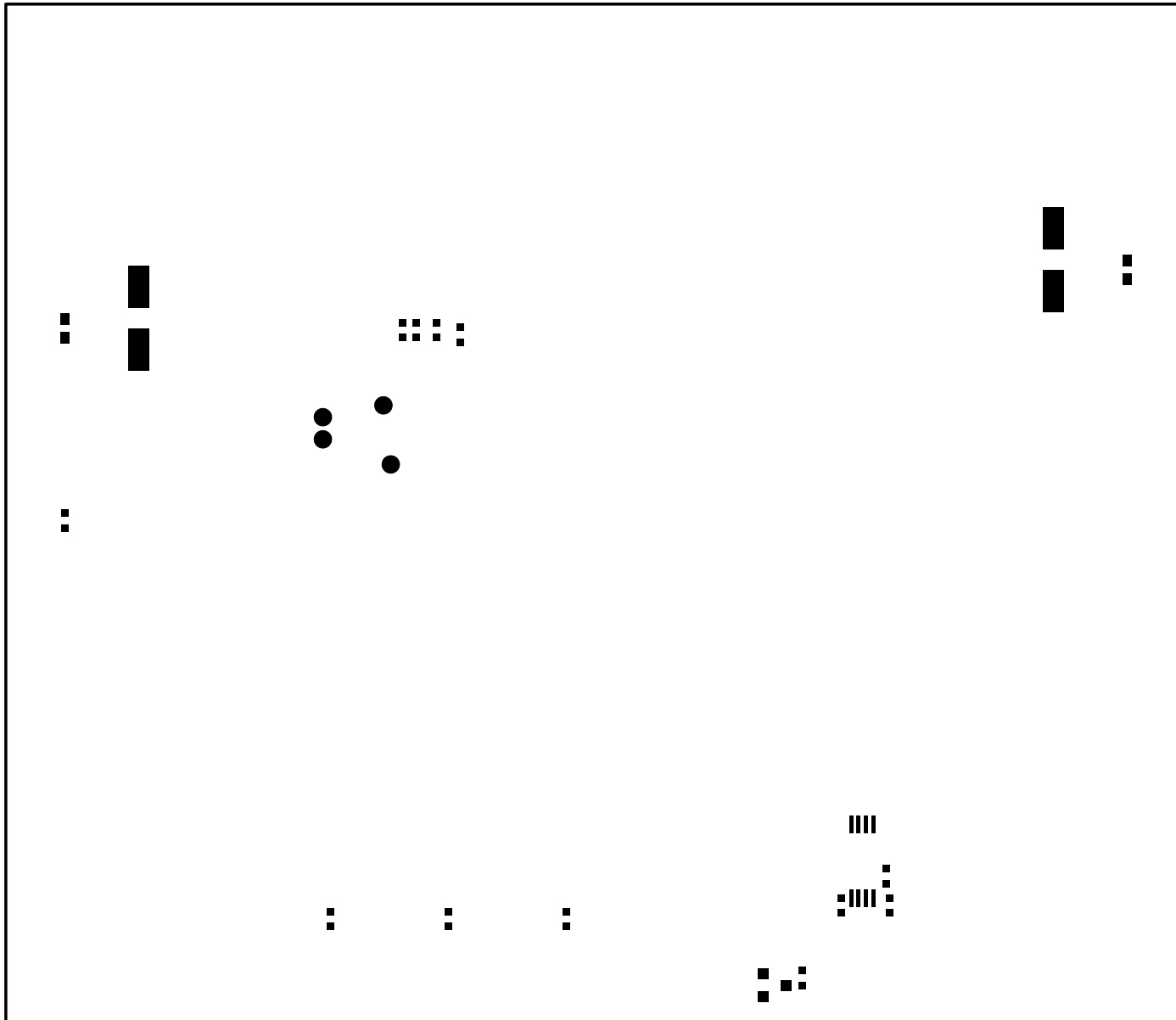
LAYER 2 - GND PLANE
LINEAR TECHNOLOGY
DEMO CIRCUIT 1937A-2 * LTC3350
HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
5 - 23 - 14



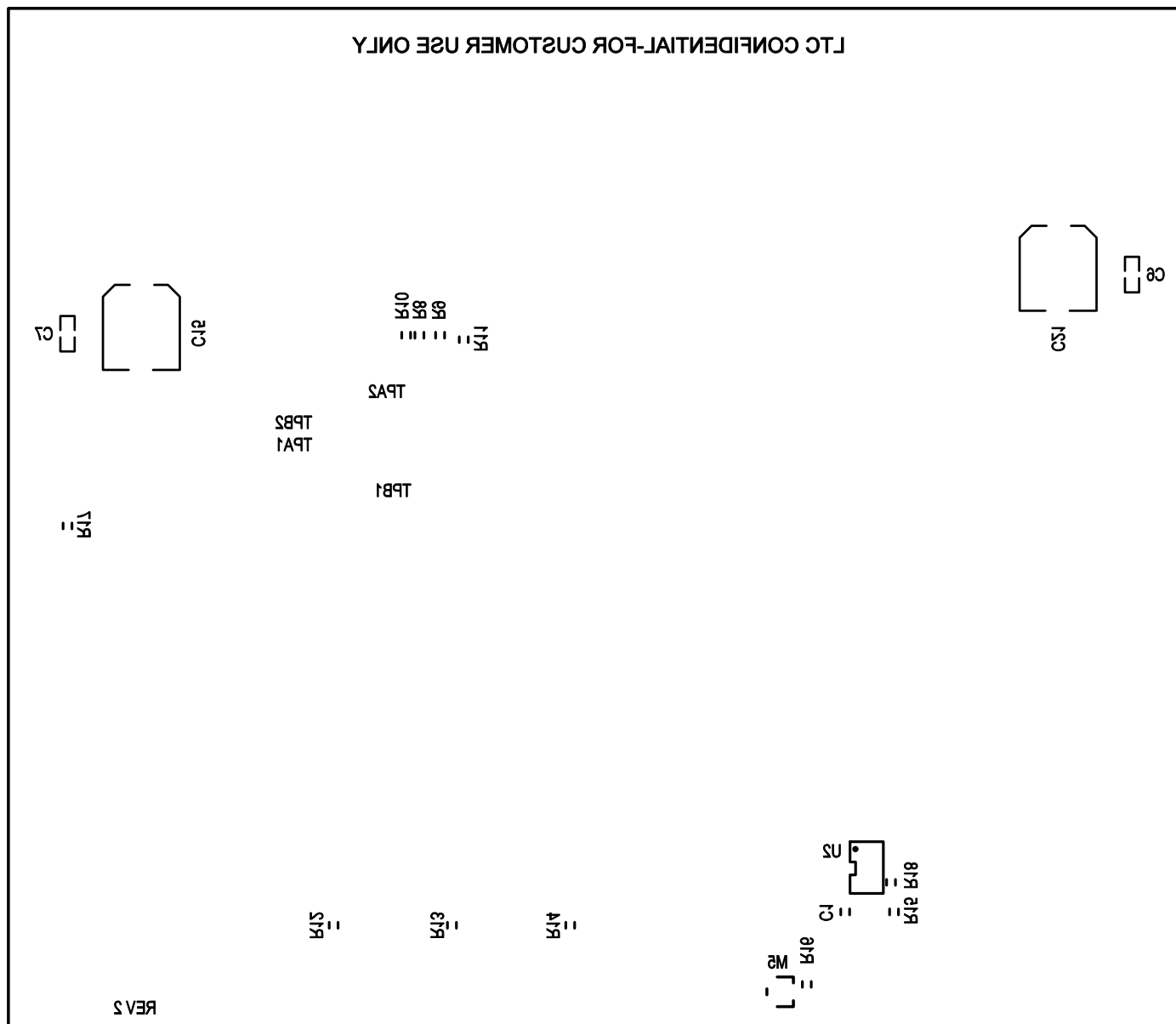
LAYER 3 - SIGNAL/PLANE
LINEAR TECHNOLOGY
DEMO CIRCUIT 1937A-2 * LTC3350
HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
5 - 23 - 14



LAYER 4 - BOTTOM SIDE
LINEAR TECHNOLOGY
DEMO CIRCUIT 1937A-2 * LTC3350
HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
5 - 23 - 14



BOTTOM SOLDER PASTE
LINEAR TECHNOLOGY
DEMO CIRCUIT 1937A-2 * LTC3350
HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
5 - 23 - 14



BOTTOM SILKSCREEN
 LINEAR TECHNOLOGY
 DEMO CIRCUIT 1937A-2 * LTC3350
 HIGH CURRENT SUPERCAPACITOR BACKUP CONTROLLER AND SYSTEM MONITOR
 5 - 23 - 14