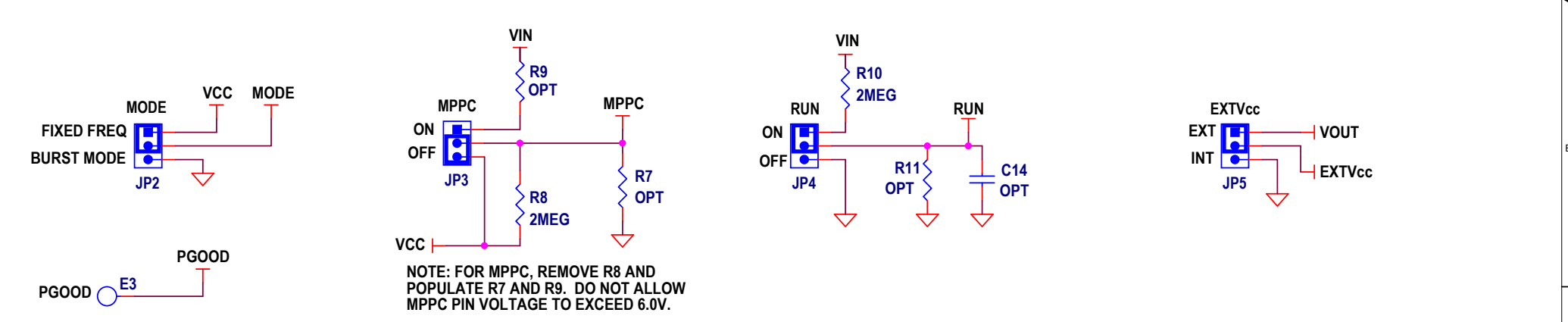
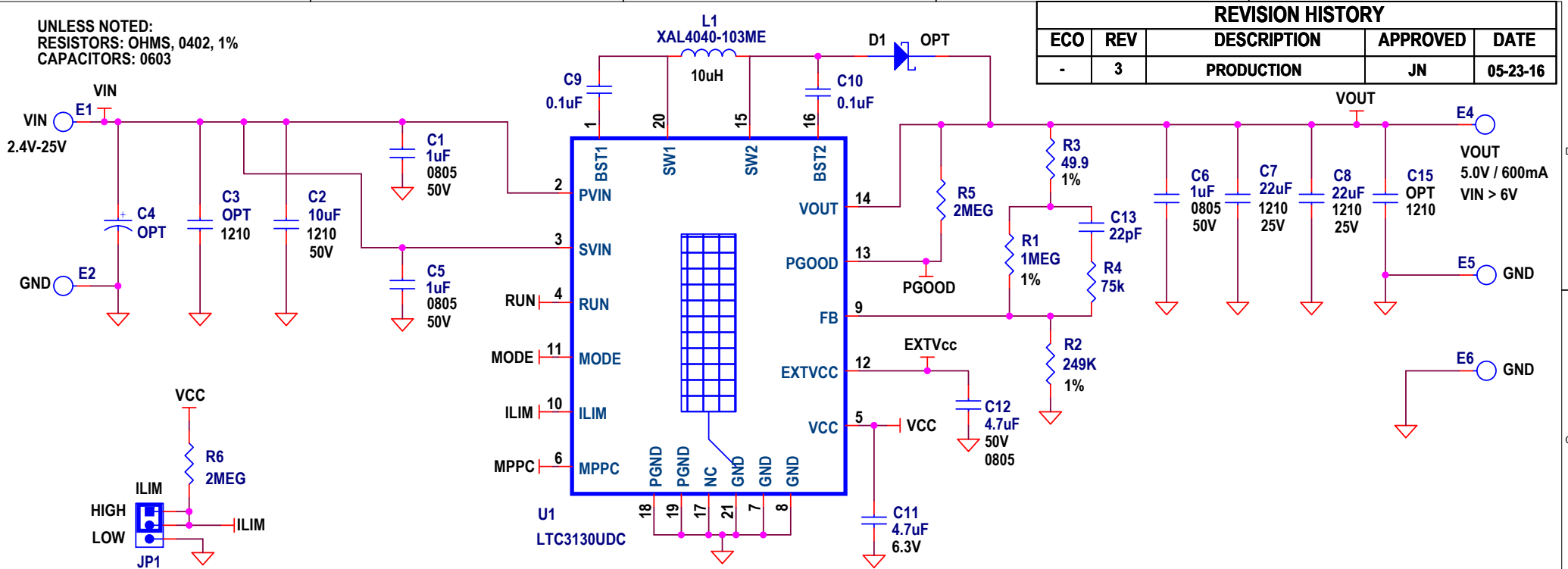


UNLESS NOTED:  
RESISTORS: OHMS, 0402, 1%  
CAPACITORS: 0603

REVISION HISTORY				
ECO	REV	DESCRIPTION	APPROVED	DATE
-	3	PRODUCTION	JN	05-23-16



NOTES:  
1) Connect GND of R2, R7, R11, C11, C12 and C14 directly to pins 7 and 8. Connect pins 7 and 8 to IC Pad directly under IC. Connect pins 18 and 19 to copper plane and IC pad directly under IC.

<h3>CUSTOMER NOTICE</h3> <p>LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRCUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.</p>		<h3>APPROVALS</h3> <table border="1"> <tr> <td>PCB DES.</td> <td>NC</td> </tr> <tr> <td>APP ENG.</td> <td>JN</td> </tr> </table>		PCB DES.	NC	APP ENG.	JN	<p>1630 McCarthy Blvd. Milpitas, CA 95035 Phone: (408)432-1900 <a href="http://www.linear.com">www.linear.com</a> Fax: (408)434-0507 LTC Confidential-For Customer Use Only</p>	
PCB DES.	NC								
APP ENG.	JN								
<p>THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.</p>		<p>SCALE = NONE</p>		<p>TITLE: SCHEMATIC    <b>25V, 600mA BUCK-BOOST DC / DC CONVERTER WITH 1.6uA QUIESCENT CURRENT</b></p>					
		<p>SIZE N/A    IC NO. <b>LTC3130UDC</b></p>		<p>REV. <b>3</b></p>					
		<p>DATE: 05-23-16</p>		<p>SHEET 1 OF 1</p>					

**Linear Technology Corporation**

LTC3130UDC

ENGR: J. Noon (011-086)

25V, 600mA Buck Boost DC/DC Converter

**BILL OF MATERIALS****DC2355A-3**

6/10/2016

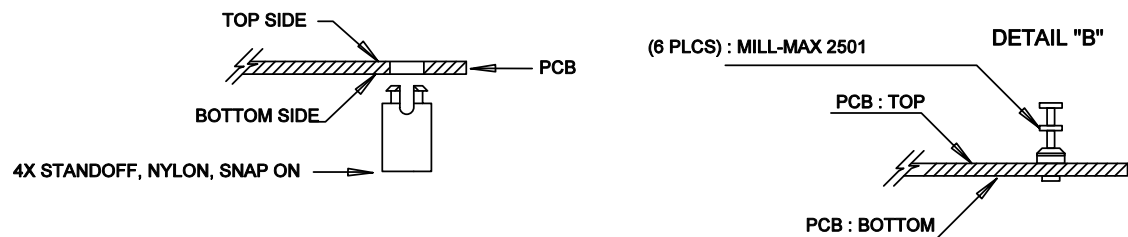
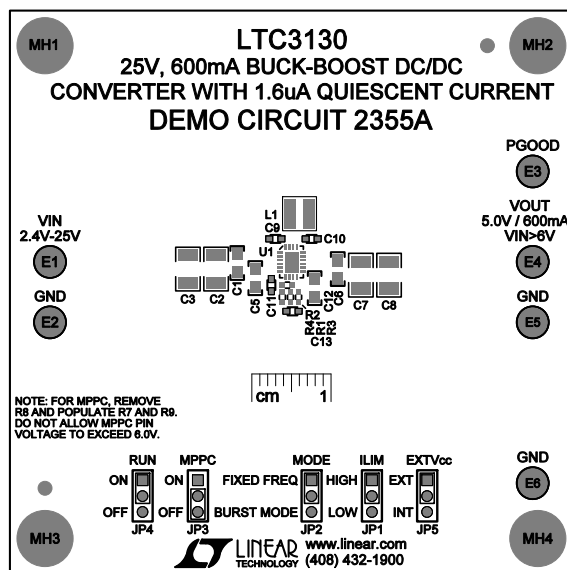
Item	Qty	Reference	Part Description	Manufacture / Part #	Kit Qty
				<b>NUMBER OF BOARDS =</b>	<b>325</b>
1	3	C1,C5, C6	CAP., 1uF 50V 10% X7R 0805	MURATA, GRM21BR71H105KA12L	975
2	1	C2	CAP CER 10UF 50V X7R 1210	MURATA, GRM32ER71H106KA12L	325
3	0	C3, C15 (OPT)	CAP, 1210		0
4	0	C4 (OPT)	CAP ALUM 220UF 35V 20% SMD	PANASONIC, EEE-FP1V221AP	0
5	2	C7, C8	CAP CER 22UF 25V X7R 1210	MURATA, GRM32ER71E226KE15L	650
6	2	C9,C10	CAP CER 0.1UF 50V X7R 0603	MURATA, GRM188R71H104KA93D	650
7	1	C11	CAP., 4.7uF 6.3V 10% X5R 0603	MURATA, GRM188R60J475KE19D	325
8	1	C12	CAP., 4.7uF 50V 10% X5R 0805	MURATA, GRM21BR61H475KE51L	325
9	1	C13	CAP CER 22PF 50V C0G 0603	MURATA, GRM1885C1H220JA01D	325
10	0	C14 (OPT)	CAP, 0603		0
11	6	E1 - E6	TP, TURRET, 0.094", PBF	MILL-MAX, 2501-2-00-80-00-00-07-0	1950
12	5	JP1 - JP5	CONN., HEADER, 1X3, 2mm	SULLINS, NRPN031PAEN-RC	1625
13	5	XJP1 - XJP5	SHUNT, 2mm	SAMTEC, 2SN-BK-G	1625
14	1	L1	INDUCTOR, 10uH, ±20%	COILCRAFT, XAL4040-103ME	325
15	1	R1	RES 1M, 1/10W 1% 0402	VISHAY, CRCW04021M00FKED	325
16	1	R2	RES 249k, 1/16W 1% 0402	VISHAY, CRCW0402249KFKED	325
17	1	R3	RES 49.9, 1/10W 1% 0402	VISHAY, CRCW040249R9FKED	325
18	1	R4	RES SMD 75K OHM 1% 1/10W 0402	VISHAY, CRCW040275K0FKED	325
19	4	R5, R6, R8, R10	RES SMD 2M OHM 1% 1/16W 0402	VISHAY, CRCW04022M00FKED	1300
20	0	R7, R9, R11 (OPT)	RES, 0402		0
21	0	D1 (OPT)	DIODE SCHOTTKY 40V 2A SOD123	ROHM, RB068M-40TR	0
22	4		STANDOFF, NYLON, SNAP-ON, 0.500"	KEYSTONE, 8833	1300
23	1	U1	25V, 600mA Buck Boost DC/DC Converter	LINEAR TECHNOLOGY, LTC3130UDC#PBF	325
24	1		PCB, DC2355A	DEMO CIRCUIT DC2355A-3	325
25	2		STENCILS, DC2355A (TOP & BOTTOM)	STENCILS, # DC2355A-3	650


Item	Qty	Reference	Part Description	Manufacturer / Part #
		<b>REQUIRED CIRCUIT COMPONENTS:</b>		
1	3	C1,C5, C6	CAP., 1uF 50V 10% X7R 0805	MURATA, GRM21BR71H105KA12L
2	1	C2	CAP CER 10UF 50V X7R 1210	MURATA, GRM32ER71H106KA12L
3	2	C7,C8	CAP CER 22UF 25V X7R 1210	MURATA, GRM32ER71E226KE15L
4	2	C9,C10	CAP CER 0.1UF 50V X7R 0603	MURATA, GRM188R71H104KA93D
5	1	C11	CAP., 4.7uF 6.3V 10% X5R 0603	MURATA, GRM188R60J475KE19D
6	1	C12	CAP., 4.7uF 50V 10% X5R 0805	MURATA, GRM21BR61H475KE51L
7	1	C13	CAP CER 22PF 50V C0G 0603	MURATA, GRM1885C1H220JA01D
8	1	R1	RES 1M, 1/10W 1% 0402	VISHAY, CRCW04021M00FKED
9	1	R2	RES 249k, 1/16W 1% 0402	VISHAY, CRCW0402249KFKED
10	1	R3	RES 49.9, 1/10W 1% 0402	VISHAY, CRCW040249R9FKED
11	1	R4	RES SMD 75K OHM 1% 1/10W 0402	VISHAY, CRCW040275K0FKED
12	4	R5,R6, R8, R10	RES SMD 2M OHM 1% 1/16W 0402	VISHAY, CRCW04022M00FKED
13	1	L1	INDUCTOR, 10uH, ±20%	COILCRAFT, XAL4040-103ME
14	1	U1	25V, 600mA Buck Boost DC/DC Converter	LINEAR TECHNOLOGY, LTC3130EUDC#PBF
		<b>ADDITIONAL DEMO BOARD CIRCUIT COMPONENTS:</b>		
15	0	C3, C15	CAP, 1210 (OPT)	
16	0	C4	CAP ALUM 220UF 35V 20% SMD (OPT)	PANASONIC, EEE-FP1V221AP
17	0	C14	CAP, 0603 (OPT)	
18	0	R7, R9, R11	RES, 0402 (OPT)	
19	0	D1	DIODE SCHOTTKY 40V 2A SOD123 (OPT)	ROHM, RB068M-40TR
		<b>HARDWARE-FOR DEMO BOARD ONLY:</b>		
20	6	E1-E6	TP, TURRET, 0.094", PBF	MILL-MAX, 2501-2-00-80-00-00-07-0
21	5	JP1 - JP5	CONN., HEADER, 1X3, 2mm	SULLINS, NRPN031PAEN-RC
22	5	XJP1 - XJP5	SHUNT, 2mm	SAMTEC, 2SN-BK-G
23	4		STANDOFF, NYLON, SNAP-ON, 0.500"	KEYSTONE, 8833

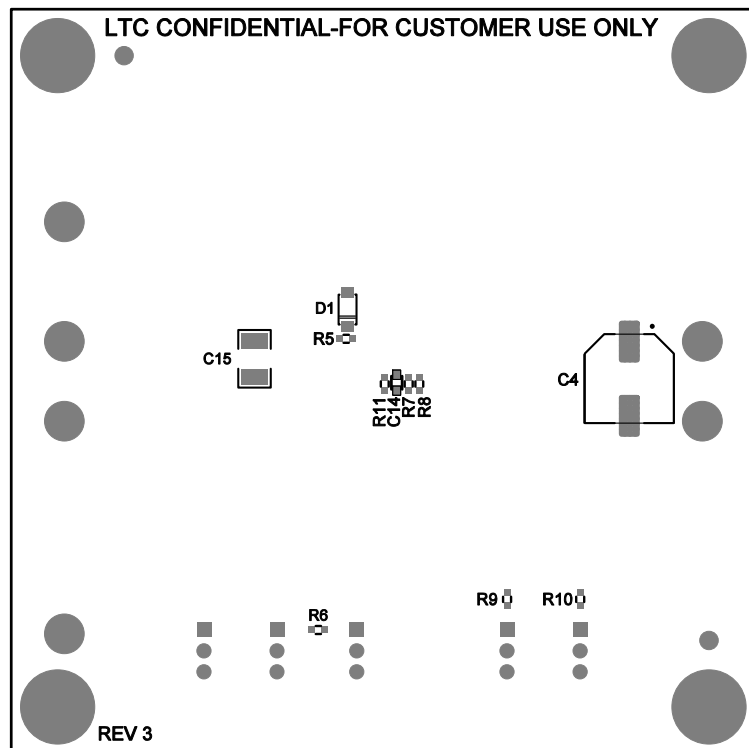
REVISION HISTORY				
ECO	REV	DESCRIPTION	APP. ENG.	DATE
-	3	PRODUCTION	JN	05-23-16


## 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 AS SHOWN BELOW:



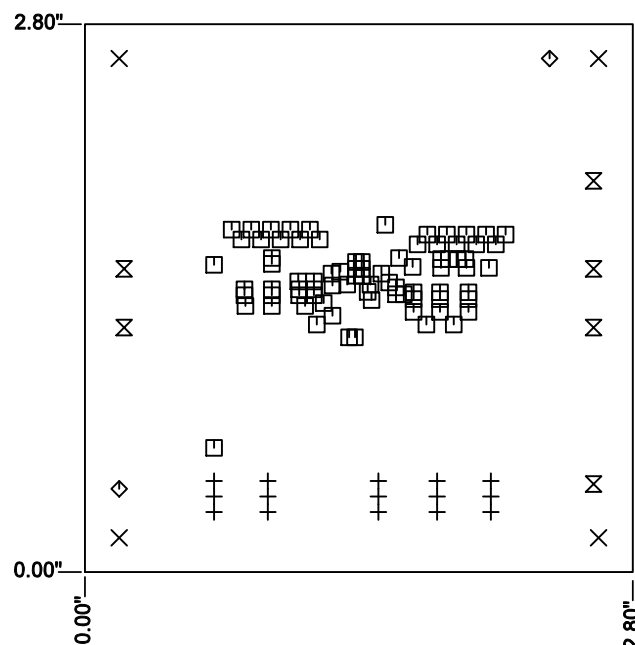
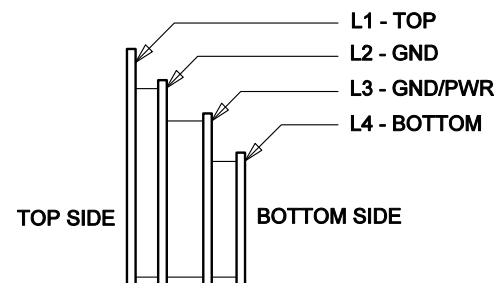
APPROVALS		 <div> 1630 MCCARTHY BLVD  MILPITAS, CA 95035  PH: (408)432-1900  www.linear.com  LTC CONFIDENTIAL-  FOR CUSTOMER USE ONLY </div>		
PCB DES	NC			
APP ENG	JIM N.			
		<b>TITLE: TOP ASSEMBLY DRAWING</b> 25V, 600mA BUCK-BOOST DC/DC CONVERTER WITH 1.6uA QUIESCENT CURRENT		
		SIZE	IC NO.	REV.
		N/A	LTC3130 DEMO CIRCUIT 2355A	3
SCALE = NONE		SHT 1 OF 1		



APPROVALS		 <b>LINEAR</b> TECHNOLOGY		1630 MCCARTHY BLVD MILPITAS, CA 95035 PH: (408)432-1900 www.linear.com LTC CONFIDENTIAL- FOR CUSTOMER USE ONLY	
PCB DES.	NC				
APP ENG.	JIM N.	TITLE:BOTTOM ASSEMBLY DRAWING  25V, 600mA BUCK-BOOST DC/DC CONVERTER WITH 1.6uA QUIESCENT CURRENT			
		SIZE N/A	IC NO.	LTC3130 DEMO CIRCUIT 2355A	REV 3
SCALE = NONE					SHT 2 of 2

REVISION HISTORY				
ECO	REV	DESCRIPTION	APP. ENG.	DATE
-	3	PRODUCTION	JN	05-23-16

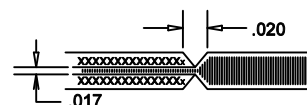
## LAYER STRUCTURE

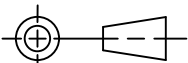



SIZE	QTY	SYM	PLATED	TOL
0.01	81	□	YES	+/-0.003
0.035	15	+	YES	+/-0.003
0.07	2	◇	NO	+/-0.003
0.094	6	⊗	YES	+/-0.003
0.19	4	⊗	YES	+/-0.003

## NOTES: UNLESS OTHERWISE SPECIFIED

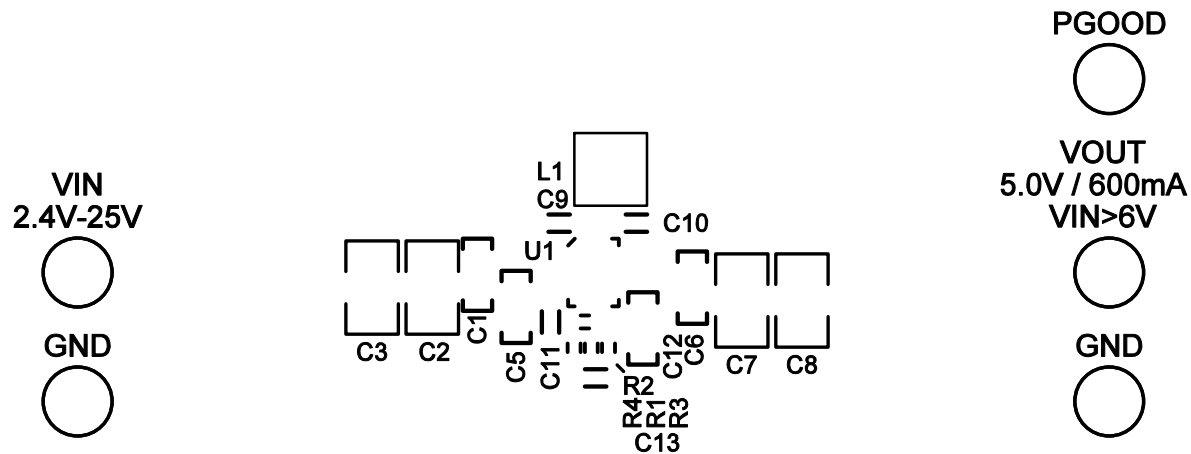
- FAB PER IPC-A-600, CLASS 2.
- MATERIAL: - EPOXY FIBERGLASS, NEMA GRADE FR-4  
- FINISHED THICKNESS TO BE 0.062" +/- .005"  
- TOTAL OF 4 LAYERS WITH 2 OZ. CU ON THE OUTER LAYERS  
AND 1 OZ. CU ON THE INNER LAYERS.  
- FLAMMABILITY RATING: 94 V-O MINIMUM.
- SIZE: CUT TO DIMENSIONS AND TOLERANCES SHOWN 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. TENT BOTH SIDES.  
- GOLD IMMERSION BOTH SIDES.  
- 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.
- SCORING FOR PANELIZED PCB:



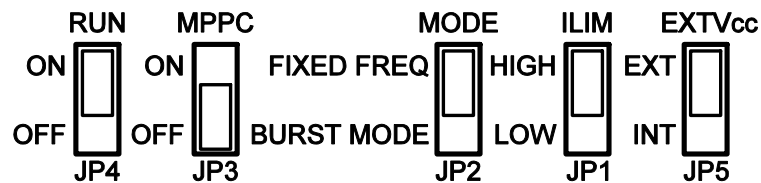
<div>UNLESS OTHERWISE SPECIFIED</div> <div>DIMENSIONS ARE IN INCHES</div> <div>TOLERANCES:</div> <div>0.XX" = 0.01"</div> <div>0.XXX" = 0.005"</div> <div>INTERPRET DIM AND TOL</div> <div>PER ASME Y14.5M-1994</div> <div>THIRD ANGLE PROJECTION</div> <div></div>	<div>APPROVALS</div>		<div> LINEAR TECHNOLOGY</div> <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	JIM N.	
<div>TITLE: FABRICATION DRAWING</div> <div>25V, 600mA BUCK-BOOST DC/DC CONVERTER</div> <div>WITH 1.6uA QUIESCENT CURRENT</div>			
SIZE	IC NO. LTC3130	REV	
N/A	DEMO CIRCUIT 2355A	3	
<div>SCALE = NONE</div>			
<div>SHT 1 OF 1</div>			

# LTC3130

## 25V, 600mA BUCK-BOOST DC/DC CONVERTER WITH 1.6uA QUIESCENT CURRENT DEMO CIRCUIT 2355A

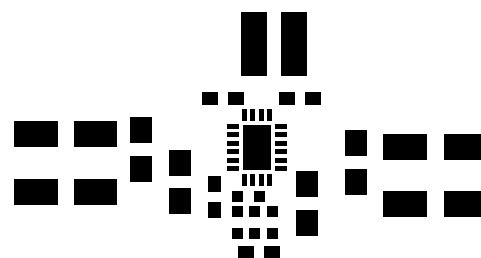


NOTE: FOR MPPC, REMOVE  
R8 AND POPULATE R7 AND R9.  
DO NOT ALLOW MPPC PIN  
VOLTAGE TO EXCEED 6.0V.



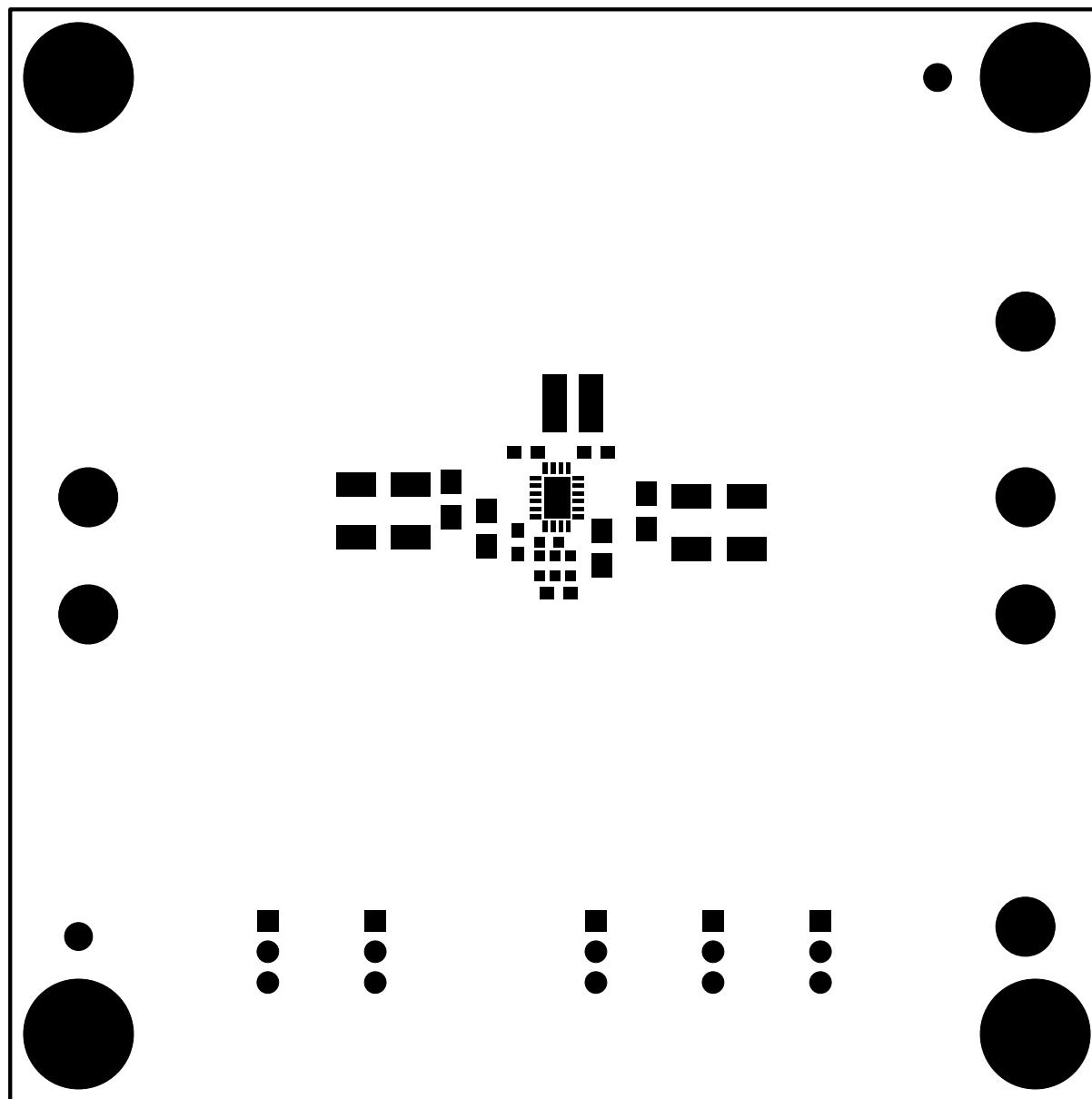
**LINEAR** TECHNOLOGY [www.linear.com](http://www.linear.com)  
(408) 432-1900

**TOP SILKSCREEN**  
**LINEAR TECH CORP.**  
**DEMO CIRCUIT 2355A-3 \* LTC3130**  
**DATE: 05-23-16**

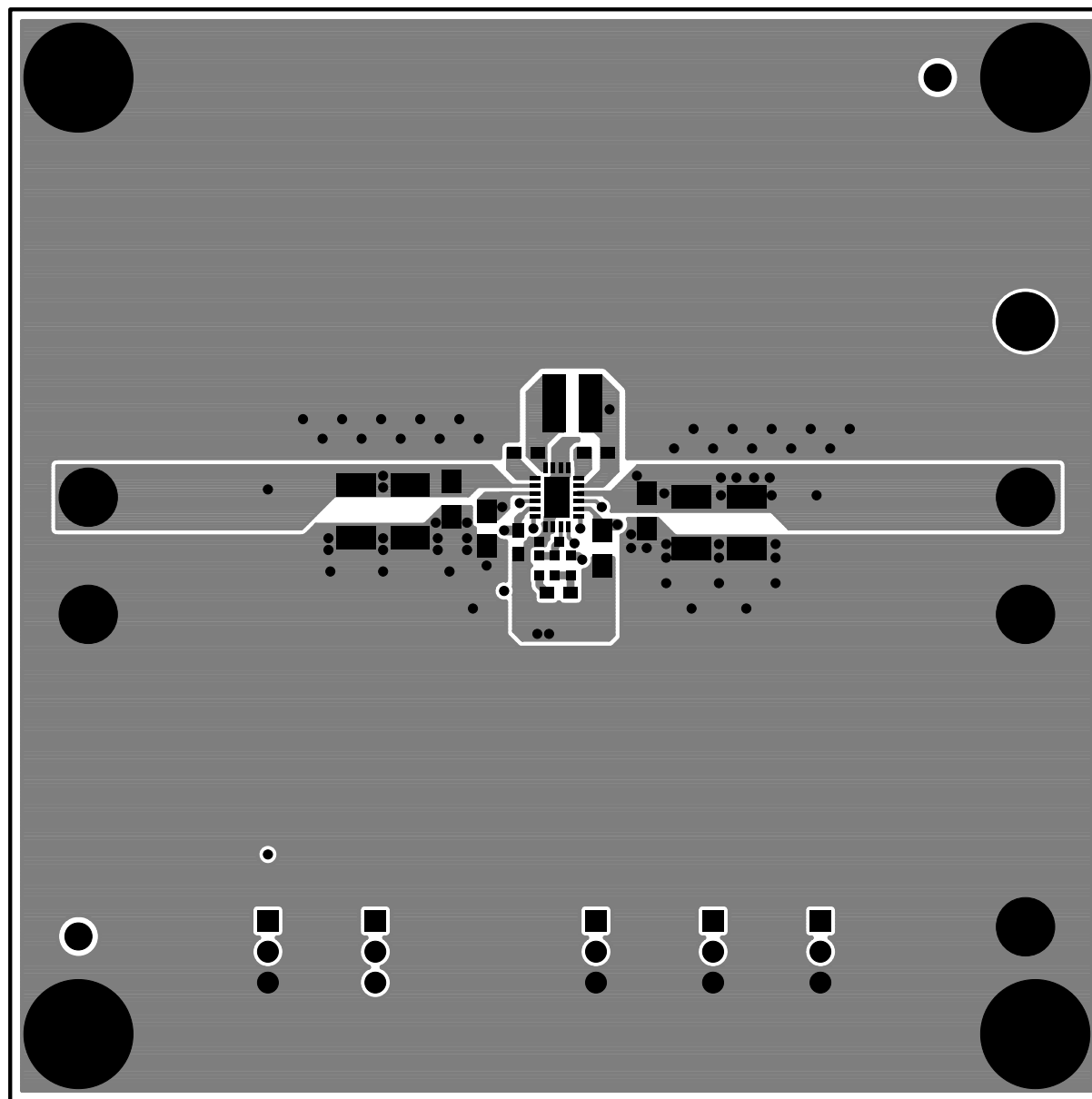


TOP SOLDER PASTE  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16

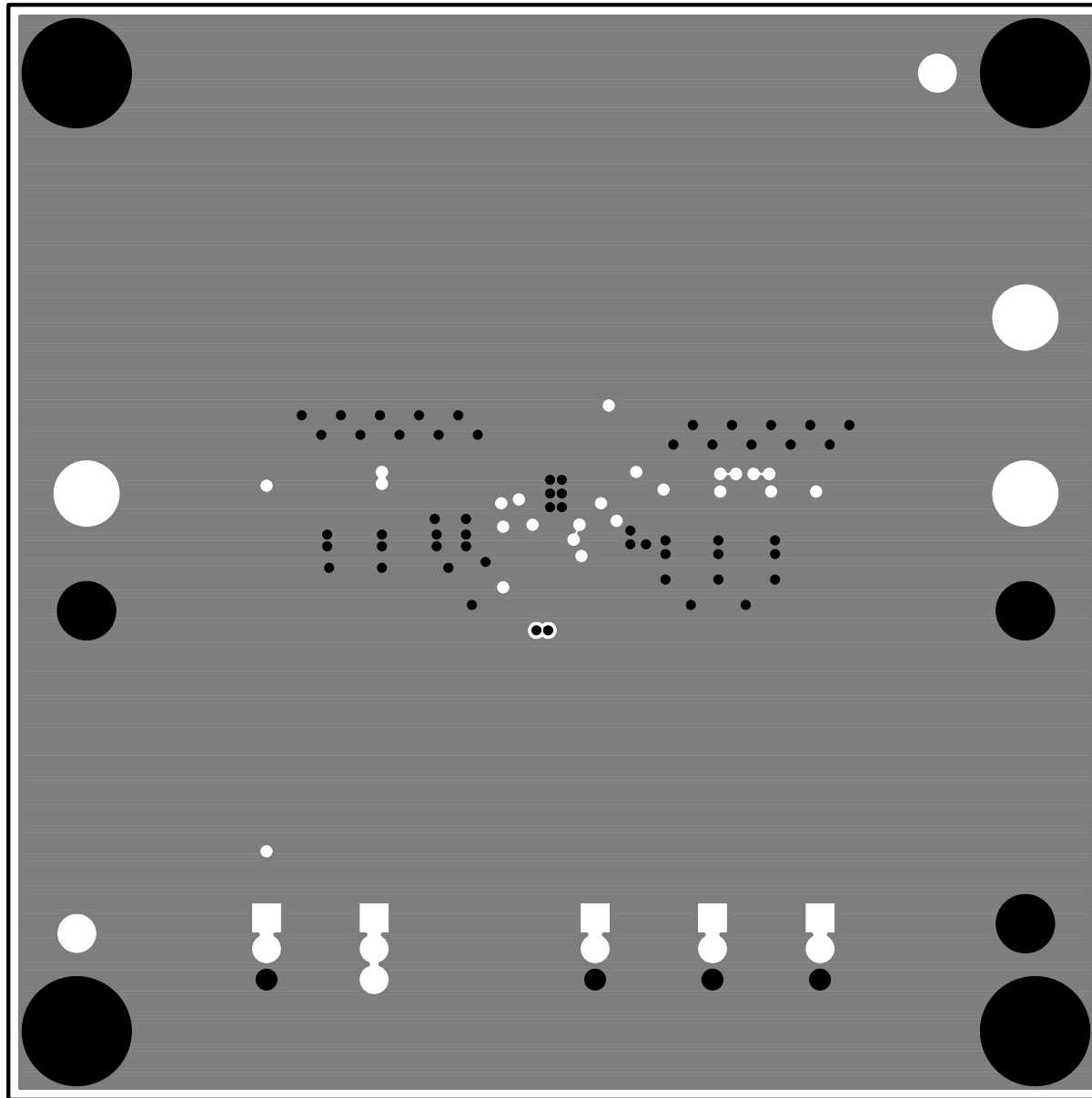




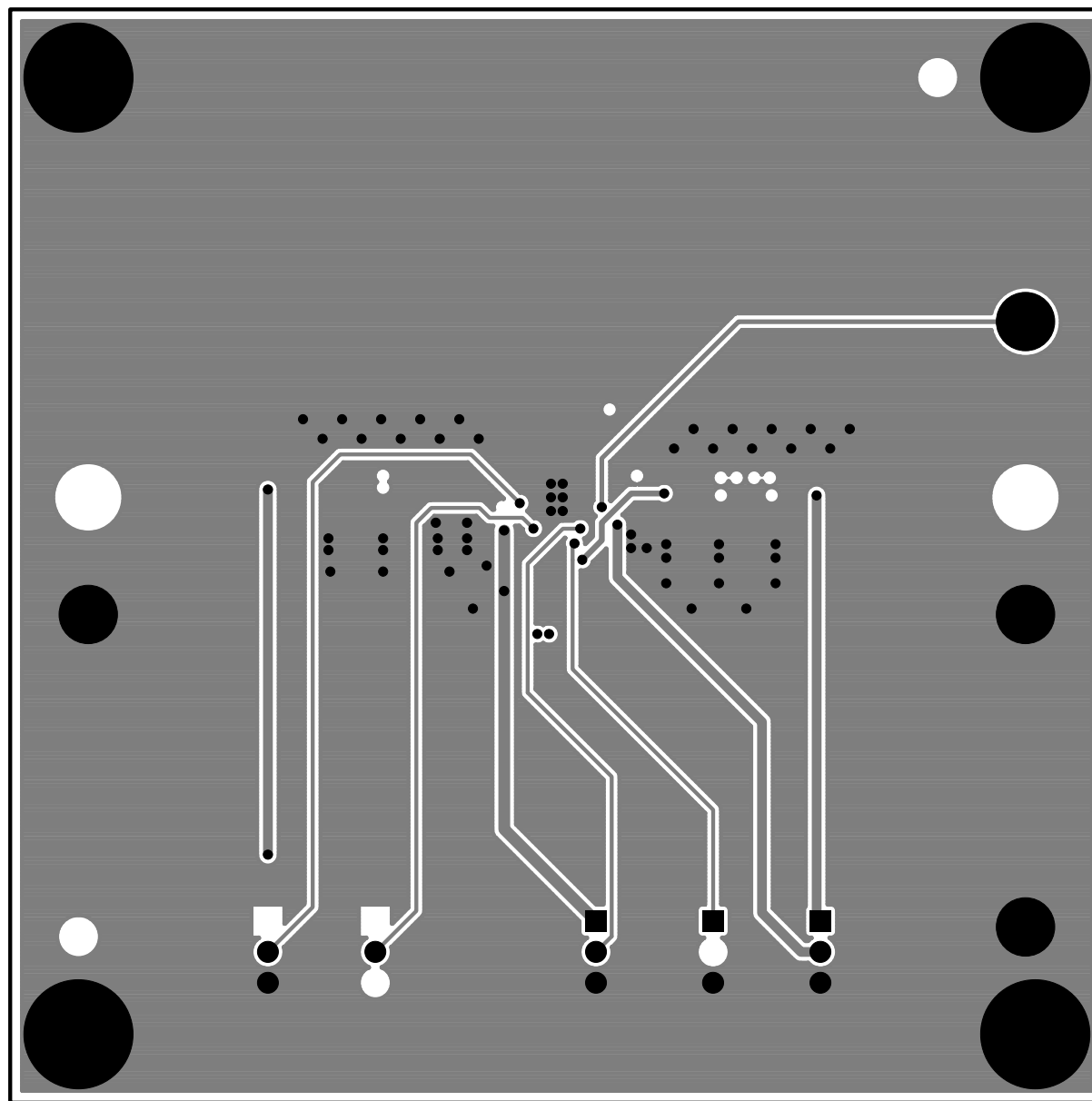
TOP SOLDER MASK  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16



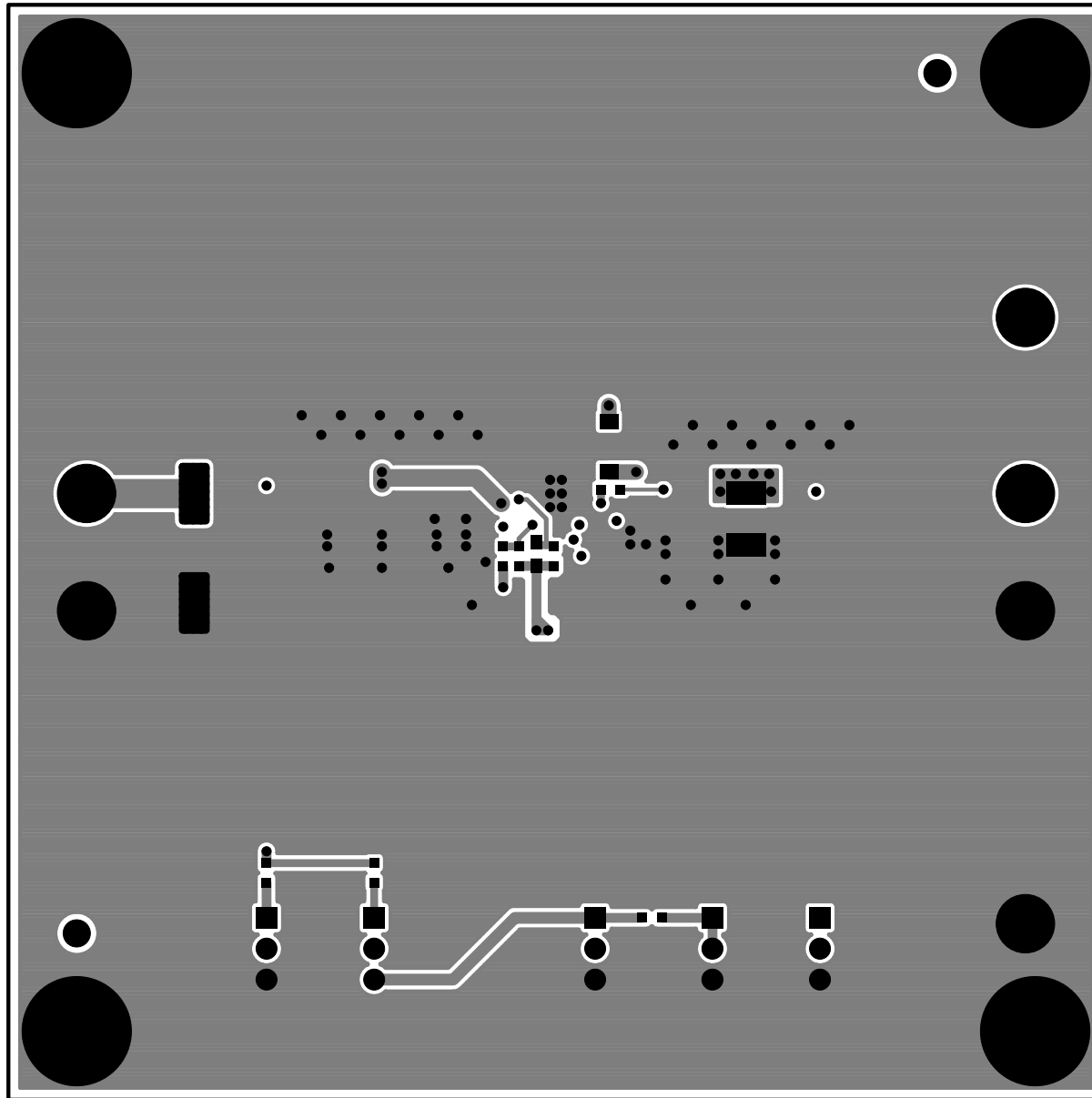
LAYER 1 : TOP LAYER  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16



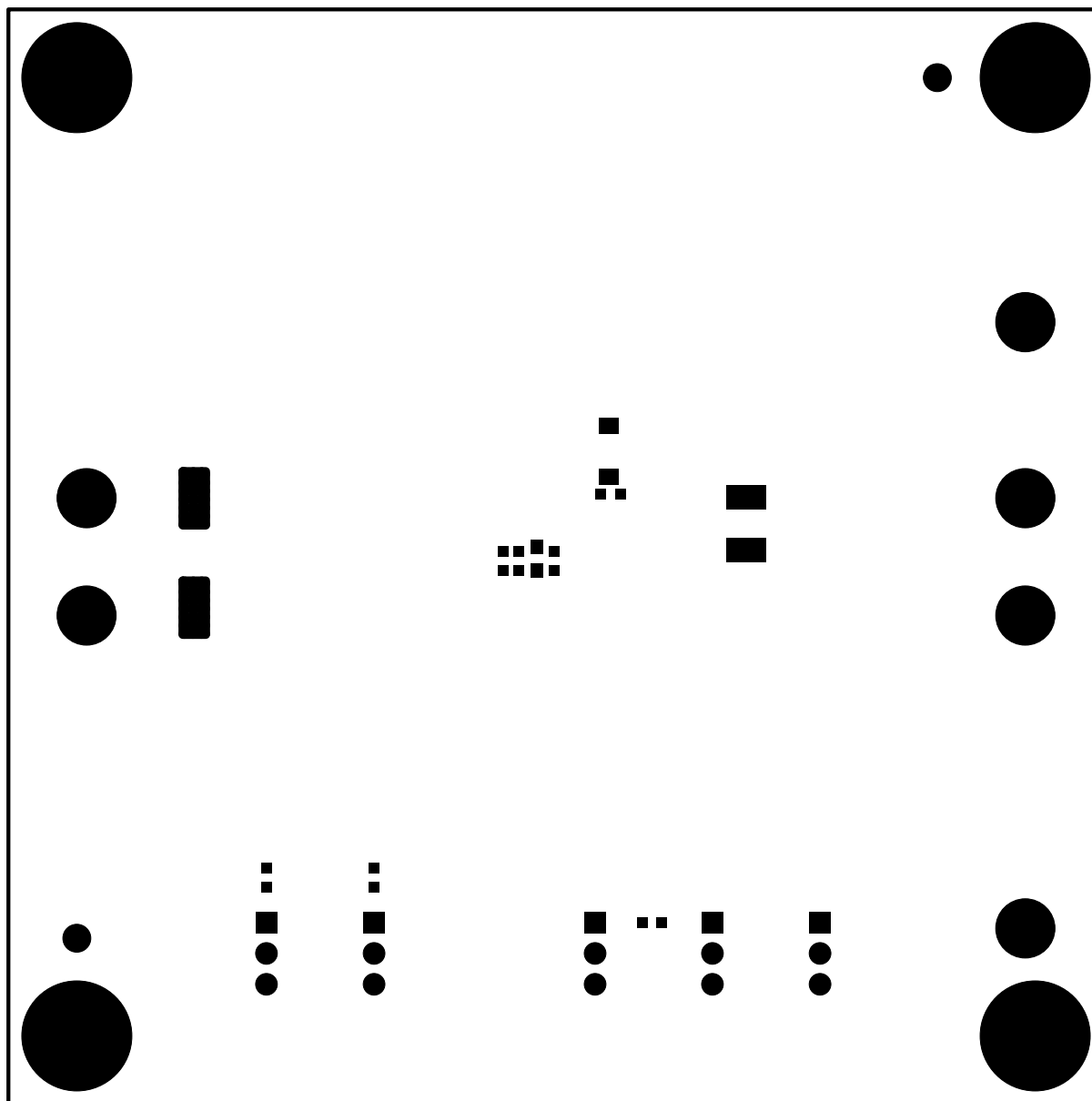
LAYER 2 : - GND 1  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16



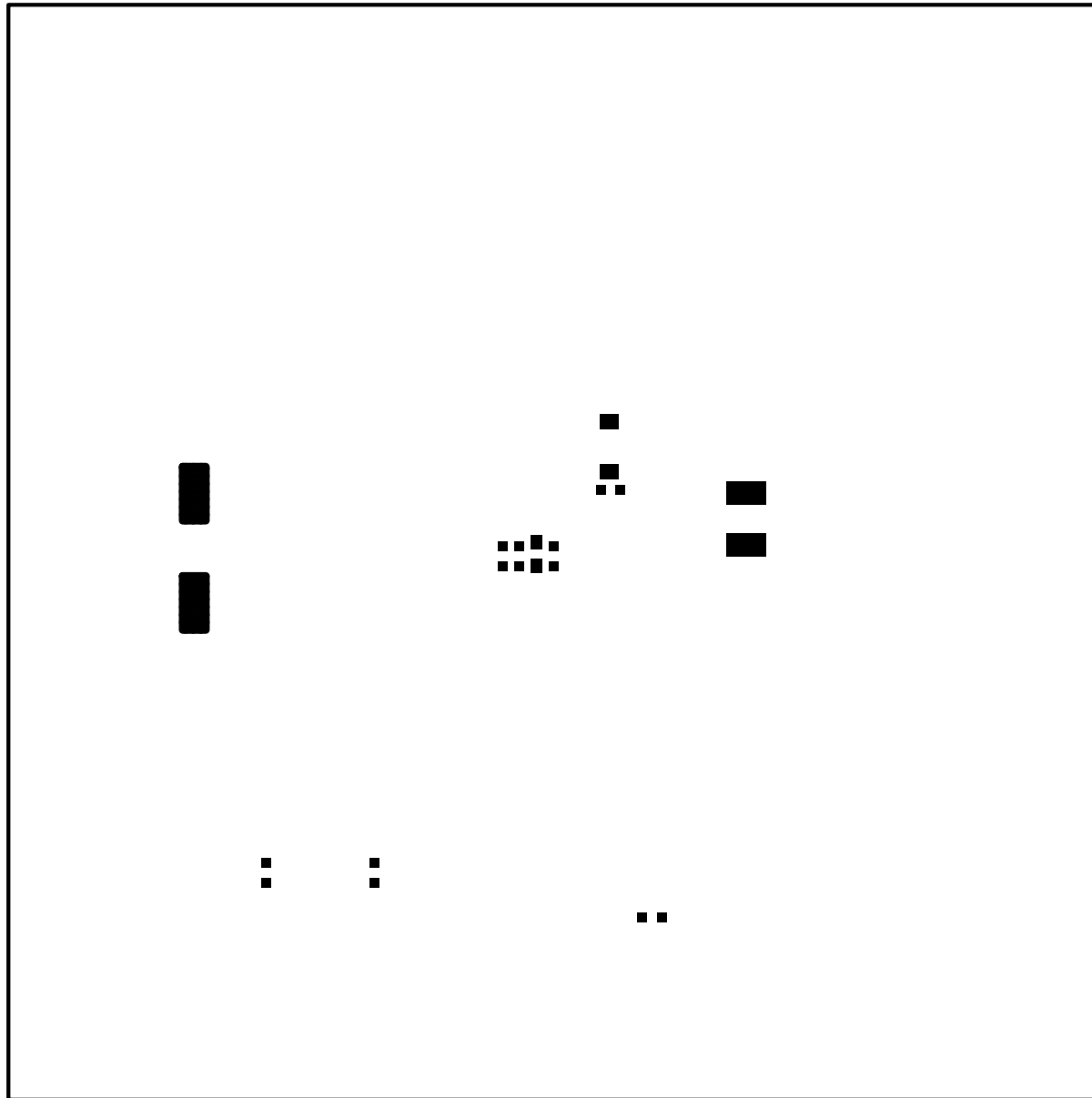
LAYER 3 : - GND 2  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16



LAYER 4 : BOTTOM LAYER  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16

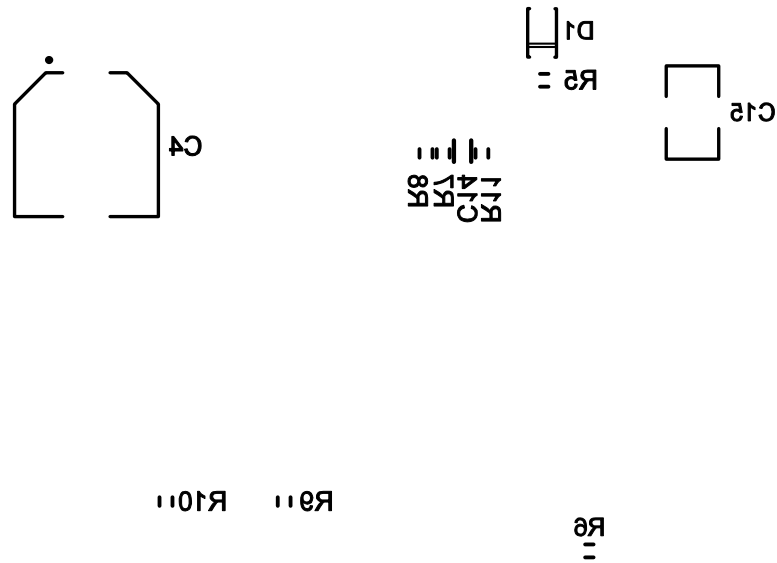


BOTTOM SOLDER MASK  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16



BOTTOM SOLDER PASTE  
LINEAR TECH CORP.  
DEMO CIRCUIT 2355A-3 \* LTC3130  
DATE: 05-23-16

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REV 3

**BOTTOM SILKSCREEN**  
**LINEAR TECH CORP.**  
**DEMO CIRCUIT 2355A-3 \* LTC3130**  
**DATE: 05-23-16**