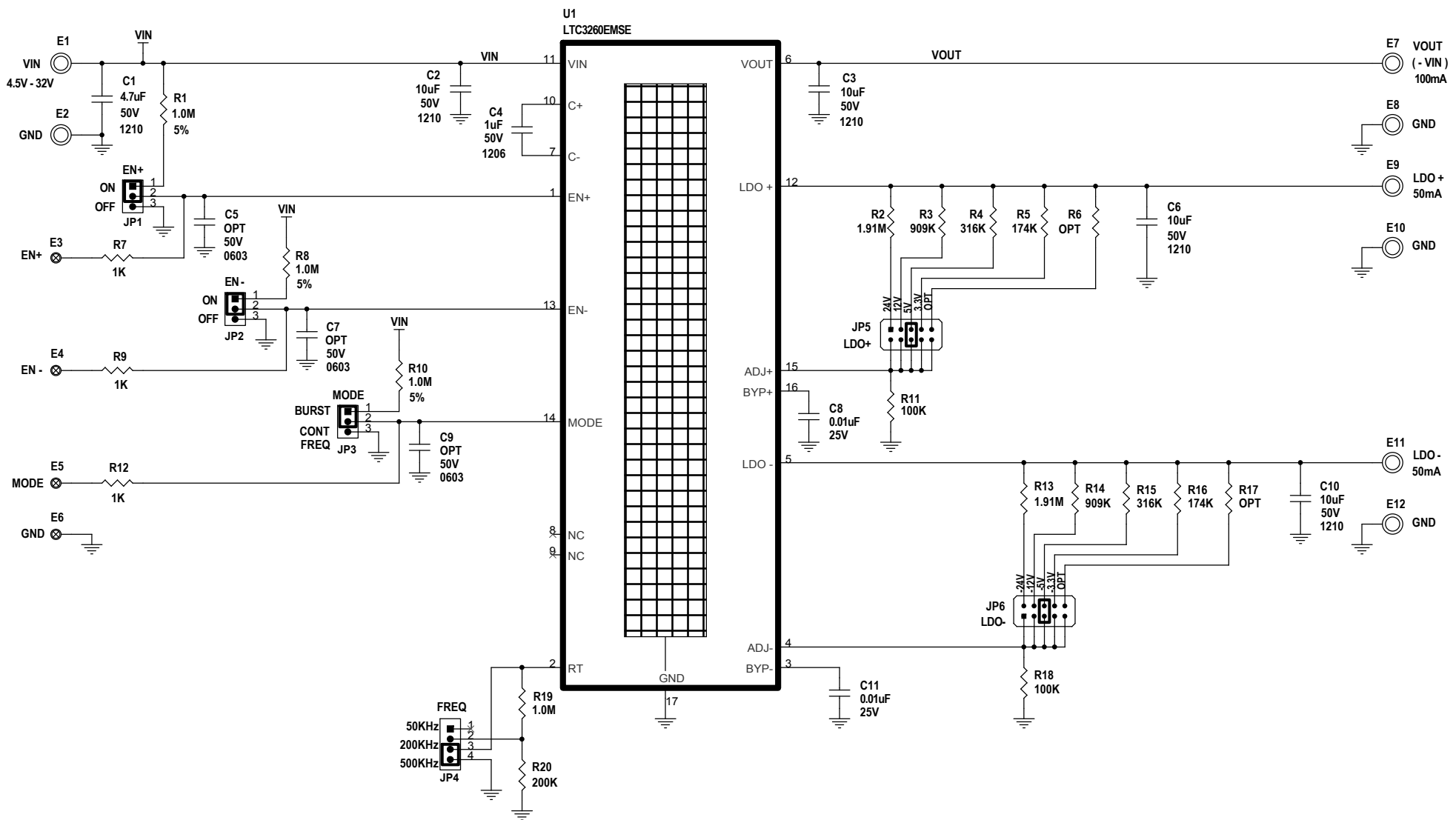



REVISION HISTORY				
ECO	REV	DESCRIPTION	APPROVED	DATE
-	2	PRODUCTION FAB	M. MERCHANT	03 - 12 - 12



NOTE: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTORS ARE 0402, 1%, 1/16W
ALL CAPACITORS ARE 0402, 10%
2. INSTALL SHUNTS AS SHOWN.

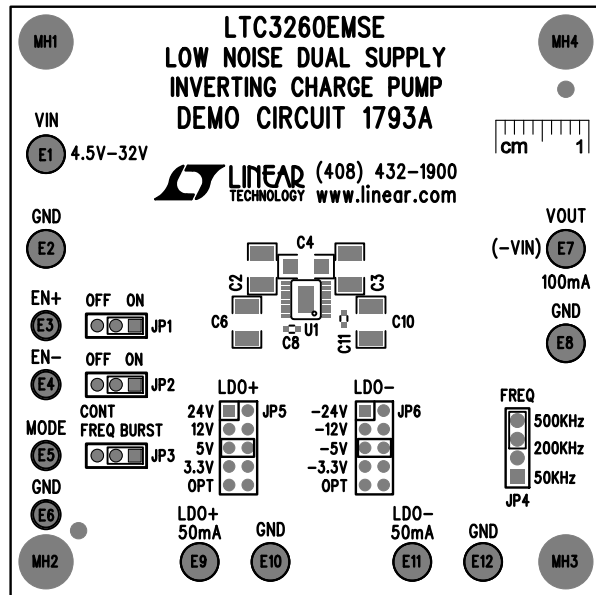
CUSTOMER NOTICE		APPROVALS			1630 McCarthy Blvd. Milpitas, CA 95035 Phone: (408)432-1900 www.linear.com Fax: (408)434-0507 LTC Confidential-For Customer Use Only	
LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S 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.		PCB DES.	NC		TITLE: SCHEMATIC	
THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.		APP ENG.	MARTY M.	LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP		
				SIZE	IC NO.	REV.
				N/A	LTC3260EMSE	2
				DEMO CIRCUIT 1793A		
		SCALE = NONE		DATE:	03 - 12 - 12	SHEET 1 OF 1

REVISION HISTORY

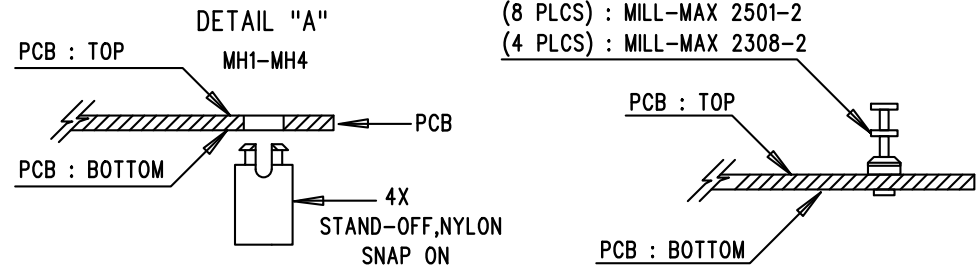
ECO	REV	DESCRIPTION	APPR	DATE
-	2	PRODUCTION FAB	MARTY M.	03-12-12

NOTES: UNLESS OTHERWISE SPECIFIED

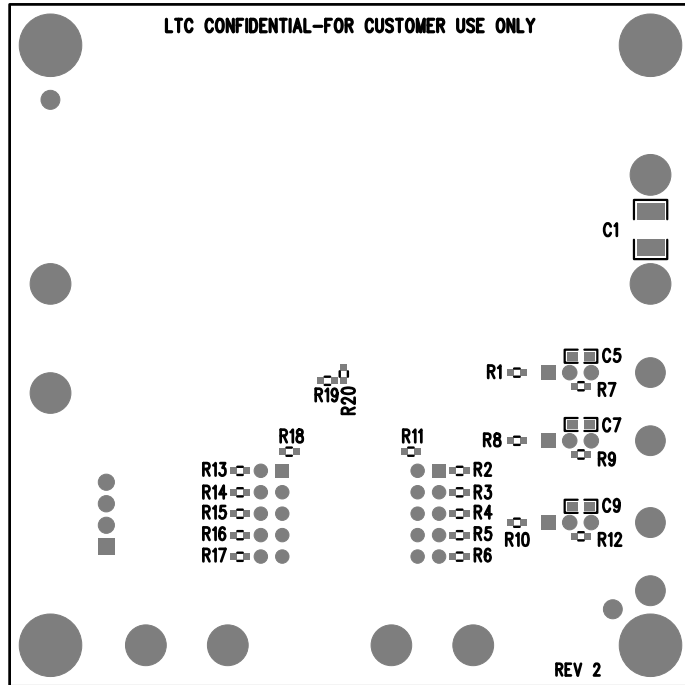
1. WORKMANSHIP SHALL BE IN ACCORDANCE WITH IPC-A-610.
2. ASSEMBLY PROCESS SHALL INCLUDE: REFLOW SOLDER TOP SIDE SMD. MAXIMUM SOLDER TEMPERATURE IS 240 DEGREES CELCIUS.
3. PARTS TO OMIT WILL BE SPECIFIED ON THE BILL OF MATERIALS. LOCATIONS OF OMITTED PARTS SHALL BE FREE OF SOLDER. MASK THE SOLDER STENCIL 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.
7. INSTALL TURRETS AND 4 STAND-OFFS AT FOUR CORNERS AS SHOWN BELOW:




SEE DETAIL "A"



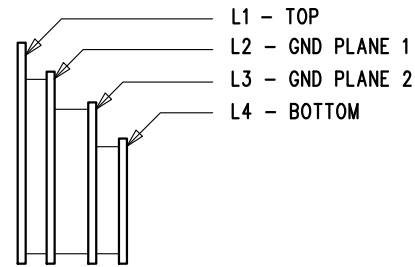
APPROVALS			1630 MCCARTHY BLVD MILPITAS, CA 95035 PH: (408)432-1900 www.Linear.com LTC CONFIDENTIAL- FOR CUSTOMER USE ONLY	
PCB DES.	NC		TITLE: TOP ASSEMBLY DRAWING: LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP	
APP ENG.	MARTY M.			
SIZE	IC NO.	LTC3260EMSE	REV.	
N/A		DEMO CIRCUIT 1793A	2	
SCALE = NONE		FILENAME: DC1793A-2.PCB		SHT 1 of 2



APPROVALS		 LINEAR 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.	MARTY M.									
		TITLE: BOTTOM ASSEMBLY DRAWING: LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP								
		<table border="1" style="width: 100%;"> <tr> <td>SIZE</td> <td>IC NO.</td> <td>LTC3260EMSE</td> <td>REV.</td> </tr> <tr> <td>N/A</td> <td></td> <td>DEMO CIRCUIT 1793A</td> <td>2</td> </tr> </table>	SIZE	IC NO.	LTC3260EMSE	REV.	N/A		DEMO CIRCUIT 1793A	2
SIZE	IC NO.	LTC3260EMSE	REV.							
N/A		DEMO CIRCUIT 1793A	2							
SCALE = NONE		FILENAME: DC1793A-2.PCB	SHT 2 of 2							

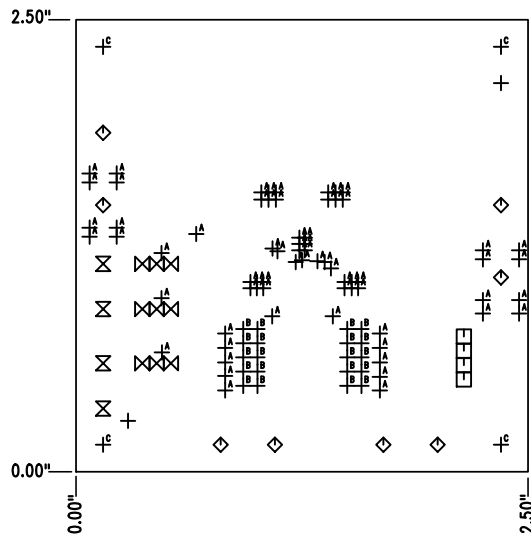
REVISION HISTORY				
ECO	REV	DESCRIPTION	APPR	DATE
-	2	PRODUCTION FAB	MARTY M.	03-12-12

LAYER STRUCTURE

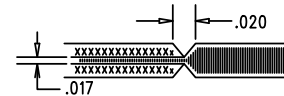


NOTES: UNLESS OTHERWISE SPECIFIED

- FAB PER IPC-A-600.
- MATERIAL: -LEAD FREE ASSEMBLY COMPLIANT, ISOLA FR-370HR OR EQUIVALENT.
-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-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
0.07	2	+	NO	+/-0.003
0.04	4	□	YES	+/-0.003
0.094	8	◇	YES	+/-0.003
0.063	4	⊗	YES	+/-0.003
0.035	9	⊗	YES	+/-0.003
0.01	69	+ ^A	YES	+/-0.003
0.03	20	+ ^B	YES	+/-0.003
0.19	4	+ ^C	YES	+/-0.003



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON ANGLE ±1 0.XX" = ±0.01" 0.XXX" = ±0.005" INTERPRET DIM AND TOL PER ASME Y14.5M-1994	APPROVALS			1630 MCCARTHY BLVD MILPITAS, CA 95035 PH: (408)432-1900 www.linear.com LTC CONFIDENTIAL- FOR CUSTOMER USE ONLY
	PCB DES. NC	APP ENG. MARTY M.		
THIRD ANGLE PROJECTION			SIZE N/A	IC NO. LTC3260EMSE DEMO CIRCUIT 1793A
			REV. 2	
DO NOT SCALE DRAWING	SCALE: NONE	FILENAME: DC1793A-2.PCB	SHT 1 of 1	

LTC3260EMSE

LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP DEMO CIRCUIT 1793A

VIN
○ 4.5V-32V

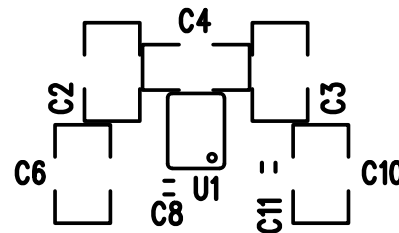


LINEAR (408) 432-1900
TECHNOLOGY www.linear.com

GND
○

VOUT
(-VIN) ○
100mA
GND ○

EN+ OFF ON
○ JP1



EN- OFF ON
○ JP2

MODE CONT
FREQ BURST
○ JP3

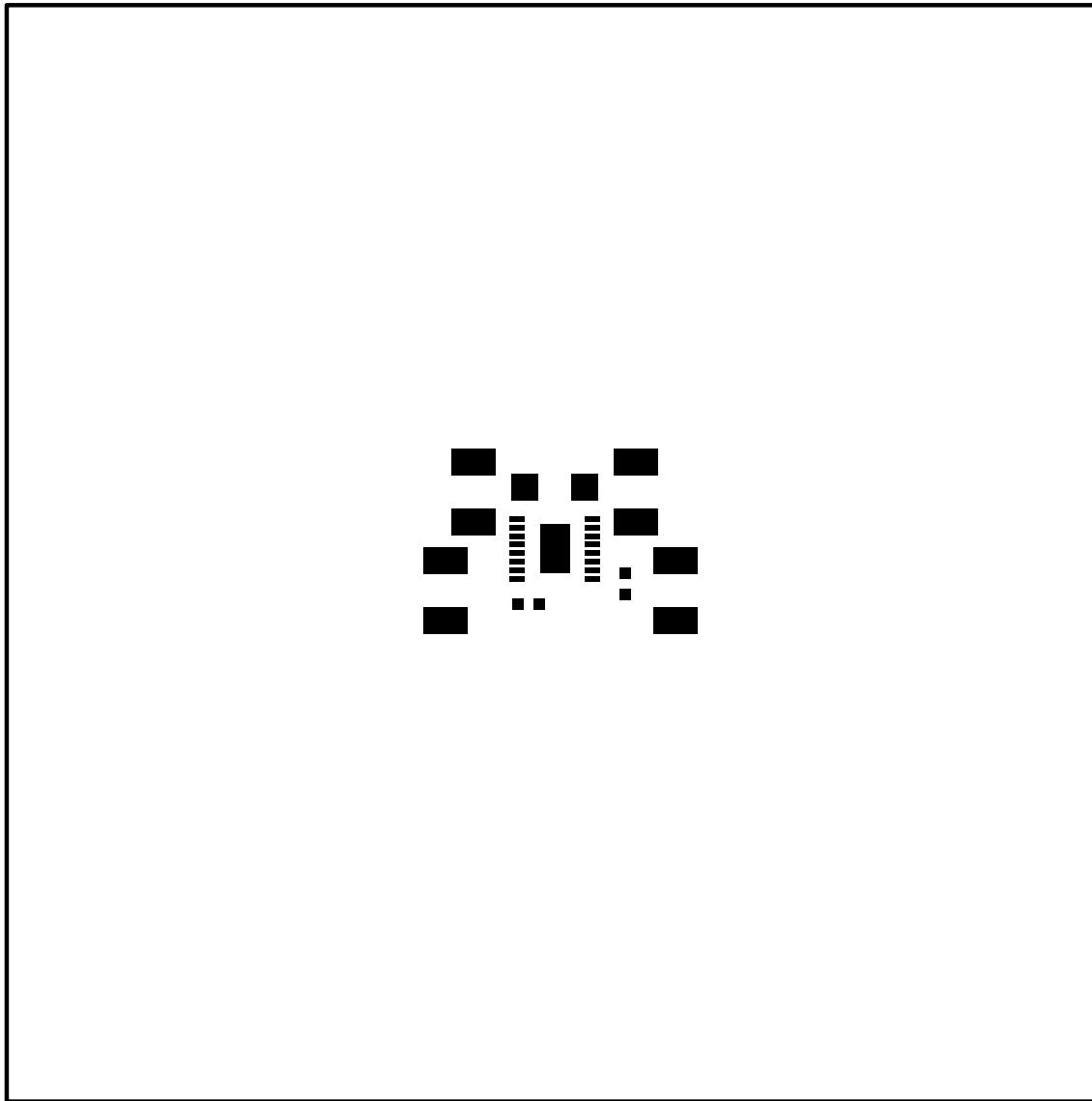
GND
○

LDO+
24V
12V
5V
3.3V
OPT
LDO+
50mA
GND ○

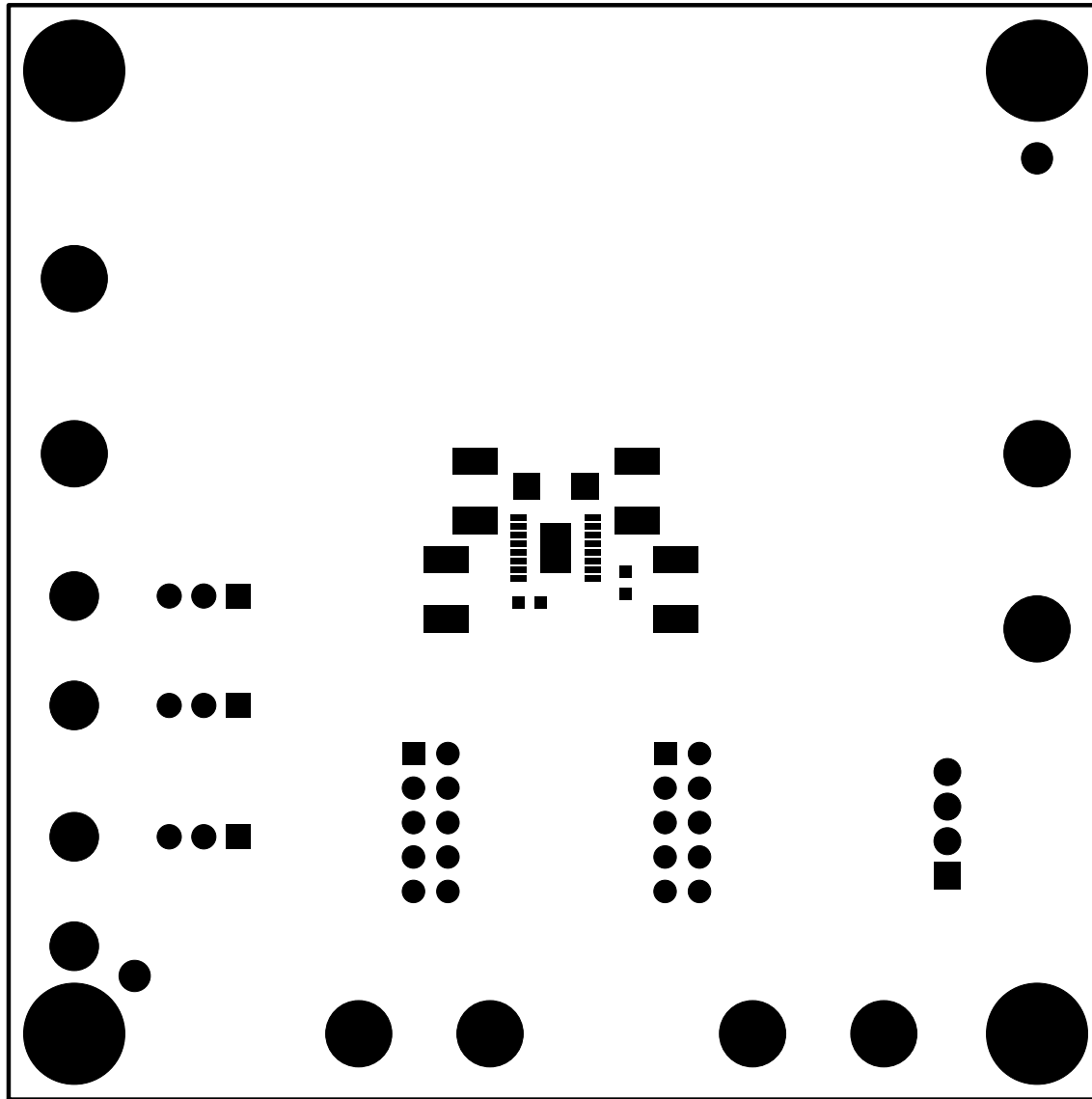
LDO-
-24V
-12V
-5V
-3.3V
OPT
LDO-
50mA
GND ○

FREQ
500KHz
200KHz
50KHz
JP4

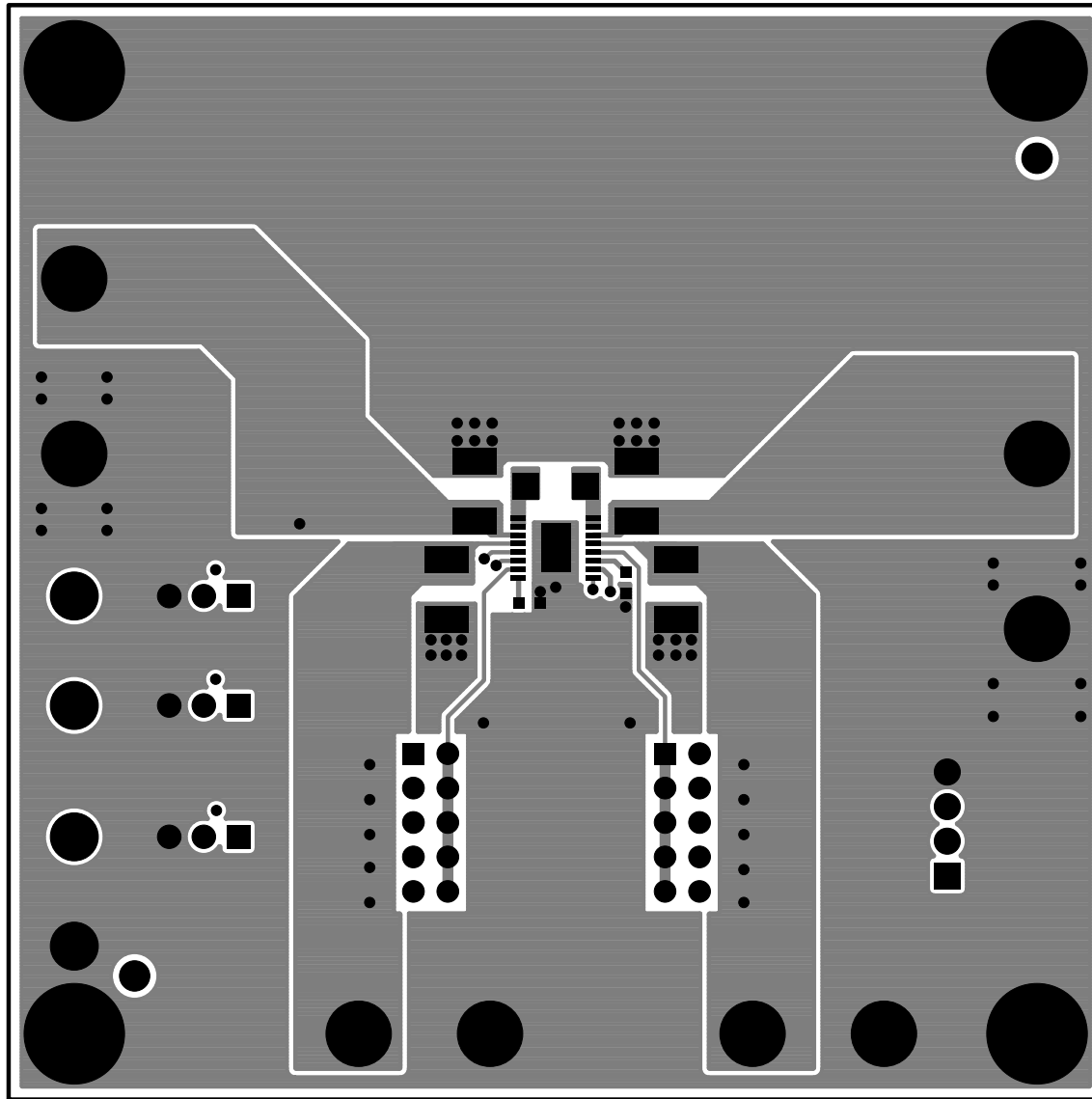
SILKSCREEN TOP
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12



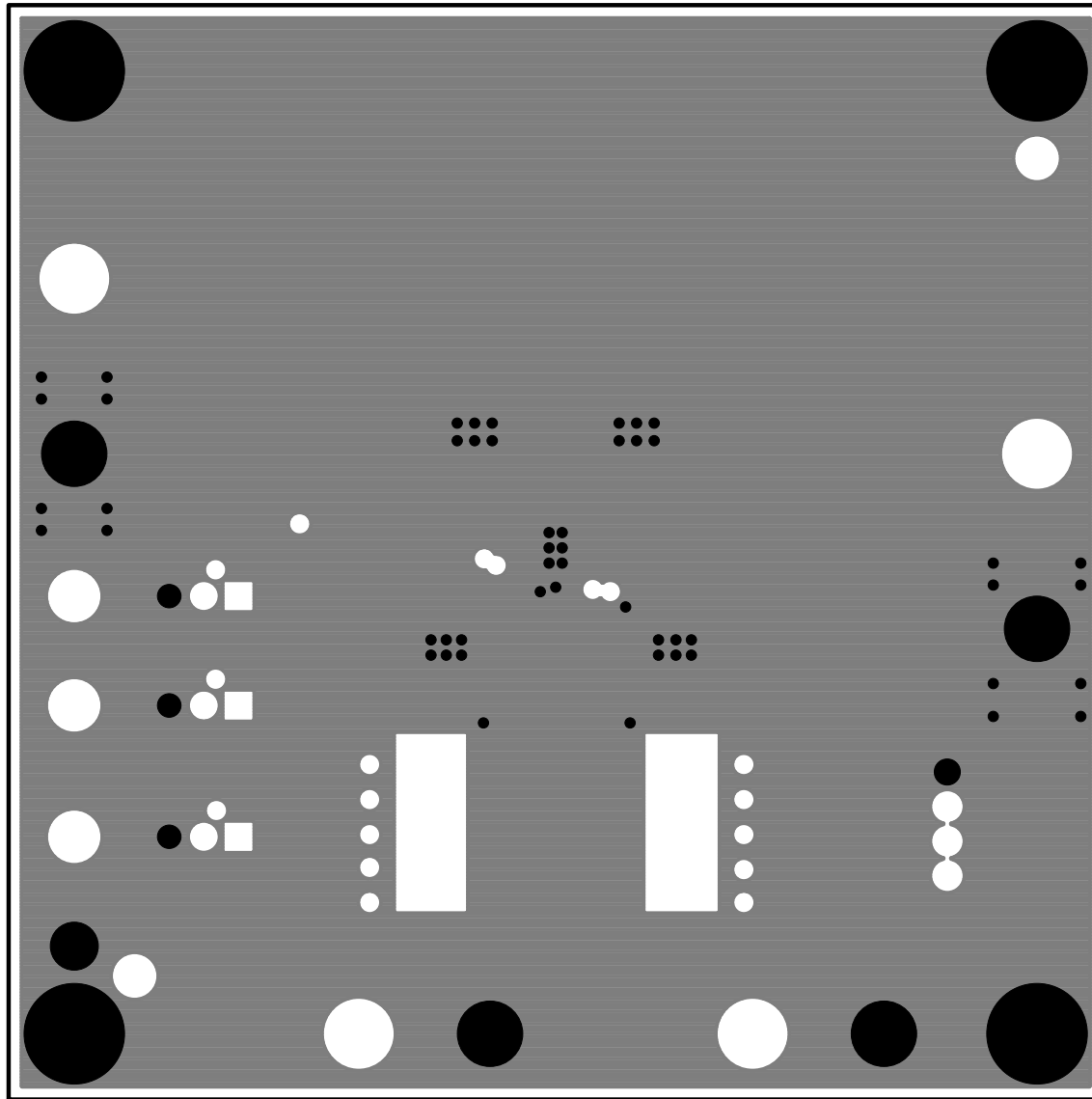
**PASTEMASK TOP
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12**



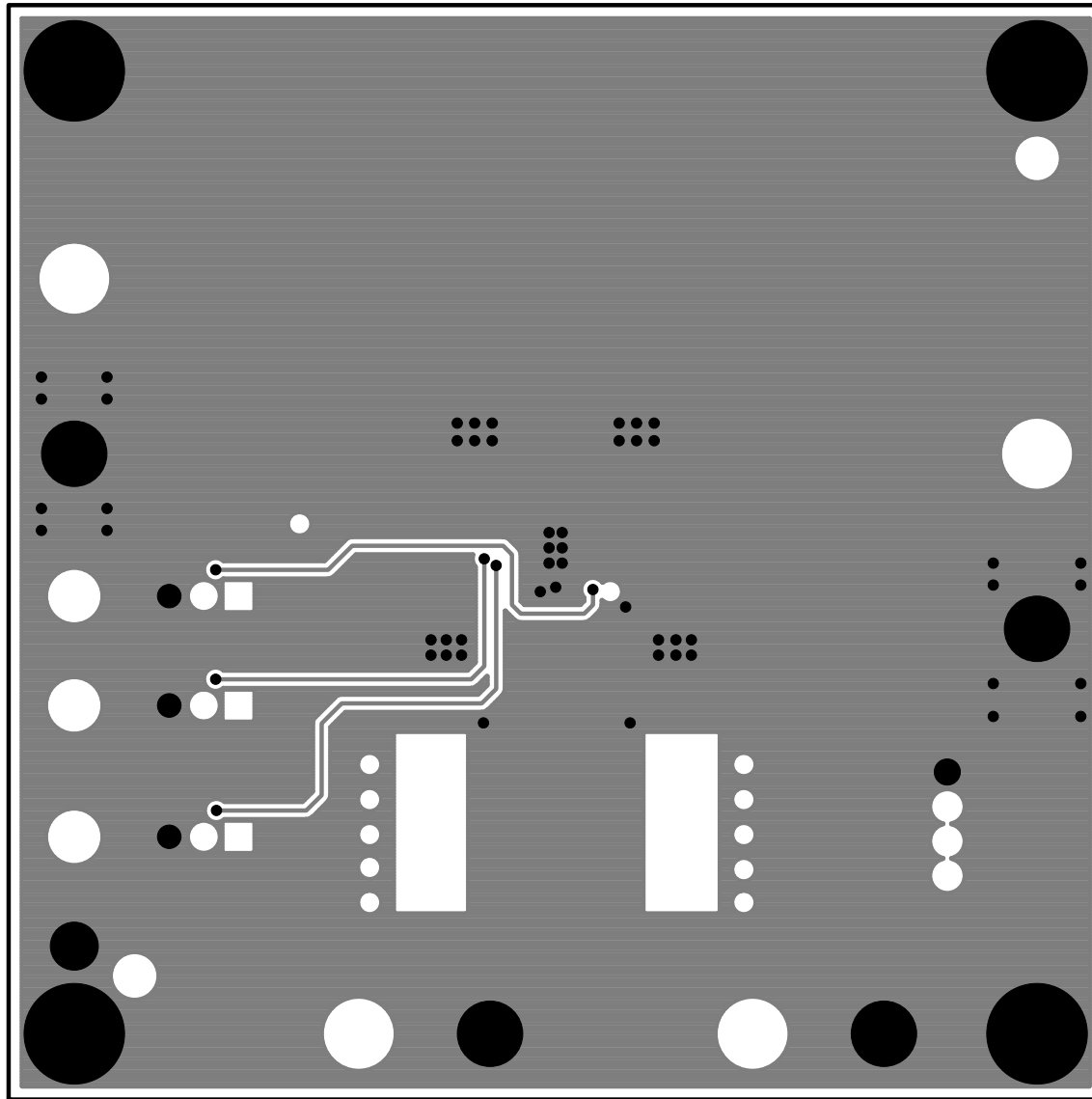
SOLDERMASK TOP
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12



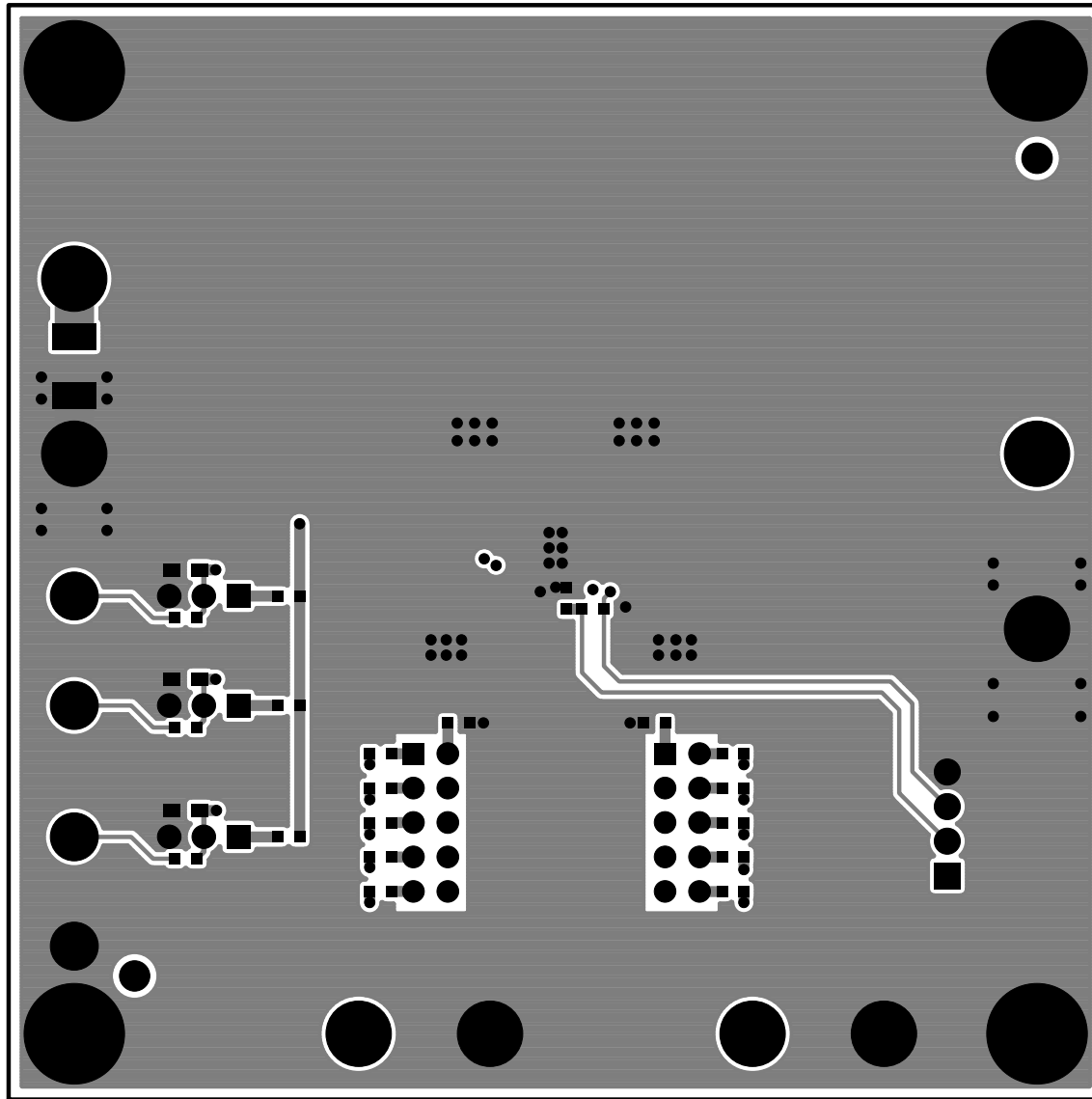
TOP LAYER
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12



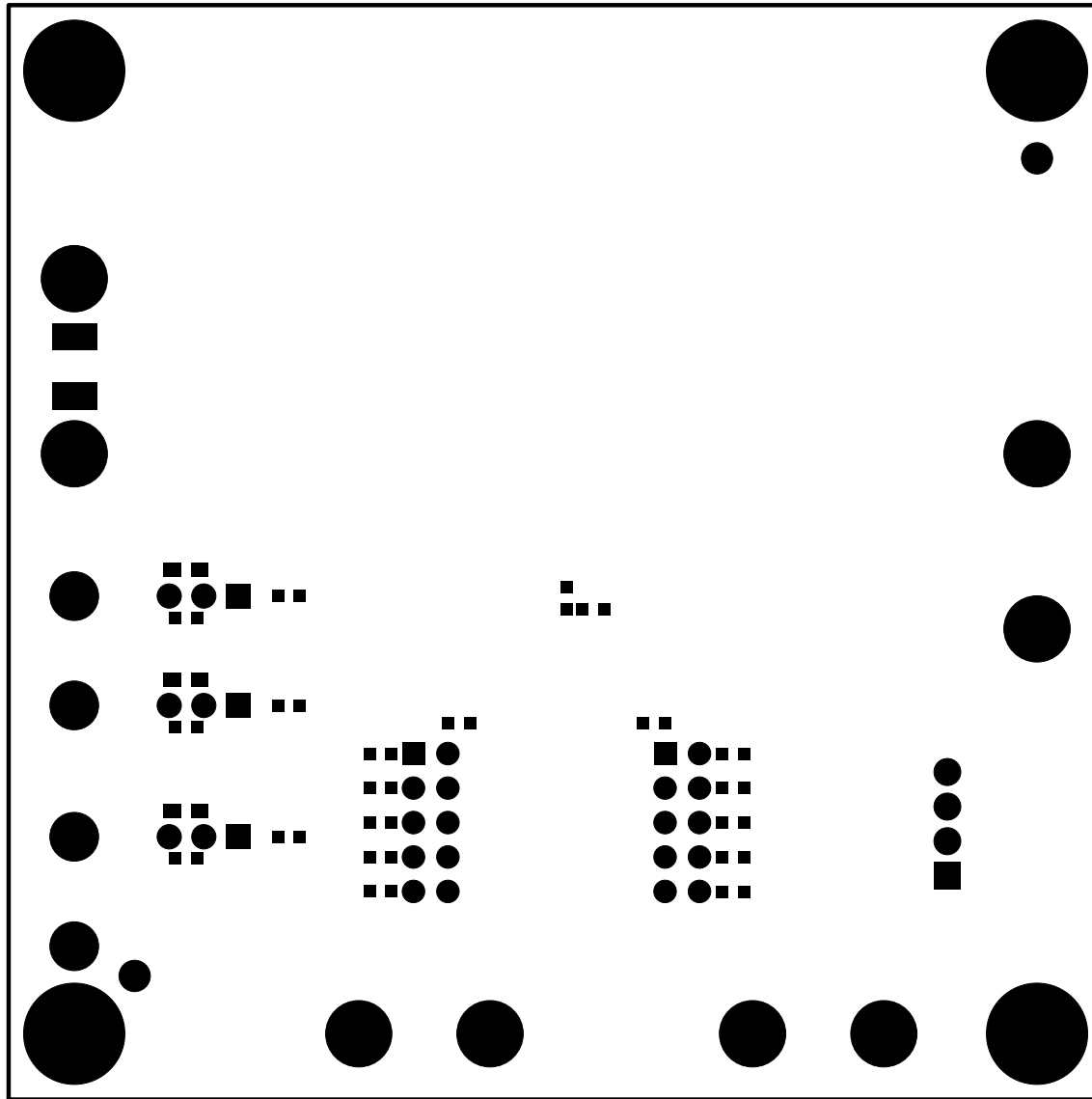
LAYER 2 GND PLANE
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12



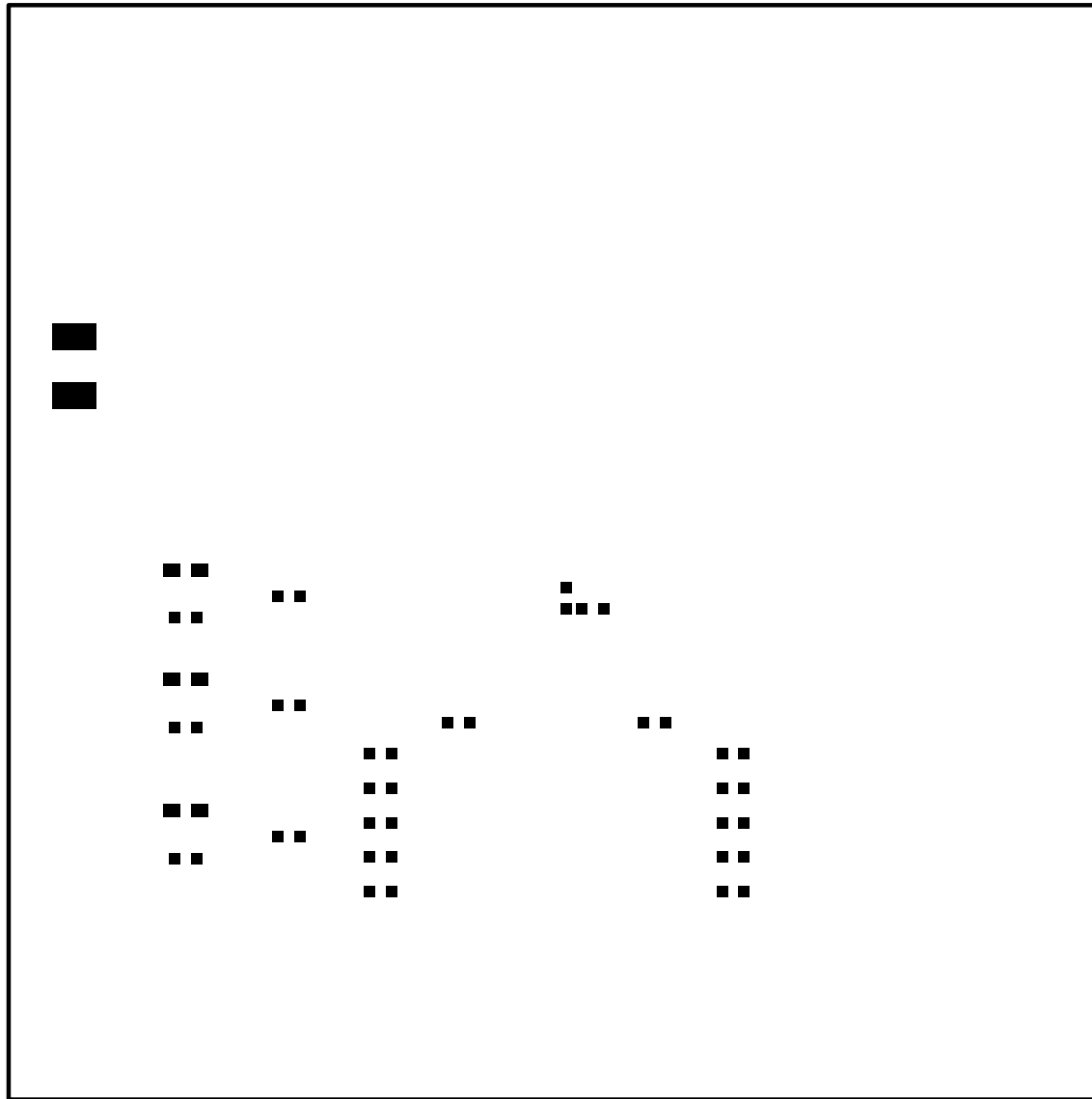
**LAYER 3 GND PLANE
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12**



**BOTTOM SIDE
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12**



SOLDERMASK BOTTOM
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12



**PASTEMASK BOTTOM
LINEAR TECH CORP.
DEMO CIRCUIT 1793A-2 * LTC3260EMSE
LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP
DATE: 03-12-12**

LTC CONFIDENTIAL-FOR CUSTOMER USE ONLY



C1

C5

R7

C7

R9

C9

R12

R1

R8

R2

R3

R4

R5

R6

R10

R11

R19

R18

R13

R14

R15

R16

R17

REV 2

SILKSCREEN BOTTOM

LINEAR TECH CORP.

DEMO CIRCUIT 1793A-2 * LTC3260EMSE

LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP

DATE: 03-12-12

Linear Technology Corporation

LTC3260EMSE
 ENGR: M. Merchant
 Low Noise Dual Supply
 Inverting Charge Pump

BILL OF MATERIALS

DEMO BD. #1793A-2

QTY- 200

3/15/2012

Item	Qty	Reference	Part Description	Manufacturer / Part #	Kit Qty	Pkg Qty	Balance
NUMBER OF BOARDS =					225		
1	1	C1	CAP CER 4.7UF 50V X7R 10% 1210	MURATA, GRM32ER71H475KA88L	225		
2	4	C2,C3,C6,C10	CAP CER10UF 50V X7S 10% 1210	TDK, C3225X7S1H106K	900		
3	1	C4	CAP CER 1.0UF 50V X5R 10% 1206	MURATA, GRM31CR61H105KA61L	225		
4	0	C5,C7,C9 (OPT)	CAP CER 0603 50V	OPT	0		
5	2	C8,C11	CAP CER 0.01UF 25V X7R 10% 0402	MURATA, GRM155R71E103KA01D	450		
6	3	R1,R8,R10	RES 1.0M OHM 1/16W 5% 0402 SMD	VISHAY, CRCW04021M00JNED	675		
7	2	R2,R13	RES, 1.91M OHM 1/16W 1% 0402 SMD	VISHAY, CRCW04021M91FKED	450		
8	2	R3,R14	RES 909K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402909KFKED	450		
9	2	R4,R15	RES 316K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402316KFKED	450		
10	2	R5,R16	RES 174K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402174KFKED	450		
11	0	R6,R17 (OPT)	RES 0402 SMD	OPT	0		
12	3	R7,R9,R12	RES 1.0K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW04021K00FKED	675		
13	2	R11,R18	RES 100K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402100KFKED	450		
14	1	R19	RES 1.0M OHM 1/16W 1% 0402 SMD	VISHAY, CRCW04021M00FKED	225		
15	1	R20	RES 200K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402200KFKED	225		
16	3	JP1-JP3	HEADER, 3 PIN 1 ROW .079CC	SAMTEC, TMM-103-02-L-S	675		-675
17	1	JP4	HEADER, 4 PIN 1 ROW .079CC	SAMTEC, TMM-104-02-L-S	225		
18	2	JP5,JP6	HEADER, 2X5 PINS, 2MM	SAMTEC, TMM-105-02-L-D	450		
19	6	JP1-JP6	SHUNT, 2mm	SAMTEC, 2SN-KB-G	1350		-1350
20	8	E1,E2,E7-E12	TP, TURRET, 0.094", PBF	MILL-MAX, 2501-2-00-80-00-00-07-0	1800		
21	4	E3-E6	TURRET, 0.061 DIA	MILL-MAX, 2308-2-00-80-00-00-07-0	900		-900
22	1	U1	LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP	LINEAR TECH., LTC3260EMSE#PBF	225		
23	4	MH1-MH4	STAND-OFF, NYLON 0.375" TALL	KEYSTONE, 8832 (SNAP ON)	900		
24	1		FAB,PRINTED CIRCUIT BOARD	DEMO CIRCUIT 1793A-2	225		
25	2		STENCILS - TOP & BOTTOM	STENCIL, DC1793A-2	2		
							TOTAL

Item	Qty	Reference	Part Description	Manufacturer / Part #
REQUIRED CIRCUIT COMPONENTS:				
1	4	C2,C3,C6,C10	CAP CER 10UF 50V X7S 10% 1210	TDK, C3225X7S1H106K
2	1	C4	CAP CER 1.0UF 50V X5R 10% 1206	MURATA, GRM31CR61H105KA61L
3	2	R11,R18	RES 100K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402100KFKED
4	1	U1	LOW NOISE DUAL SUPPLY INVERTING CHARGE PUMP	LINEAR TECH., LTC3260EMSE#PBF
ADDITIONAL DEMO BOARD CIRCUIT COMPONENTS:				
5	1	C1	CAP CER 4.7UF 50V X7R 10% 1210	MURATA, GRM32ER71H475KA88L
6	0	C5,C7,C9 (OPT)	CAP CER 0603 50V	OPT
7	2	C8,C11	CAP CER 0.01UF 25V X7R 10% 0402	MURATA, GRM155R71E103KA01D
8	3	R1,R8,R10	RES 1.0M OHM 1/16W 5% 0402 SMD	VISHAY, CRCW04021M00JNED
9	2	R2,R13	RES, 1.91M OHM 1/16W 1% 0402 SMD	VISHAY, CRCW04021M91FKED
10	2	R3,R14	RES 909K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402909KFKED
11	2	R5,R16	RES 174K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402174KFKED
12	0	R6,R17 (OPT)	RES 0402 SMD	OPT
13	3	R7,R9,R12	RES 1.0K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW04021K00FKED
14	1	R19	RES 1.0M OHM 1/16W 1% 0402 SMD	VISHAY, CRCW04021M00FKED
15	1	R20	RES 200K OHM 1/16W 1% 0402 SMD	VISHAY, CRCW0402200KFKED
HARDWARE				
17	3	JP1-JP3	HEADER, 3 PIN 1 ROW .079CC	SAMTEC, TMM-103-02-L-S
18	1	JP4	HEADER, 4 PIN 1 ROW .079CC	SAMTEC, TMM-104-02-L-S
19	2	JP5,JP6	HEADER, 2X5 PINS, 2MM	SAMTEC, TMM-105-02-L-D
20	6	JP1-JP6	SHUNT, 2mm	SAMTEC, 2SN-KB-G
21	8	E1,E2,E7-E12	TP, TURRET, 0.094", PBF	MILL-MAX, 2501-2-00-80-00-00-07-0
22	4	E3-E6	TURRET, 0.061 DIA	MILL-MAX, 2308-2-00-80-00-00-07-0

