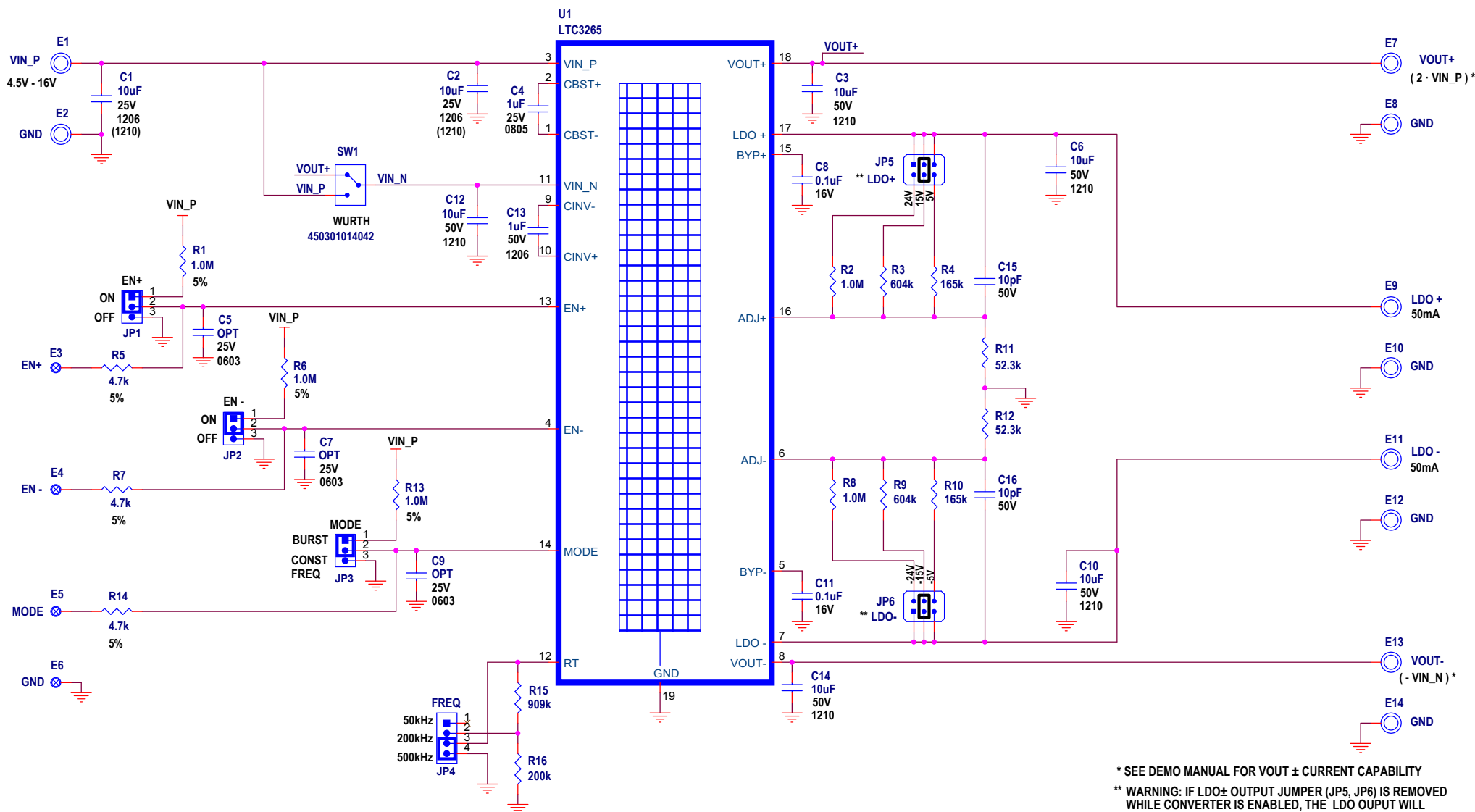


| REVISION HISTORY |     |                |             |              |
|------------------|-----|----------------|-------------|--------------|
| ECO              | REV | DESCRIPTION    | APPROVED    | DATE         |
| —                | 3   | PRODUCTION FAB | M. MERCHANT | 05 - 28 - 15 |



\* SEE DEMO MANUAL FOR VOUT ± CURRENT CAPABILITY

\*\* WARNING: IF LDO± OUTPUT JUMPER (JP5, JP6) IS REMOVED WHILE CONVERTER IS ENABLED, THE LDO OUTPUT WILL INCREASE TO THE RESPECTIVE VOUT INPUT.

## NOTE: UNLESS OTHERWISE SPECIFIED

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

## CUSTOMER NOTICE

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.

THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.

## APPROVALS

| PCB DES. | NC       |
|----------|----------|
| APP ENG. | MARTY M. |
|          |          |
|          |          |
|          |          |

SCALE = NONE



1630 McCarthy Blvd.  
Milpitas, CA 95035  
Phone: (408)432-1900 www.linear.com  
Fax: (408)434-0507  
LTC Confidential-For Customer Use Only

TITLE: SCHEMATIC

## LOW NOISE DUAL SUPPLY WITH BOOST AND INVERTING CHARGE PUMPS

| SIZE  | IC NO.                            | REV.         |
|-------|-----------------------------------|--------------|
| N/A   | LTC3265EDHC<br>DEMO CIRCUIT 2235A | 3            |
| DATE: | 05 - 28 - 15                      | SHEET 1 OF 1 |

# Linear Technology Corporation

LTC3265EDHC

ENGR: M. Merchant (011-087)

## BILL OF MATERIALS

DEMO BD. #2235A-3

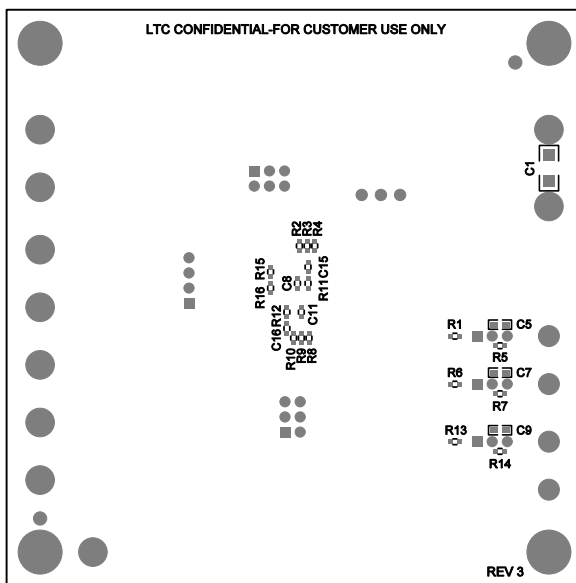
QTY- 200


6/10/2015

| Item | Qty | Reference             | Part Description  | Manufacturer / Part #             | Kit Qty    | Pkg Qty | Balance      | Parts/Purch. |
|------|-----|-----------------------|---|-----------------------------------|------------|---------|--------------|--------------|
|      |     |                       |   | <b>NUMBER OF BOARDS =</b>         | <b>225</b> |         |              |              |
| 1    | 2   | C1, C2                | CAP, CHIP, X7R, 10µF, ±10%, 25V, 1206                       | WURTH ELEKTRONIK, 885012208069    | 450        |         |              |              |
| 2    | 5   | C3, C6, C10, C12, C14 | CAP, CHIP, X7S, 10µF, ±10%, 50V, 1210                       | TDK, C3225X7S1H106K250AB          | 1125       |         |              |              |
| 3    | 1   | C4                    | CAP, CHIP, X7R, 1µF, ±10%, 25V, 0805                        | TDK, C2012X7R1E105K125AB          | 225        |         |              |              |
| 4    | 0   | C5, C7, C9 OPT        | CAP, CHIP, 25V, 0603  |                                   | 0          |         |              |              |
| 5    | 2   | C8, C11               | CAP, CHIP, X7R, .1µF, ±10%, 16V, 0402                       | MURATA, GRM155R71C104KA88D        | 450        |         |              |              |
| 6    | 1   | C13                   | CAP, CHIP, X7R, 1µF, ±10%, 50V, 1206                        | TDK, C3216X7R1H105K160AB          | 225        |         |              |              |
| 7    | 2   | C15, C16              | CAP, CHIP, NPO, 10pF, ±5%, 50V, 0402                        | AVX, 04025A100JAT2A               | 450        |         |              |              |
| 8    | 3   | R1, R6, R13           | RES 1.0M OHM 1/16W 5% 0402 SMD                              | VISHAY, CRCW04021M00JNED          | 675        |         |              |              |
| 9    | 2   | R2, R8                | RES 1.0M OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW04021M00FKED          | 450        |         |              |              |
| 10   | 2   | R3, R9                | RES 604k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402604KFKED          | 450        |         |              |              |
| 11   | 2   | R4, R10               | RES 165k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402165KFKED          | 450        |         |              |              |
| 12   | 3   | R5, R7, R14           | RES 4.7k OHM 1/16W 5% 0402 SMD                              | VISHAY, CRCW04024K70JNED          | 675        |         |              |              |
| 13   | 2   | R11, R12              | RES 52.3k OHM 1/16W 1% 0402 SMD                             | VISHAY, CRCW040252K3FKED          | 450        |         |              |              |
| 14   | 1   | R15                   | RES 909k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402909KFKED          | 225        |         |              |              |
| 15   | 1   | R16                   | RES 200k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402200KFKED          | 225        |         |              |              |
| 16   | 3   | JP1, JP2, JP3         | HEADER, 3 PIN 1 ROW .079CC                                  | SULLIN, NRPN031PAEN-RC            | 675        |         |              |              |
| 17   | 1   | JP4                   | HEADER, 4 PIN 1 ROW .079CC                                  | SULLIN, NRPN041PAEN-RC            | 225        |         |              |              |
| 18   | 2   | JP5, JP6              | HEADER, 2X3 PINS, 2MM                                       | SULLIN, NRPN032PAEN-RC            | 450        |         |              |              |
| 19   | 6   | JP1-JP6               | SHUNT, 2mm  | SAMTEC, 2SN-BK-G                  | 1350       |         |              |              |
| 20   | 10  | E1, E2, E7-E14        | TP, TURRET, 0.094", PBF                                     | MILL-MAX, 2501-2-00-80-00-00-07-0 | 2250       |         |              |              |
| 21   | 4   | E3-E6                 | TURRET, 0.061 DIA   | MILL-MAX, 2308-2-00-80-00-00-07-0 | 900        |         |              |              |
| 22   | 1   | SW1                   | 10mmX2.5mm, SLIDE SWITCH, THT                               | WURTH ELEKTRONIK, 450301014042    | 225        |         |              |              |
| 23   | 1   | U1                    | LOW NOISE DUAL SUPPLY WITH BOOST AND INVERTING CHARGE PUMPS | LINEAR TECH., LTC3265EDHC#PBF     | 225        |         |              |              |
| 24   | 4   | MH1-MH4               | STAND-OFF, NYLON 0.375" TALL                                | KEYSTONE, 8832 (SNAP ON)          | 900        |         |              |              |
| 25   | 1   |                       | FAB, PRINTED CIRCUIT BOARD                                  | DEMO CIRCUIT DC2235A-3            | 225        |         |              |              |
| 26   | 2   |                       | STENCILS - TOP & BOTTOM                                     | STENCIL, DC2235A-3                | 0          |         |              |              |
|      |     |                       |   |                                   |            |         |              |              |
|      |     |                       |   |                                   |            |         |              |              |
|      |     |                       |   |                                   |            |         |              |              |
|      |     |                       |   |                                   |            |         | <b>TOTAL</b> | <b>\$ -</b>  |

| Item   | Qty | Reference             | Part Description  | Manufacturer / Part #             |
|--|-----|-----------------------|---|-----------------------------------|
| <b>REQUIRED CIRCUIT COMPONENTS:</b>              |     |                       |   |                                   |
| 1  | 1   | C2                    | CAP, CHIP, X7R, 10 $\mu$ F, $\pm$ 10%, 25V, 1206            | WURTH ELEKTRONIK, 885012208069    |
| 2  | 5   | C3, C6, C10, C12, C14 | CAP, CHIP, X7S, 10 $\mu$ F, $\pm$ 10%, 50V, 1210            | TDK, C3225X7S1H106K250AB          |
| 3  | 1   | C4                    | CAP, CHIP, X7R, 1 $\mu$ F, $\pm$ 10%, 25V, 0805             | TDK, C2012X7R1E105K125AB          |
| 4  | 1   | C13                   | CAP, CHIP, X7R, 1 $\mu$ F, $\pm$ 10%, 50V, 1206             | TDK, C3216X7R1H105K160AB          |
| 5  | 2   | R3, R9                | RES 604k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402604KFKED          |
| 6  | 2   | R11, R12              | RES 52.3k OHM 1/16W 1% 0402 SMD                             | VISHAY, CRCW040252K3FKED          |
| 7  | 1   | U1                    | LOW NOISE DUAL SUPPLY WITH BOOST AND INVERTING CHARGE PUMPS | LINEAR TECH., LTC3265EDHC#PBF     |
| <b>ADDITIONAL DEMO BOARD CIRCUIT COMPONENTS:</b> |     |                       |   |                                   |
| 8  | 1   | C1                    | CAP, CHIP, X7R, 10 $\mu$ F, $\pm$ 10%, 25V, 1206            | WURTH, 885012208069               |
| 9  | 0   | C5, C7, C9 OPT        | CAP, CHIP, 25V, 0603  |                                   |
| 10   | 2   | C8, C11               | CAP, CHIP, X7R, .1 $\mu$ F, $\pm$ 10%, 16V, 0402            | MURATA, GRM155R71C104KA88D        |
| 11   | 2   | C15, C16              | CAP, CHIP, NPO, 10pF, $\pm$ 5%, 50V, 0402                   | AVX, 04025A100JAT2A               |
| 12   | 3   | R1, R6, R13           | RES 1.0M OHM 1/16W 5% 0402 SMD                              | VISHAY, CRCW04021M00JNED          |
| 13   | 2   | R2, R8                | RES 1.0M OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW04021M00FKED          |
| 14   | 2   | R4, R10               | RES 165k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402165KFKED          |
| 15   | 3   | R5, R7, R14           | RES 4.7k OHM 1/16W 5% 0402 SMD                              | VISHAY, CRCW04024K70JNED          |
| 16   | 1   | R15                   | RES 909k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402909KFKED          |
| 17   | 1   | R16                   | RES 200k OHM 1/16W 1% 0402 SMD                              | VISHAY, CRCW0402200KFKED          |
| <b>HARDWARE</b>                                  |     |                       |   |                                   |
| 18   | 3   | JP1, JP2, JP3         | HEADER, 3 PIN 1 ROW .079CC                                  | SULLIN, NRPN031PAEN-RC            |
| 19   | 1   | JP4                   | HEADER, 4 PIN 1 ROW .079CC                                  | SULLIN, NRPN041PAEN-RC            |
| 20   | 2   | JP5, JP6              | HEADER, 2X3 PINS, 2MM                                       | SULLIN, NRPN032PAEN-RC            |
| 21   | 6   | JP1-JP6               | SHUNT, 2mm  | SAMTEC, 2SN-BK-G                  |
| 22   | 10  | E1, E2, E7-E14        | TP, TURRET, 0.094", PBF                                     | MILL-MAX, 2501-2-00-80-00-00-07-0 |
| 23   | 4   | E3-E6                 | TURRET, 0.061 DIA   | MILL-MAX, 2308-2-00-80-00-00-07-0 |
| 24   | 4   | MH1-MH4               | STAND-OFF, NYLON 0.375" TALL                                | KEYSTONE, 8832 (SNAP ON)          |
| 25   | 1   | SW1                   | 10mmX2.5mm, SLIDE SWITCH, THT                               | WURTH ELEKTRONIK, 450301014042    |

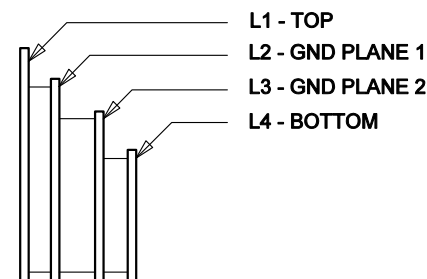




|              |          |   |   |   |          |
|--------------|----------|---|---|---|----------|
| APPROVALS    |          |  <b>LINEAR</b><br>TECHNOLOGY | 1630 MCCARTHY BLVD<br>MILPITAS, CA 95035<br>PH: (408)432-1900<br>www.Linear.com<br>LTC CONFIDENTIAL-<br>FOR CUSTOMER USE ONLY |   |          |
| PCB DES.     | NC       |   | TITLE: BOTTOM ASSEMBLY DRAWING:<br>LOW NOISE DUAL SUPPLY BOOST AND<br>INVERTING CHARGE PUMPS                                  | SIZE IC NO. LTC3265EDHC<br>N/A DEMO CIRCUIT 2235A | REV<br>3 |
| APP ENG.     | MARTY M. |   |   |   |          |
|              |          |   |   |   |          |
|              |          |   |   |   |          |
|              |          |   |   |   |          |
|              |          |   |   |   |          |
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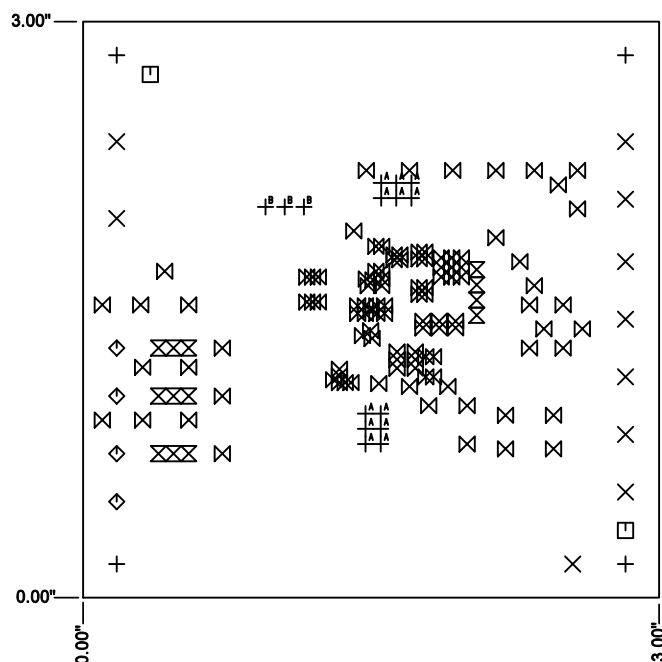
| REVISION HISTORY |     |                |          |          |
|------------------|-----|----------------|----------|----------|
| ECO              | REV | DESCRIPTION    | APPR     | DATE     |
| -                | 3   | PRODUCTION FAB | MARTY M. | 05-28-15 |

## LAYER STRUCTURE

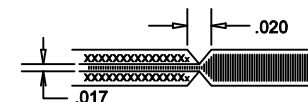



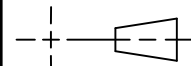
## NOTES: UNLESS OTHERWISE SPECIFIED

- 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-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.  
-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.
- DO NOT ALTER SOLDER MASK MAINTAIN .003" OVERSIZE  
ON SMT PADS. A .005" WEBBING IS REQUIRED BETWEEN SMD PADS.
- SCORING FOR PANELIZED PCB: "PRODUCTION FAB ONLY"

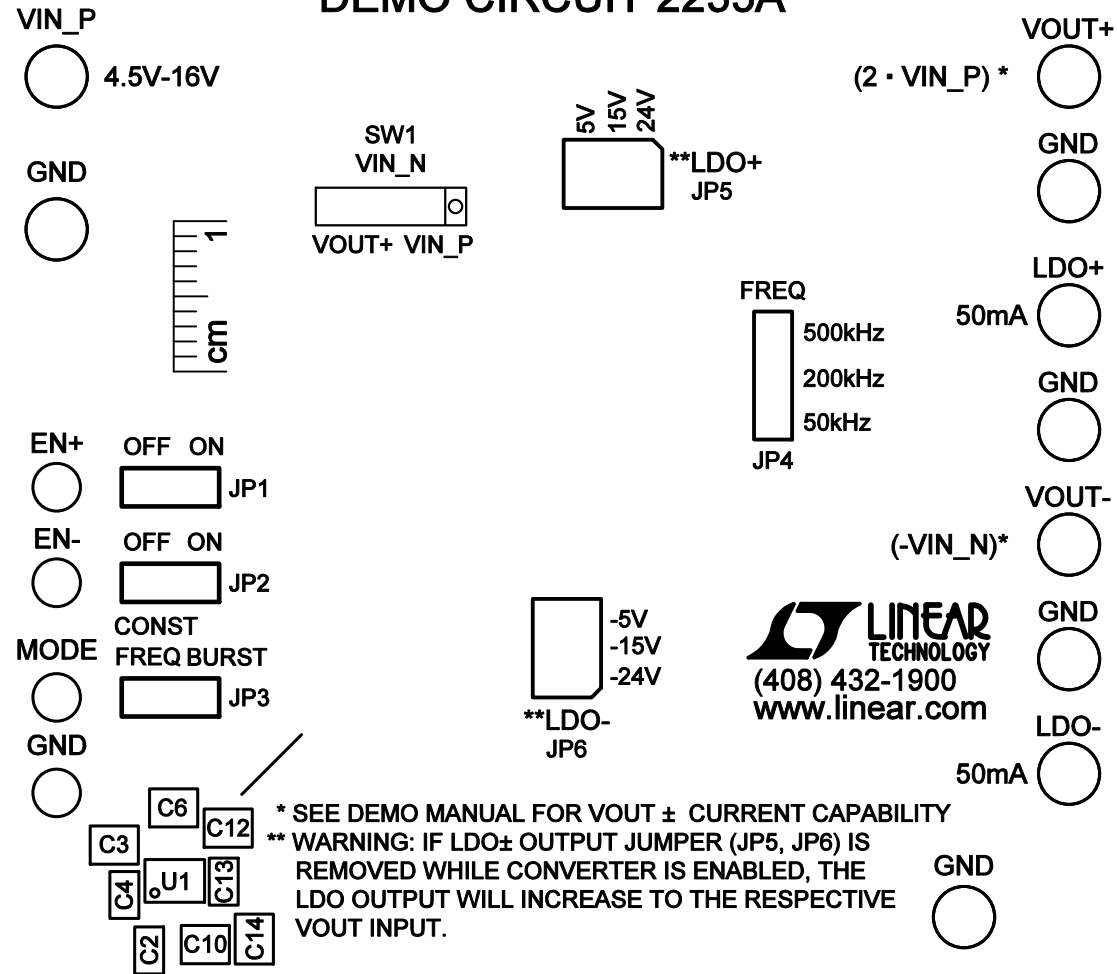


| SIZE   | QTY | SYM            | PLATED | TOL      |
|--------|-----|----------------|--------|----------|
| 0.01   | 110 | ⊗              | YES    | +/-0.003 |
| 0.0315 | 3   | ⊕ <sup>B</sup> | YES    | +/-0.003 |
| 0.032  | 13  | ⊗              | YES    | +/-0.003 |
| 0.035  | 12  | ⊕ <sup>A</sup> | YES    | +/-0.003 |
| 0.063  | 4   | ◇              | YES    | +/-0.003 |
| 0.07   | 2   | □              | NO     | +/-0.003 |
| 0.094  | 10  | ×              | YES    | +/-0.003 |
| 0.19   | 4   | +              | YES    | +/-0.003 |

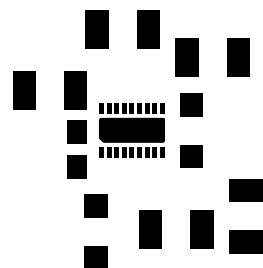


|   |                        |             |  |
|---|------------------------|-------------|--|
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ON ANGLE 1°<br>0.000" = 0.015"<br>0.000" = 0.005"<br>INTERPRET DIM AND TOL<br>PER ASME Y14.5M-1994 | APPROVALS              |             | <br>1850 MCCARTHY BLVD<br>MILPITAS, CA 95035<br>PH: (408)432-1900<br>www.Linear.com<br>LTC CONFIDENTIAL-<br>FOR CUSTOMER USE ONLY |
|   | PCB DES.               | NC          |  |
|   | APP ENG.               | MARTY M.    |  |
|   | THIRD ANGLE PROJECTION |             |  |
|    |                        |             | TITLE: FABRICATION DRAWING:<br>LOW NOISE DUAL SUPPLY BOOST AND<br>INVERTING CHARGE PUMPS   |
|   | SIZE                   | N/A         | IC NO. LTC3265EDHC<br>DEMO CIRCUIT 2235A   |
|   | DO NOT SCALE DRAWING   | SCALE: NONE | REV. 3   |
|   |                        |             | FILENAME: DC2235A-3.PCB SHT 1 of 1   |

# LTC3265 LOW NOISE DUAL SUPPLY WITH BOOST AND INVERTING CHARGE PUMPS DEMO CIRCUIT 2235A

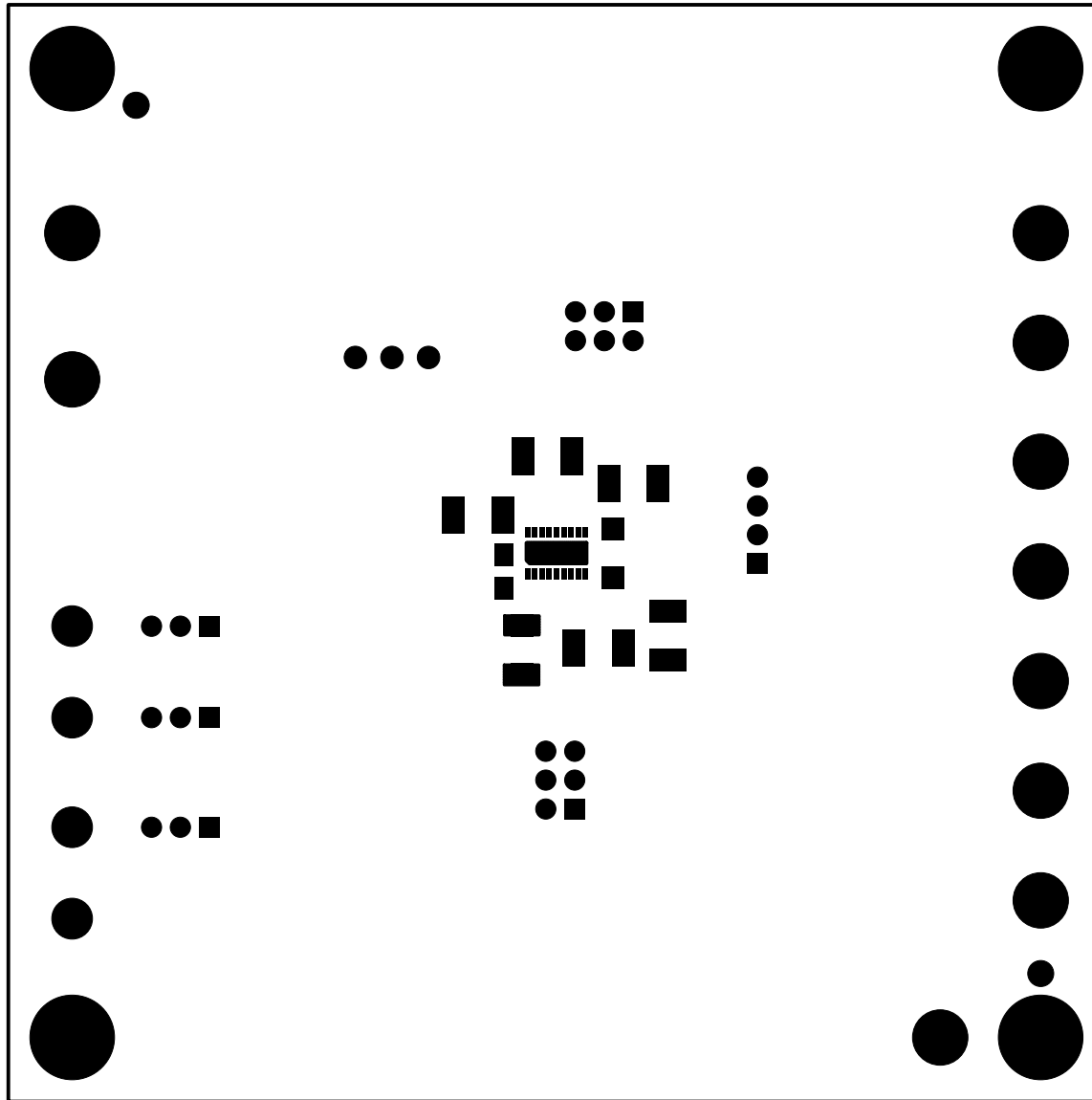


SILKSCREEN TOP  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15

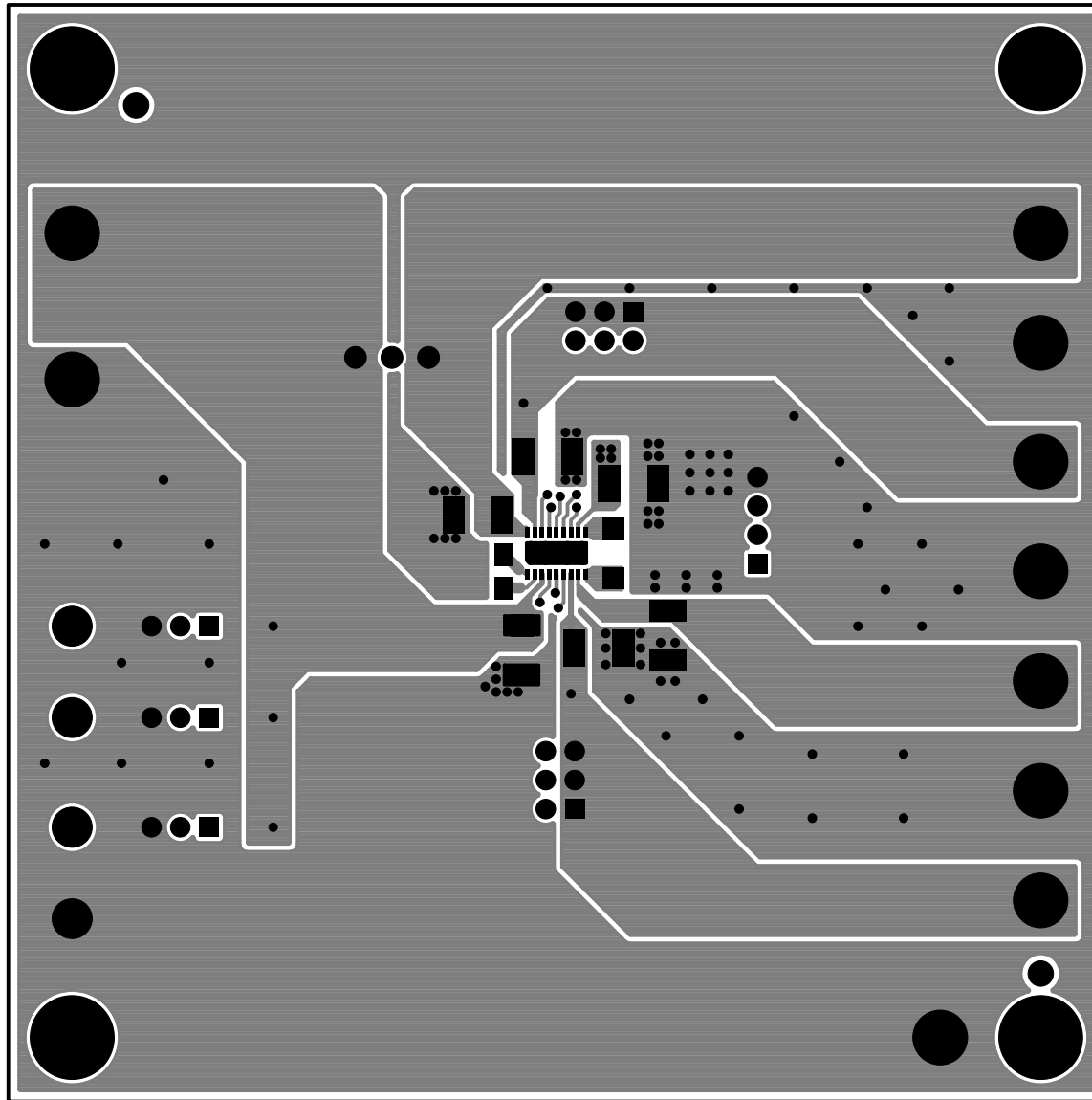


PASTEMASK TOP  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15

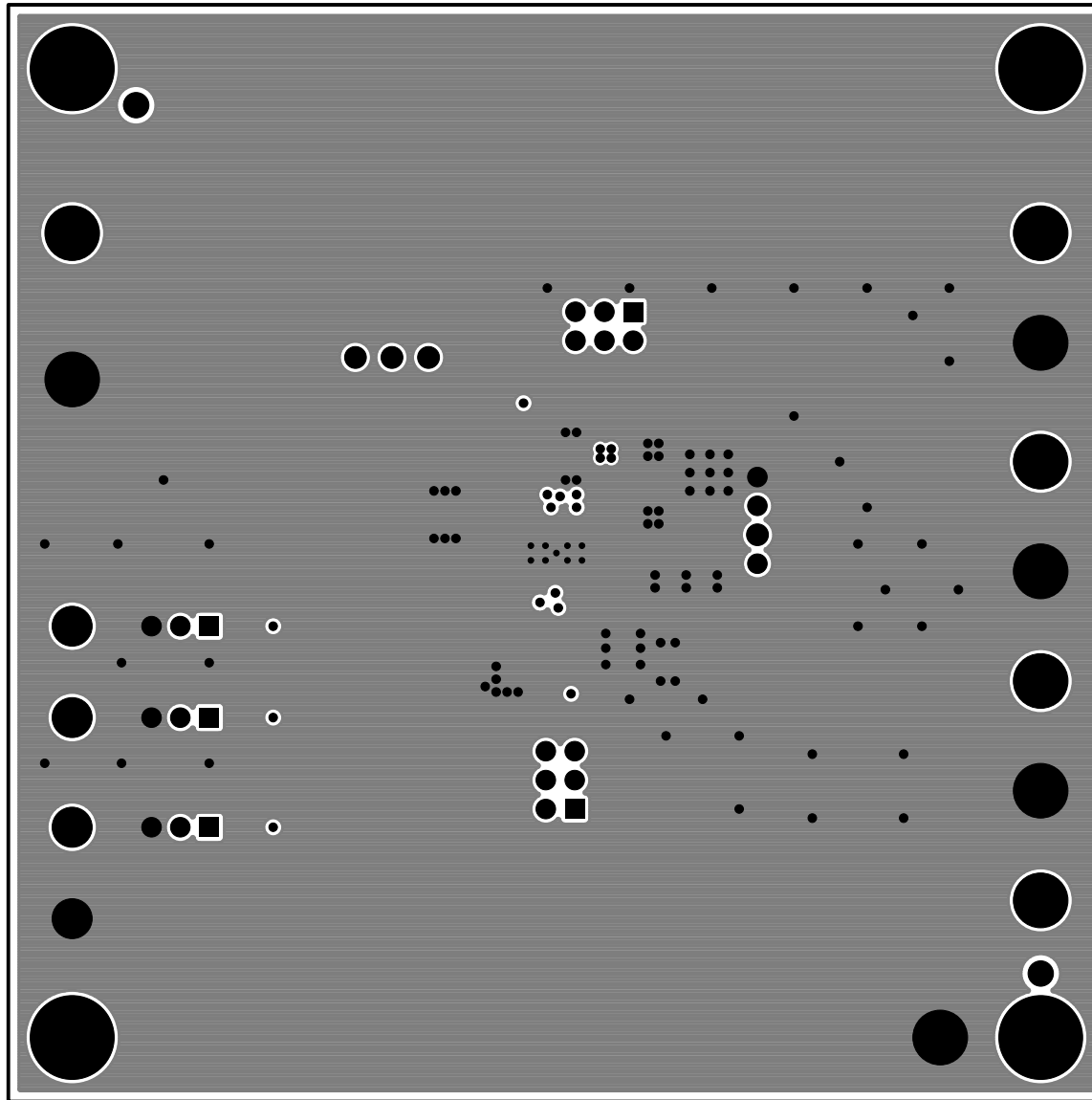




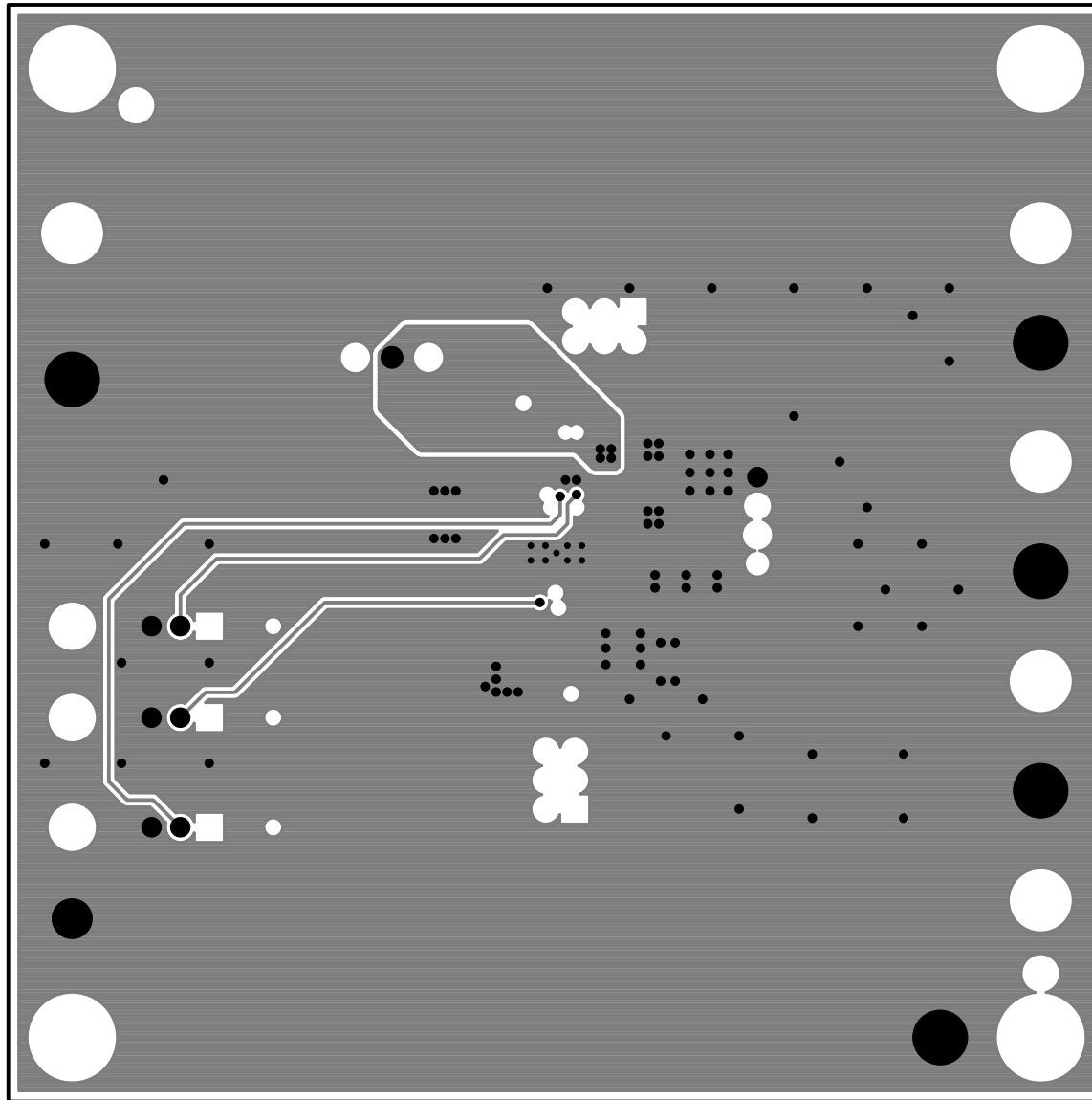
SOLDERMASK TOP  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15



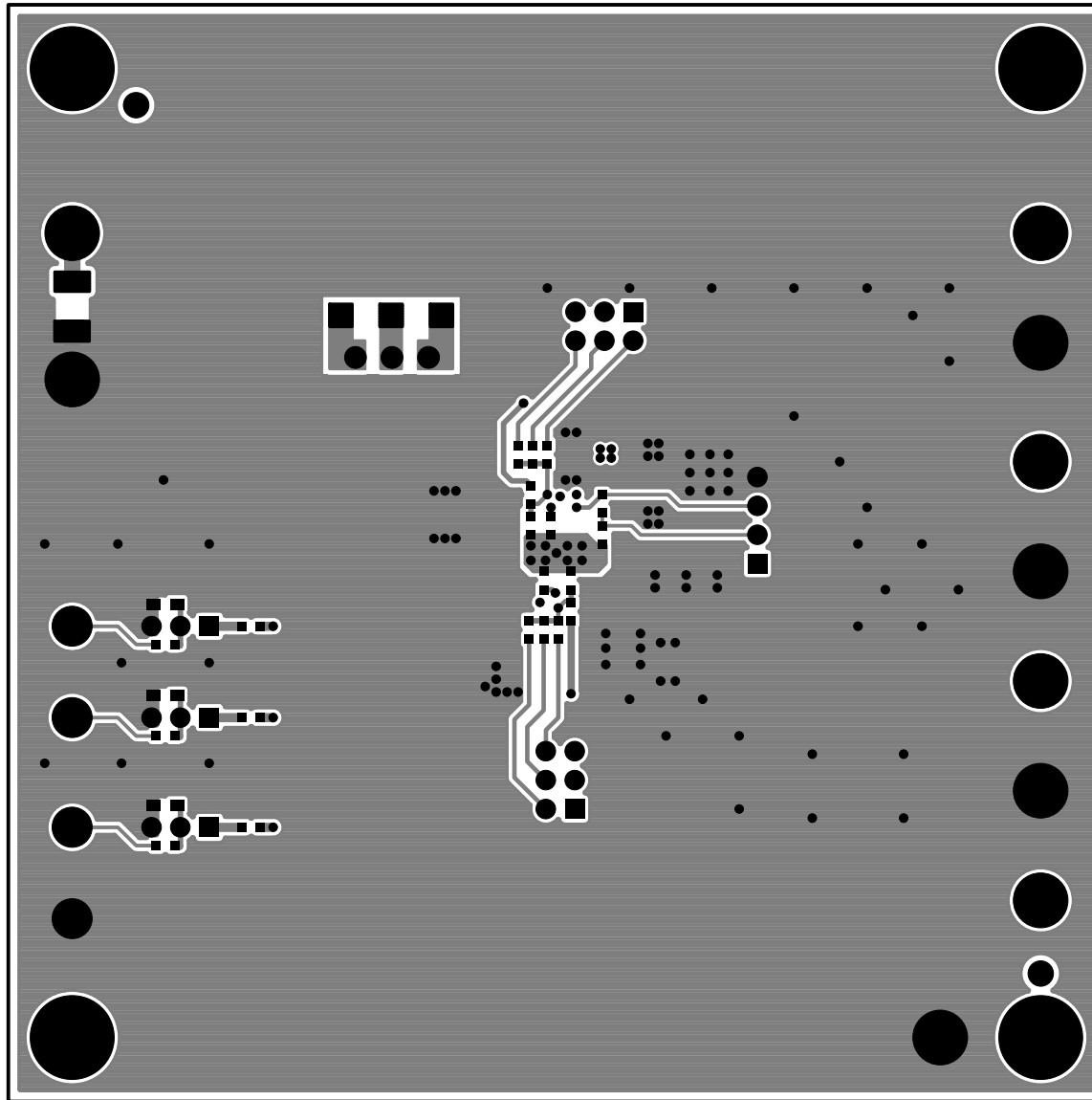
TOP LAYER  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15



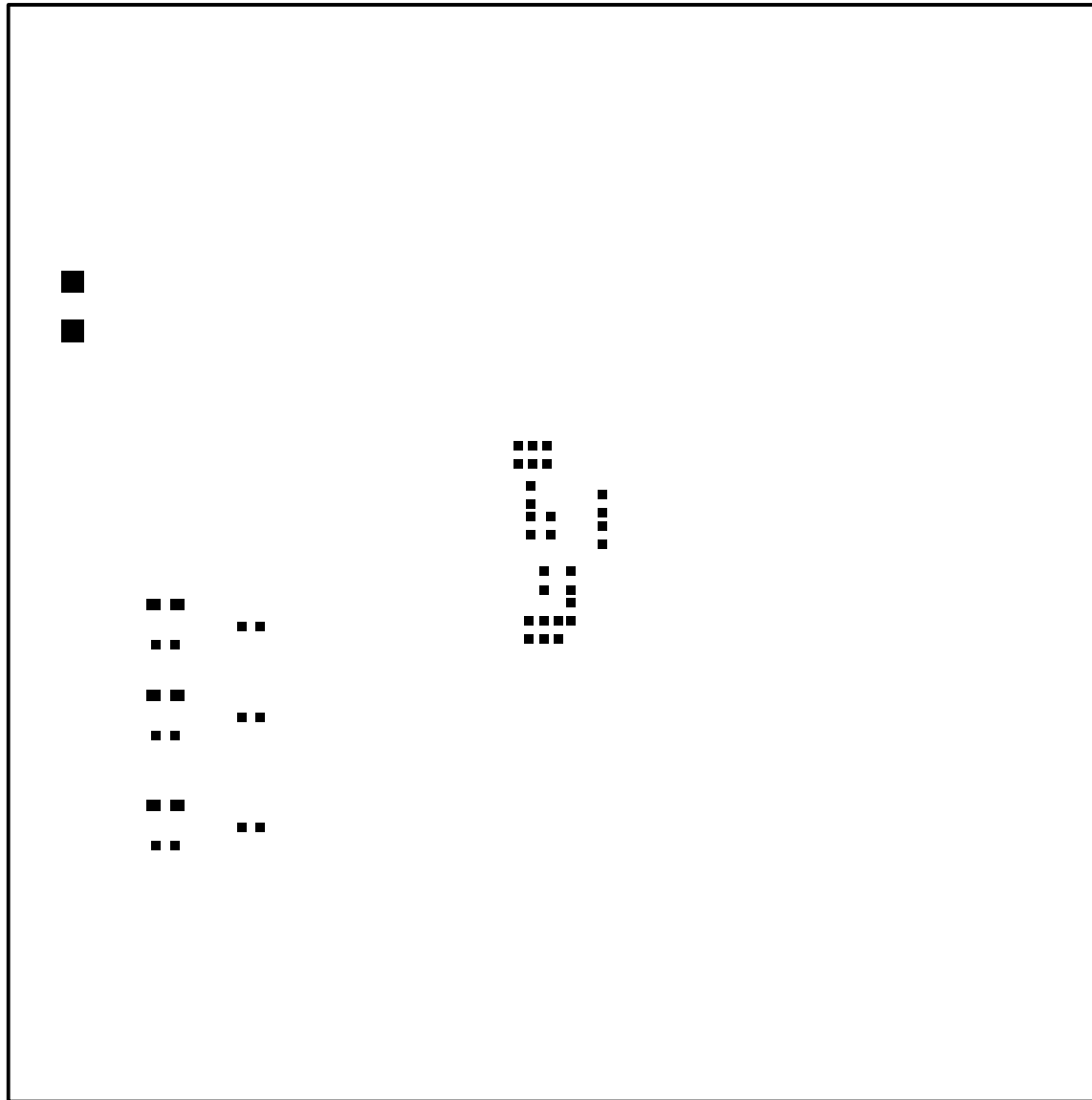
LAYER 2 GND PLANE  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15



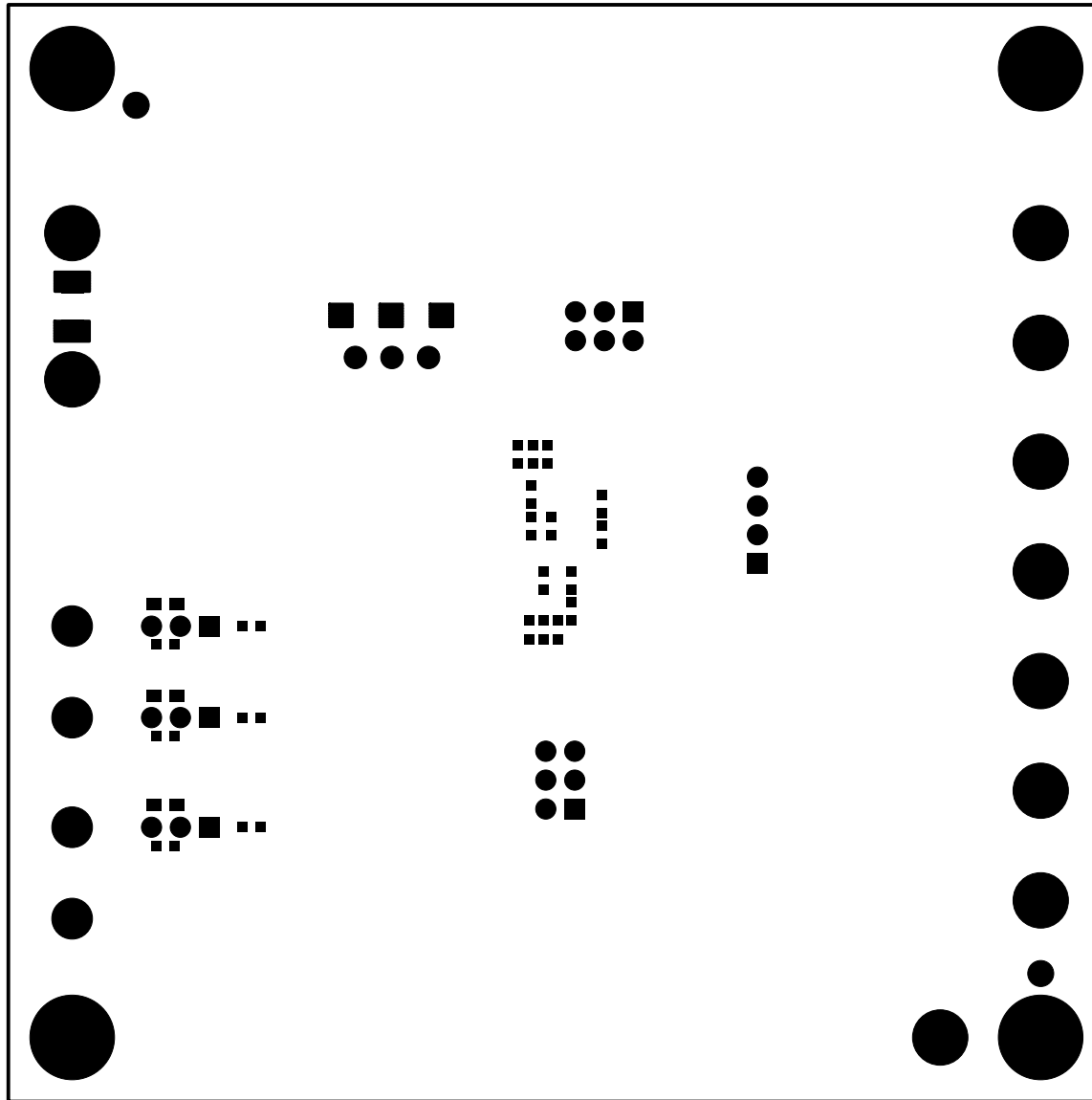
LAYER 3 GND PLANE  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15



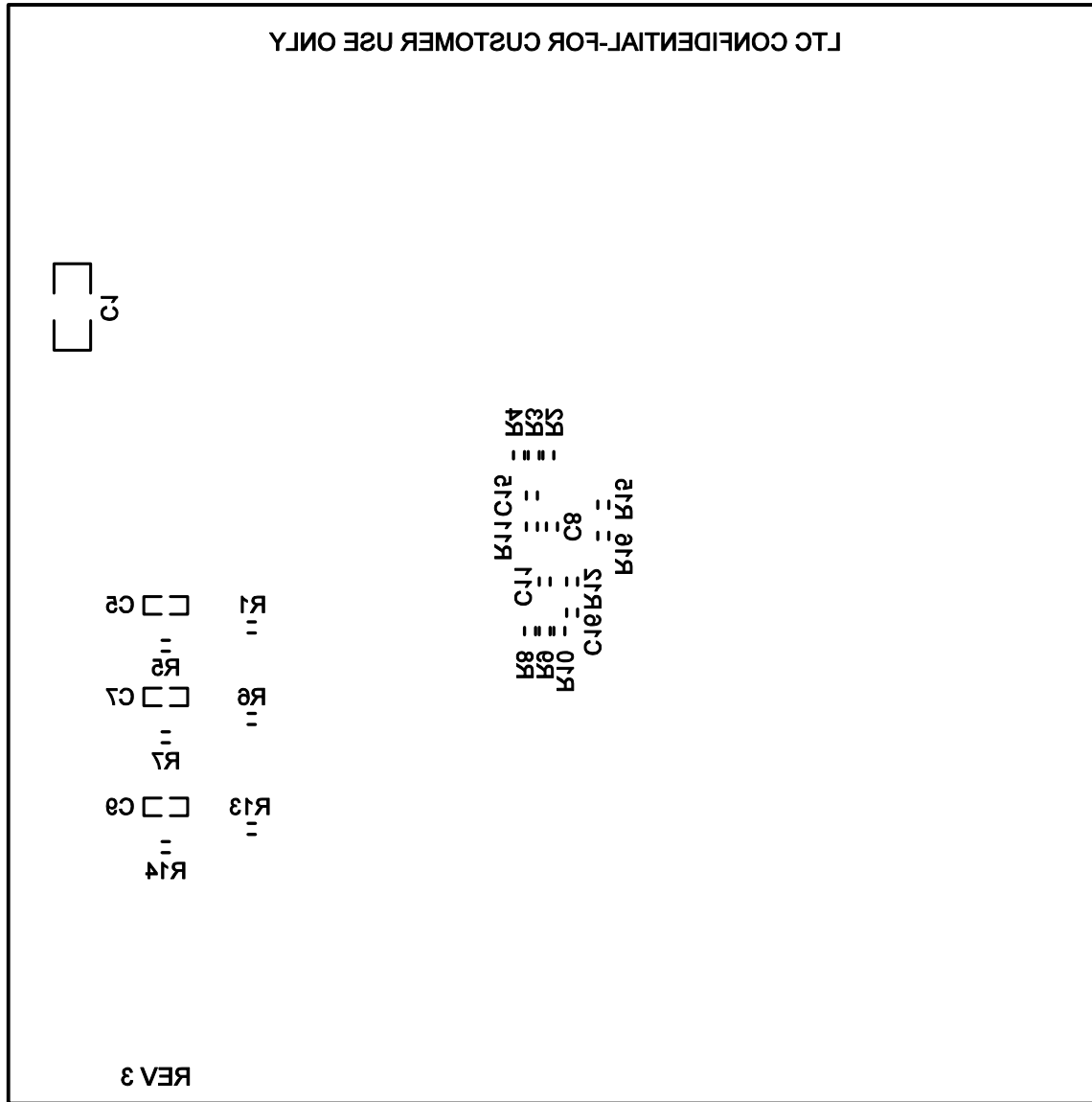
**BOTTOM SIDE**  
**LINEAR TECH CORP.**  
**DEMO CIRCUIT 2235A-3 \* LTC3265**  
**LOW NOISE DUAL SUPPLY BOOST AND**  
**INVERTING CHARGE PUMPS**  
**DATE: 05-28-15**



PASTEMASK BOTTOM  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15



SOLDERMASK BOTTOM  
LINEAR TECH CORP.  
DEMO CIRCUIT 2235A-3 \* LTC3265  
LOW NOISE DUAL SUPPLY BOOST AND  
INVERTING CHARGE PUMPS  
DATE: 05-28-15



SILKSCREEN BOTTOM  
 LINEAR TECH CORP.  
 DEMO CIRCUIT 2235A-3 \* LTC3265  
 LOW NOISE DUAL SUPPLY BOOST AND  
 INVERTING CHARGE PUMPS  
 DATE: 05-28-15