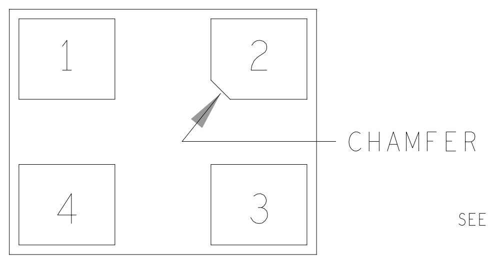
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	19AUG24	D. SUDOY
B	CHANGES AS PER ECR-123871	03APR25	D. SUDOY
C	CHANGES AS PER ECR-126864	12AUG25	D. SUDOY

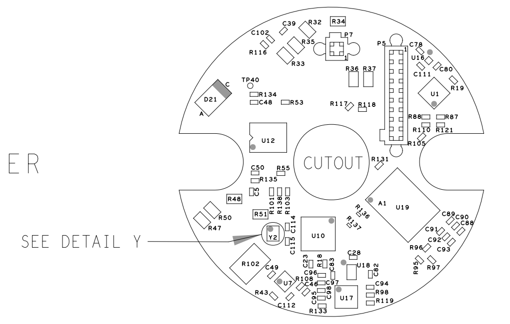
ASSEMBLY NOTES:

1. BOARD ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00119 (LATEST REVISION).
2. REPAIRS PER IPC-7711/21(LATEST REVISION) ARE ALLOWED.
3. REPAIRS ARE NOT ALLOWED IN SOLDERMASK FREE AREAS ON EITHER SIDE OF THE BOARD.
4. RoHS COMPLIANCE: ASSEMBLY VENDOR SHOULD ASSURE COMPLIANCE WITH LEAD-FREE AND RoHS PCB ASSEMBLY STANDARDS (EU RoHS DIRECTIVE 2002/95/EC).
5. BOARDS TO BE SHIPPED SINGULATED AFTER ASSEMBLY PROCESS.
6. SMOOTHEN EDGES AND FREE FROM BURRS AFTER DEPANELIZATION PROCESS.
7. ASSEMBLY VENDOR SHALL PROVIDE A CERTIFICATE OF CONFORMANCE (COFC),
   THE ITEMS BELOW SHOULD BE CARRIED OUT IF APPLICABLE AND REPORT SUPPLIED WITH THE ASSEMBLED BOARDS.
   X-RAY SHALL BE PERFORMED ON ALL BOTTOM TERMINATIONS.
   INCIRCUIT FUNCTIONAL TEST WHEN REQUIRED.
   IMAGES OF TOP AND BOTTOM OF BOARD (INCLUDING DUT PADS).

DETAIL Y
YSML79W63H20-ASSY-DETAIL



BOTTOM VIEW
SCALE: NONE



PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM
TOLERANCES
DECIMALS FRACTIONS ANGLES
.XX +-.010 +-1/32 +- 2
.XXX +-.005
.XXXX +-.0050

MATERIAL

FINISH

DO NOT SCALE DWG

APPROVAL	DATE
TEMPLATE ENGINEER	
HARDWARE SERVICES M. VALE	19AUG24
HARDWARE SYSTEMS	
TEST ENGINEER	
COMPONENT ENGINEER N. CATALAN	19AUG24
HARDWARE RELEASE K. JABATAN	19AUG24
PCB DESIGNER D. VILLANUEVA	19AUG24
ENGINEER D. SUDOY	19AUG24
CHECKER	

ANALOG DEVICES
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GLOBAL OPERATIONS
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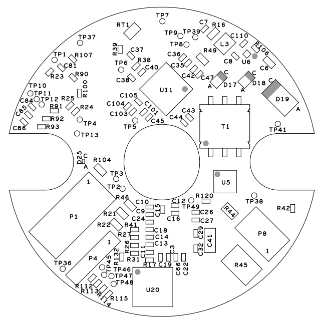
804 WOBURN STREET
WILMINGTON, MA 01887

TITLE
ASSEMBLY
LT8440 10BASE-T1L
TEMP SENSOR REF DESIGN 2
CUSTOMER EVAL BOARD Z

SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	01-083153	C

SCALE 1/1 SHEET 1 OF 2



SECONDARY SIDE

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& TECHNOLOGY
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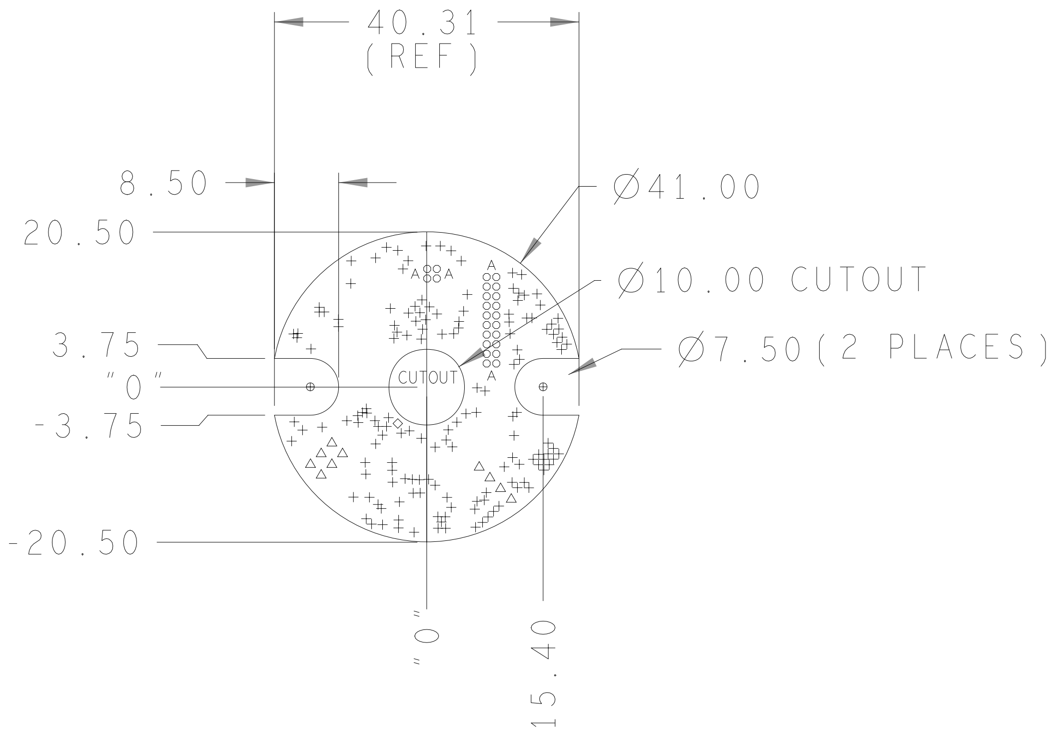
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	01-083153	C
SCALE 1/1		SHEET 2 OF 2	

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	19AUG24	D. SUDOY
B	CHANGES AS PER ECR-123871	03APR25	D. SUDOY
C	CHANGES AS PER ECR-126864	12AUG25	D. SUDOY



HOLE TOLERANCE

UNLESS SPECIFIED
PLATED: +/- 0.0762 MM
NON PLATED: +/- 0.0508 MM

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
+	0.2032	PLATED	154	DIAMAX/SEE NOTE 20
○	0.7112	PLATED	24	DIAMAX/SEE NOTE 20
◇	0.762	PLATED	1	
△	1.016	PLATED	10	
A	1.4224	NON-PLATED	4	

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM TOLERANCES DECIMALS FRACTIONS ANGLES .XX +-.010 +-1/32 +- 2 .XXX +-.005 .XXXX +-.0050	APPROVAL	DATE
	TEMPLATE ENGINEER	
	HARDWARE SERVICES M. VALE	19AUG24
	HARDWARE SYSTEMS	
MATERIAL	TEST ENGINEER	
	COMPONENT ENGINEER N. CATALAN	19AUG24
	HARDWARE RELEASE K. JABATAN	19AUG24
FINISH	PCB DESIGNER D. VILLANUEVA	19AUG24
	ENGINEER D. SUDOY	19AUG24
	CHECKER	
DO NOT SCALE DWG		

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WILMINGTON, MA 01887

TITLE
FABRICATION
LT8440 10BASE-T1L
TEMP SENSOR REF DESIGN 2
CUSTOMER EVAL BOARD Z

SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-083153	C

SCALE 1/1

SHEET 1 OF 7

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MM (EXCEPT WHERE NOTED).
   ALL DOCUMENTS & SPECIFICATIONS REFERRED TO BELOW SHOULD BE THE LATEST REVISIONS.

MATERIAL: HOMOGENOUS MATERIALS IN THIS BOARD SHALL BE COMPLAINT WITH THE EU DIRECTIVE 2002/95/EC

2. BOARD MATERIAL:(USE CHECKED ITEMS)
   - (X) ISOLA 370HR OR S1000-2 OR IT180 OR EQUIVALENT
   - ( ) ISOLA-FR408HR OR EQUIVALENT
   - ( ) ISOLA IS410
   - ( ) MEGTRON 6
   - ( ) NELCO-4000-13
   - ( ) ROGERS 4350B
   - ( ) ROGERS 3003
   - ( ) ARLON 85N
   - ( ) EM370D
   - ( ) OTHER ________________________
3. ALL LAMINATES & BONDING MATERIALS SHOULD BE SELECTED FROM IPC-4101 OR IPC-4103,(TG>170 DEGC TD>300 DEGC) UL FLAMMABILITY RATING 94V-0. BOARD MATERIAL & CONSTRUCTION SHALL MEET THE REQUIREMENTS OF UL796/UL796F.
4. REFER TO IPC-6010 SERIES, CLASS 2 FOR FABRICATION. WORKMANSHIP SHALL CONFORM TO IPC-A-600, CLASS 2.
5. REFER TO LAMINATION DIAGRAM FOR OVERALL BOARD THICKNESS, TOLERANCE APPLIES AFTER ALL LAMINATION AND PLATING PROCESSES. FINISHED THICKNESS MEASURED FROM TOP COPPER TO BOTTOM COPPER.
6. BOW & TWIST NOT TO EXCEED 0.0075 INCHES (0.75%) PER LINEAR INCH AND SHOULD BE MEASURED PER IPC-TM-650, METHOD 2.4.22.
7. ACCEPTABILITY PER ADI SPECIFICATION TST00115.

TOOLING:

8. IMPEDANCE REQUIREMENTS: IF NO STACKUP IS DEFINED, THE VENDOR IS ALLOWED TO ADJUST THE DIELECTRIC THICKNESS & TRACE WIDTHS TO MEET THE IMPEDANCE REQUIREMENT. IF SPECIFIED, THE VENDOR MUST MEET THE REQUIREMENTS LISTED IN THE IMPEDANCE TABLE. ANY ADJUSTMENT MADE TO THE DEFINED STACKUP, TRACE WIDTH & SPACING THAT IMPACT THE REQUIREMENTS MUST HAVE WRITTEN APPROVAL FROM ADI.
9. FILLET OPTIONS TO ENHANCE RELIABILITY AT PAD JUNCTIONS WHERE SPACING PERMITS.
   - ( ) FILLETS ALLOWED
   - (X) FILLETS NOT ALLOWED
10. THIEVING:
    - ( ) VENDOR MAY ADD THIEVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS MAINTAINING A MINIMUM 0.100 INCH CLEARANCE FROM ALL COPPER FEATURES,
    - (X) VENDOR MAY NOT ADD THIEVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS.
11. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.0762 MM.

FINISH:

12. DRILL SIZES ARE FINISHED HOLE SIZES. ALL HOLES SHALL BE LOCATED WITHIN 0.127 MM DTP,UNLESS SPECIFIED. MINIMUM BARREL PLATING OF 0.0254 MM. PLATED HOLES SHALL NOT BE ROUGH OR IRREGULAR SO AS TO HINDER PROPER SOLDER WICKING. BARREL RELIEF ON SOLDERMASK ALLOWED IN UNFILLED VIA IN PAD HOLES.
13. PLATING SPECIFICATION:
    - (X) REFER TO LAMINATION DIAGRAM FOR FINISHED COPPER WEIGHT/THICKNESS REQUIRMENTS
      THE STARTING COPPER WEIGHT/THICKNESS CAN VARY AS LONG AS THE FINISHED COPPER WEIGHT/THICKNESS IS NOT LESS THAN THE SPECIFIED VALUE.
14. SURFACE FINISH:
    - (X) IMMERSION GOLD (ENIG) 1.58-3.94 MICRO INCHES OVER 118-236 MICRO INCHES MIN. OF ELECTROLESS NICKEL PER IPC-4552
    - ( ) OSP (ORGANIC SOLDERABILITY PRESERVATIVE)
    - ( ) IMMERSION SILVER
    - ( ) SOFT WIRE BONDABLE GOLD 30-50 MICRO INCHES OF SOFT WIRE BONDABLE GOLD OVER 100-150 MICRO INCHES OF NICKEL
    - ( ) EDGE CONNECTOR FINGERS ARE TO BE PLATED WITH 100 MICRO-INCHES(.0001") OF LOW STRESS NICKEL UNDER 30 MICRO-INCHES (.0003') OF GOLD
    - ( ) OTHER_________
15. SOLDERMASK:
    SOLDERMASK OVER BARE COPPER OR BARE GOLD (BOTH SIDES) TO MEET IPC-SM-840.
    IF PRESENT,DO NOT MODIFY SOLDERMASK DEFINED PADS (MASK OPENINGS LESS THAN COPPER PAD) WITHOUT APPROVAL.
    - (X) LPI
    - ( ) OTHER_________

    COLOR
    - (X) GREEN
    - ( ) OTHER_________
16. APPLY SILKSCREEN TO BOTH SIDES USING A NON-CONDUCTIVE, EPOXY BASED INK PER ARTWORK.
    - (X) WHITE
    - ( ) OTHER

IMPEDANCE TABLE				
IMPEDANCE TOLERANCE: +/-10%				
LAYER	50 OHM TRACE WIDTH	65 OHM TRACE WIDTH	100 OHM TRACE WIDTH/SPACE	75 OHM TRACE WIDTH/SPACE
TOP	-	-	0.1016mm/0.254mm	-
L2_GND	0.1016mm	-	-	-
L3_SIG	0.1016mm	-	-	-
BOTTOM		-	-	-

TESTING:

17. FINAL ELECTRICAL TEST TO BE PERFORMED USING PROVIDED IPC-D-356A NETLIST OR ODB++ FORMAT FILE. THE PCB SHALL HAVE A VERIFICATION STAMP.
18. A TIME DOMAIN REFLECTOMETER REPORT (TDR) FOR EACH IMPEDANCE CONTROLLED LAYER & A CERTIFICATE OF COMPLIANCE SHALL BE PROVIDED BY VENDOR AT TIME OF SHIPMENT. INSTANCES WHERE TDR TESTING CAN'T BE PERFORMED BECAUSE THE TRACE LENGTH IS TOO SHORT ON THE OUTER LAYERS AT THE PIN ESCAPES IS ACCEPTABLE, ALL OTHER INSTANCES MUST BE REPORTED.

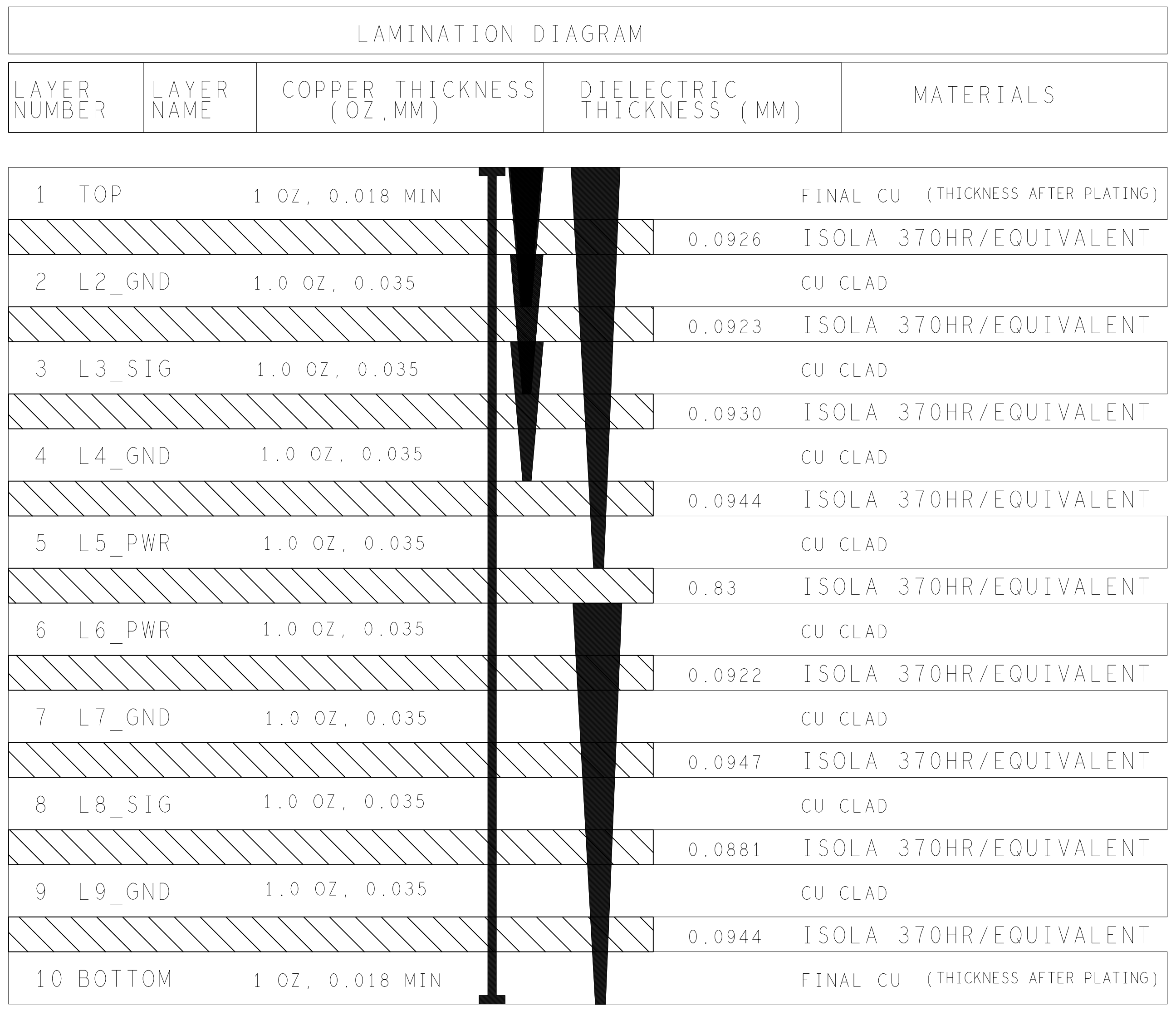
MISCELLANEOUS:

19. IF PRESENT, ALL BLIND/BURIED VIAS WITH AN ASPECT RATIO <1:1 TO BE PLATED SHUT WITH COPPER WHEN USED AS VIA-IN-PAD OR AS A STACKED VIA. BLIND/BURIED VIAS WITH AN ASPECT RATIO >1:1 TO BE FILLED WITH NON-CONDUCTIVE EPOXY.
20. FOR VIA FILL INFORMATION REFER TO DRILL CHART:
    - (X) NON-CONDUCTIVE EPOXY FILL AND PLATED OVER ALL DRILLED VIAS.
    - ( ) COPPER FILL ALL 0.XXXX INCHES DRILLED VIAS
21. INTENTIONAL SHORTS:
    IF AN INTENTIONAL SHORT REPORT IS SUPPLIED AND DOES NOT MATCH THE FAB DATA THEN ADI APPROVAL IS REQUIRED.
22. PEMNUTS:
    - ( ) PEMNUTS TO BE INSTALLED BY FABRICATOR
    - ( ) PEMNUTS NOT TO BE INSTALLED BY FABRICATOR
    - (X) NOT APPLICABLE
23. MANUFACTURER TO ETCH/STAMP WITH PERMANENT NON-CONDUCTIVE INK ON SECONDARY SIDE UNLESS OTHERWISE SPECIFIED:
    - A. UL CODE-FLAMMABILITY RATING FOR THOSE APPROVED MATERIALS(IF APPLICABLE)
    - B. DATE CODE
    - C. LOT NUMBER
    - D. MANUFACTURER LOGO
24. PANELIZATION:
    BOARDS TO BE SHIPPED IN ARRAY AND KEPT INTACT
    PANEL TO BE SUBJECTED TO CUSTOMERS APPROVAL
    PANEL SOLDER PASTE STENCIL GERBER TO BE PROVIDED TO ANALOG
25. MINIMUM DESIGN LINE WIDTH IS 0.1016 MM.
26. MINIMUM DESIGN LINE SPACING IS 0.13 MM.

FAB NOTES REVISION: 2ND NOVEMBER 2022

ALL UNITS ARE IN MM

10 LAYER STACKUP



LAMINATION DIAGRAM				
LAYER NUMBER	LAYER NAME	COPPER THICKNESS (OZ,MM)	DIELECTRIC THICKNESS (MM)	MATERIALS
1	TOP	1 OZ, 0.018 MIN		FINAL CU (THICKNESS AFTER PLATING)
			0.0926	ISOLA 370HR/EQUIVALENT
2	L2_GND	1.0 OZ, 0.035		CU CLAD
			0.0923	ISOLA 370HR/EQUIVALENT
3	L3_SIG	1.0 OZ, 0.035		CU CLAD
			0.0930	ISOLA 370HR/EQUIVALENT
4	L4_GND	1.0 OZ, 0.035		CU CLAD
			0.0944	ISOLA 370HR/EQUIVALENT
5	L5_PWR	1.0 OZ, 0.035		CU CLAD
			0.83	ISOLA 370HR/EQUIVALENT
6	L6_PWR	1.0 OZ, 0.035		CU CLAD
			0.0922	ISOLA 370HR/EQUIVALENT
7	L7_GND	1.0 OZ, 0.035		CU CLAD
			0.0947	ISOLA 370HR/EQUIVALENT
8	L8_SIG	1.0 OZ, 0.035		CU CLAD
			0.0881	ISOLA 370HR/EQUIVALENT
9	L9_GND	1.0 OZ, 0.035		CU CLAD
			0.0944	ISOLA 370HR/EQUIVALENT
10	BOTTOM	1 OZ, 0.018 MIN		FINAL CU (THICKNESS AFTER PLATING)

THE FINISHED PCB THICKNESS TO BE: 2.00 +/-10%

PRIMARY SIDE

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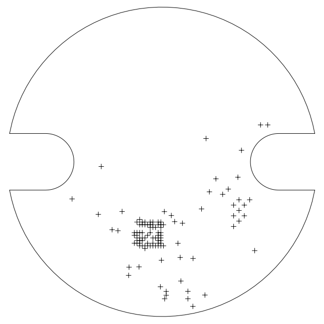
SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-083153	C

SCALE 1/1
SHEET 2 OF 7



BB VIAS L1-L2

DRILL CHART: TOP to L2_GND				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
·	0.1016	PLATED	110	DIAMAX/SEE NOTE 19

PRIMARY SIDE

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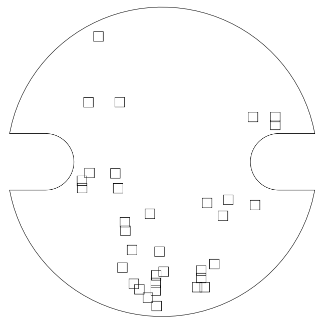
SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-083153	C
SCALE 1/1		SHEET 3 OF 7	



BB VIAS L1-L5

DRILL CHART: TOP to L5_PWR				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
□	0.2032	PLATED	34	DIAMAX/SEE NOTE 20

PRIMARY SIDE

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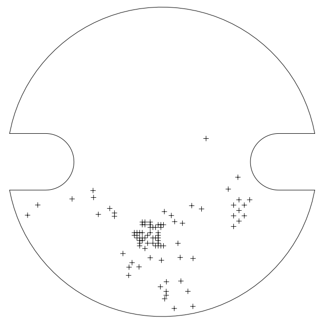
SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-083153	C
SCALE 1/1		SHEET 4 OF 7	



BB VIAS L2-L3

DRILL CHART: L2_GND to L3_SIG				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
·	0.1016	PLATED	89	DIAMAX/SEE NOTE 19

PRIMARY SIDE

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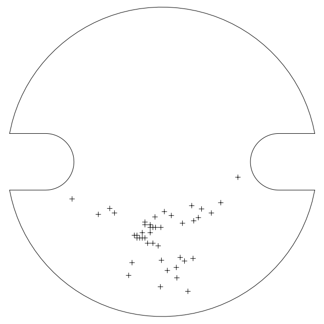
SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-083153	C

SCALE 1/1

SHEET 5 OF 7



BB VIAS L3-L4

DRILL CHART: L3_SIG to L4_GND				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
·	0.1016	PLATED	44	DIAMAX/SEE NOTE 19

PRIMARY SIDE

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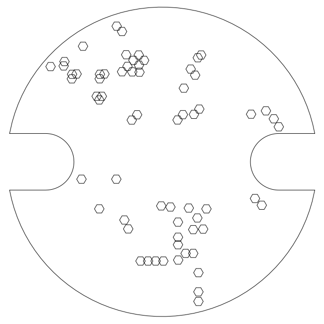
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-083153	C
SCALE 1/1		SHEET 6 OF 7	



BB VIAS L6-L10

DRILL CHART: L6_PWR to BOTTOM				
ALL UNITS ARE IN MILLIMETERS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
◦	0.254	PLATED	66	DIAMAX/SEE NOTE 19

PRIMARY SIDE

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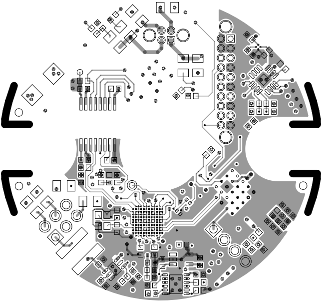
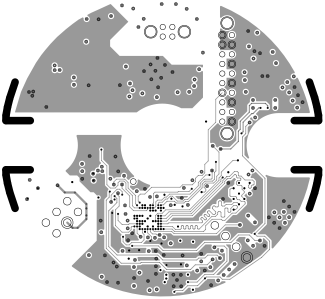
SIZE	FSCM NO	DRAWING NUMBER	REV
C	24355	09-083153	C
SCALE 1/1		SHEET 7 OF 7	

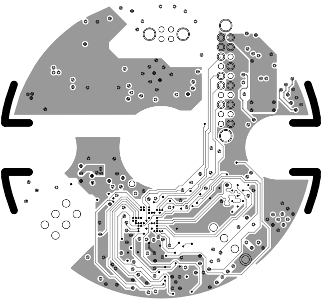
L1 PRIMARY
08-083153-01
REV D



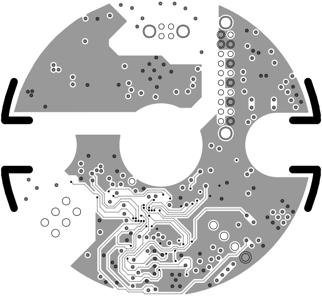
L2 GND
08-083153-07
REV D



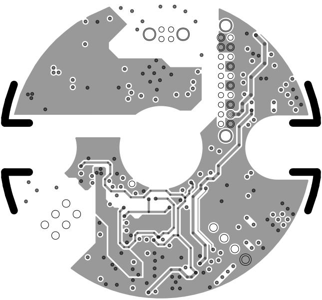
L3 SIG
08-083153-08
REV D



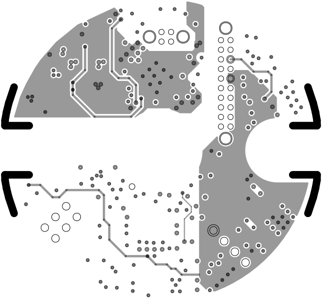
L4 GND
08-083153-09
REV D



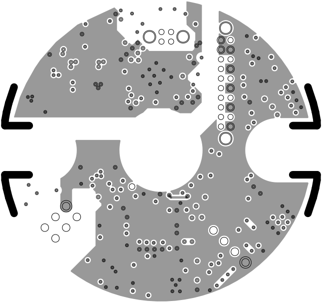
L5 PWR
08-083153-10
REV D



L6 PWR
08-083153-11
REV D



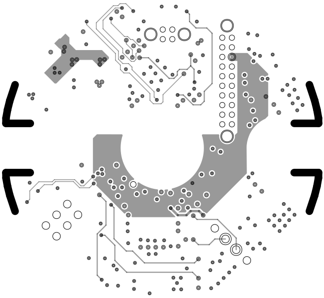
L7 GND
08-083153-12
REV D



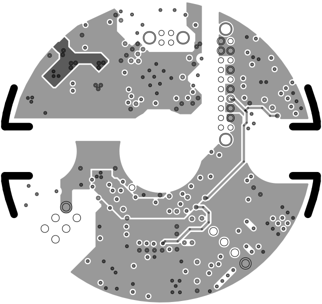
L8 SIG

08-083153-13

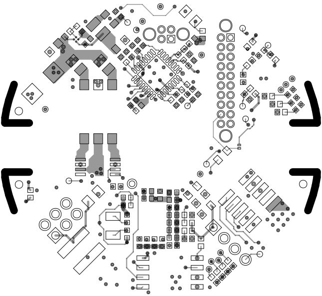
REV D



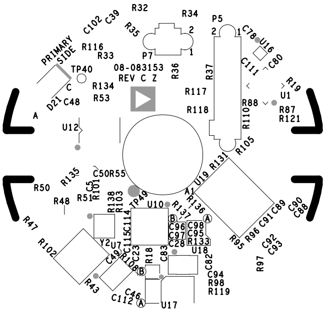
L9 GND
08-083153-14
REV D



L10 SECONDARY
08-083153-02
REV D



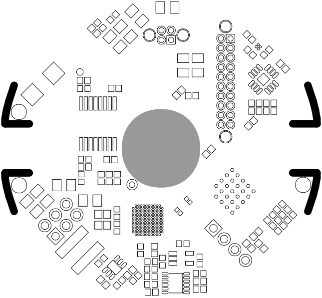
SILKSCREEN PRIMARY
08-083153-03
REV D



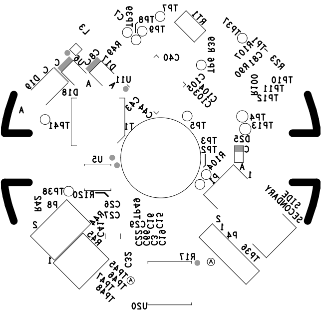
SOLDERMASK PRIMARY

08-083153-04

REV D



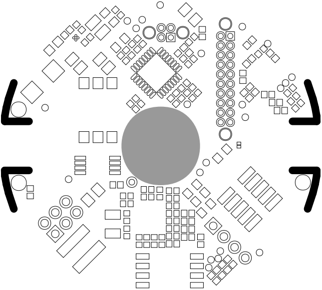
SILKSCREEN SECONDARY
08-083153-05
REV D



SOLDERMASK SECONDARY

08-083153-06

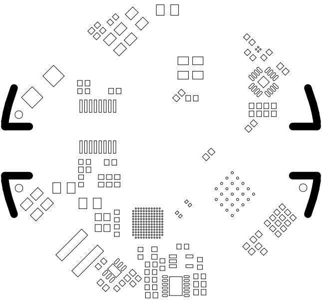
REV D



PASTEMASK PRIMARY

08-083153-15

REV D



PASTEMASK SECONDARY

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