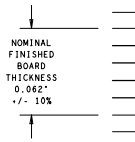
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	05DEC13	LIANG XU

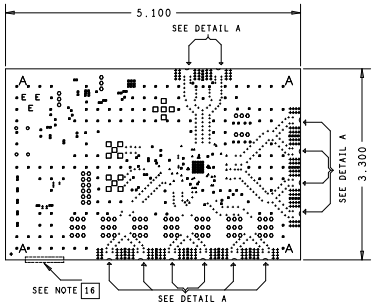
4 LAYER STACKUP



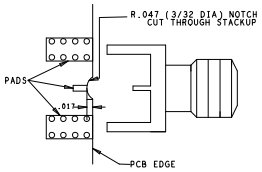
- PRIMARY SILKSCREEN
- PRIMARY SOLDER MASK
- PRIMARY SIDE (LAYER 1)
- L2_GND PLANE (LAYER 2)
- L3_PWR PLANE (LAYER 3)
- SECONDARY SIDE (LAYER 4)
- SECONDARY SOLDER MASK
- SECONDARY SILKSCREEN

CHARACTERISTIC IMPEDANCE +/- 10%

	DESIGNED LINE/SPACE	FINISHED LINE/SPACE
50 OHMS	.012"	.0125"
90 OHMS	.010"/.006"	.0095"/.0065"
100 OHMS	.008"/.0065"	.0075"/.007"



DETAIL A



NOTCH CUT THROUGH DETAIL
1. DIMENSION ARE IN INCHES

SPECIFICATIONS:

MATERIALS; ALL LAMINATES AND BONDING MATERIALS SHOULD BE SELECTED FROM IPC-4101 OR IPC-4103, MINIMUM Tg>170degC, Td>300degC, U.L. RATING OF 94 V-0

MATERIAL FAMILY; FR-408HR

CLADDING; EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 1.5 OZ. INTERNAL SIGNAL LAYERS .5 OZ. COPPER. INTERNAL PLANE LAYERS 1 OZ. COPPER.

NOTE: IF THE LAYER STACKUP CONFLICTS WITH THE ABOVE CLADDING SPECIFICATIONS THEN THE LAYER STACKUP SHALL TAKE PRECEDENCE.

SOLDER MASK; SHALL BE LIQUID PHOTOIMAGEABLE (LPI) APPLIED ON BOTH SIDES OVER BARE COPPER OR GOLD AND SHALL MEET IPC-SM-840 (LATEST REV.) CLASS 3. COLOR GREEN.

SILK SCREEN; SHALL BE PERMANENT NON-CONDUCTIVE EPOXY INK. COLOR: WHITE SYNTHETIC INKJET PRINTING ALLOWED FOR DENSE BOARDS. COLOR: WHITE

SURFACE FINISH; SURFACE TO BE ENIG (100MICRO INCH NICKEL OVER 3-5MICRO INCH GOLD)

INTENTIONAL SHORTS; IF SUPPLIED DATA INCLUDES A FILE "READ_ME.2", THEN INTENTIONAL NET SHORTS EXIST. CUSTOMER REVIEW AND APPROVAL IS REQUIRED IF SUPPLIED DATA REPORTS ANY CONDITION THAT DOES NOT MATCH "READ_ME.2" FILE PROVIDED.

TEST REQUIREMENTS; 100% NETLIST ELECTRICAL VERIFICATION USING CUSTOMER SUPPLIED IPC-D-356 NETLIST FOR OPENS AND SHORTS WHEN "GERBER DATA" IS PROVIDED. THIS VERIFICATION ALSO REQUIRED FOR "ODB++" DATA PER EMBEDDED NETLIST.

ROHS COMPLIANCE NOTE: (Required for Customer Boards) Add to top of MATERIALS HOMOGENOUS MATERIALS IN THIS BOARD SHALL BE COMPLIANT THE EU RoHS DIRECTIVE 2002/95/EC.

REQUIREMENTS:

1. REFER TO IPC-6010 SERIES (LATEST REV.), CLASS 2 FOR FABRICATION UNLESS OTHERWISE SPECIFIED.
2. ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00115, (LATEST REVISION.)
3. MODIFICATIONS TO THE ARTWORK ARE NOT ALLOWED WITHOUT WRITTEN AUTHORIZATION.
4. HOLE PATTERN TOLERANCES FOR UNDIMENSIONED HOLES SHALL BE A DIAMETER OF 0.005 INCHES FROM THEIR TRUE POSITION.
5. PLATED HOLE WALL THICKNESS SHALL NOT BE LESS THAN 0.001 INCH MINIMUM AVERAGE, WITH NO READING LESS THAN .0008 BY CROSS SECTION.
6. HOLE DIAMETERS APPLY AFTER PLATING.
7. FINISHED CONDUCTOR WIDTHS SHALL NOT BE REDUCED FROM THE NOMINAL INDICATED ON THE MASTER PATTERN, BY MORE THAN THE CONDUCTOR THICKNESS.
8. MINIMUM DESIGN LINE WIDTH IS .008 INCH.
9. MINIMUM DESIGN SPACING IS .006 INCH.
10. NON-FUNCTIONAL PAD REMOVAL FROM INNER SIGNAL LAYERS MAY BE PERFORMED AFTER CUSTOMER APPROVAL.
11. IF PAD SIZES PROVIDED ARE NOT LARGE ENOUGH TO MAINTAIN ANNULAR RING REQUIREMENT, MFGR. MAY REQUEST APPROVAL TO TEAR DROP PADS TO MAINTAIN ANNULAR RING. (AT PAD TO TRACE INTERSECTION ONLY AND ELECTRICAL INTEGRITY MUST BE MAINTAINED.)
12. THIEVING MAY BE ADDED TO COMPENSATE FOR LOW COPPER DENSITY AREAS ON THIS DESIGN ONLY AFTER REVIEW AND APPROVAL FROM THE CUSTOMER:
    A. THIEVING TO CARD EDGE, FIDUCIALS, NON-PLATED THROUGH HOLES, ALL OTHER FEATURES TO BE 0.200 INCH MINIMUM.
    B. THERE SHALL BE NO THIEVING IN ANY AREAS FREE OF SOLDER MASK OR INTERNAL COPPER PLANES.
13. MFGR. TO LEGIBLY ETCH OR STAMP/SCREEN WITH PERMANENT NON-CONDUCTIVE INK ON SECONDARY SIDE IN A CLEAR AREA UNLESS OTHERWISE INDICATED;
    A. U.L. CODE-FLAMMABILITY RATING
    B. DATE CODE (STAMP).
    C. LOT NUMBER
    D. MFGR LOGO
    E. SUCCESSFUL ELECTRICAL TEST.
14. REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED.
15. THRU VIAS FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER. COPLANAR ON BOTH SIDES PRIOR TO FINAL PLATING.
16. COPPER IS INTENTIONALLY EXTENDED PAST THE BOARD EDGE TO SHOW BOARD CONSTRUCTION.

DRILL CHART: TOP to BOTTOM					
ALL UNITS ARE IN MILS					
FIGURE	SIZE	TOLERANCE	PLATED	QTY	
·	10.0	MAX DIA.	PLATED	306	
▪	12.0	MAX DIA.	PLATED	273	
◂	12.0	MAX DIA.	PLATED	42	
▪	12.01	MAX DIA./FILL	PLATED	32	SEE NOTE 15 FOR VIA FILL INSTRUCTION
▲	12.02	MAX DIA./FILL	PLATED	4	SEE NOTE 15 FOR VIA FILL INSTRUCTION
·	16.0	+3.0/-3.0	PLATED	192	
▪	20.0	+3.0/-3.0	PLATED	1	
○	35.0	+3.0/-3.0	PLATED	4	
○	45.0	+3.0/-3.0	PLATED	87	
□	60.0	+3.0/-3.0	PLATED	15	
E	75.0	+3.0/-3.0	PLATED	3	
A	125.0	+2.0/-3.0	NON-PLATED	4	

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS .XX +-.005 .XXX +-.002 .XXXX +-.0005 FRACTIONS +-1/32 ANGLES +- 2	APPROVAL	DATE	ANALOG DEVICES WWM DIVISION 804 MOBURN STREET WILMINGTON, MA 01887
MATERIAL	TEMPLATE ENGINEER -	-	TITLE FABRICATION AD9574 48LDS CUSTOMER EVALUATION BOARD
	HARDWARE SERVICES -	-	
	HARDWARE SYSTEMS -	-	
	TEST ENGINEER -	-	
	COMPONENT ENGINEER -	-	
	TEST PROCESS -	-	
	HARDWARE RELEASE -	-	
FINISH	DESIGNER V. JAYME II	04DEC13	SIZE D · FSCM NO 24355 · DRAWING NUMBER 09-036355 · REV A
	PTD ENGINEER LIANG XU	05DEC13	
	CHECKER -	-	
DO NOT SCALE DWG			SCALE 1/1 · SHEET 1 OF 2

NO TEMPLATE - CUSTOMER EVALUATION BOARD