ART FILM - fab1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	17NOV17	R.MARTIN
B	CHANGE PER ECR-077724	24APR18	R.MARTIN
C	CHANGE PER ECR-086512	28MAR19	M. HANCI

SPECIFICATIONS:

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

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: ROGERS 4350B/ISOLA 370HR

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: ENIG (Electroless Nickel/Immersion Gold)

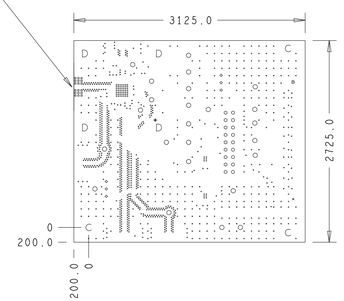
INTENTIONAL SHORTS: IF SUPPLIED DATA INCLUDES A FILE "READ_ME.2", THEN INTENTIONAL NET SHORTS EXIST. CUSTOMER REVIEW AND APPROVAL IS REQUIRED IF SUPPLIED DATA REPORTS ANY CONDITION THAT DOES NOT MATCH "READ_ME.2" FILE PROVIDED.

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.

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 .006 INCH.
9. MINIMUM DESIGN SPACING IS .005 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 WITHIN .001 INCH PRIOR TO FINAL PLATING.
16. CRITICAL LINE WIDTH 0.016 +/- 0.001 PRIMARY SIDE. ADJUST PROCESS TO ACHIEVE WIDTH.
17. BOARD TO HAVE EDGE PLATING AT CONNECTOR WHERE INDICATED CONNECTING ALL 4 LAYERS. CENTER CONDUCTOR MAY SHORT.

SEE NOTE 17

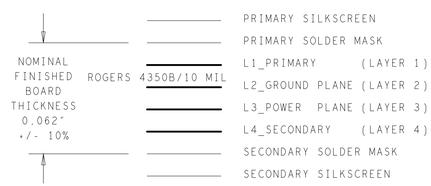


HOLE TOLERANCE

UNLESS SPECIFIED
PLATED: +/- 3 MILS
NON PLATED: +/- 2 MILS

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
·	12.0	PLATED	1080	DIA MAX /SEE NOTE 15
*	14.0	PLATED	18	
◦	35.0	PLATED	6	
o	45.0	PLATED	18	
O	63.0	PLATED	24	
·	28.0	NON-PLATED	1	
B	43.0	NON-PLATED	1	
C	120.0	NON-PLATED	3	
D	125.0	NON-PLATED	4	

4 LAYER STACKUP



CHARACTERISTIC IMPEDANCE = _____
ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = _____

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES .XX +-.010 +-1/32 +- 2 .XXX +-.005 .XXXX +-.0050	APPROVAL	DATE	ANALOG DEVICES	RFMG DIVISION 804 WOBURN STREET WILMINGTON, MA 01887
	TEMPLATE ENGINEER -	-		
	HARDWARE SERVICES -	-		
	HARDWARE SYSTEMS -	-	TITLE	
MATERIAL	TEST ENGINEER -	-	FABRICATION ADMV4640 CHARAC BRD Z	
	COMPONENT ENGINEER -	-		
	TEST PROCESS -	-		
	HARDWARE RELEASE -	-		
FINISH	DESIGNER C. BAUTISTA	29MAR19	SIZE / FSCM NO / DRAWING NUMBER / REV	
	PTD ENGINEER M. HANCI	29MAR19	D 24355 09-047866 C	
	CHECKER -	-		
DO NOT SCALE DWG			SCALE 1/1	SHEET 1 OF 1

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