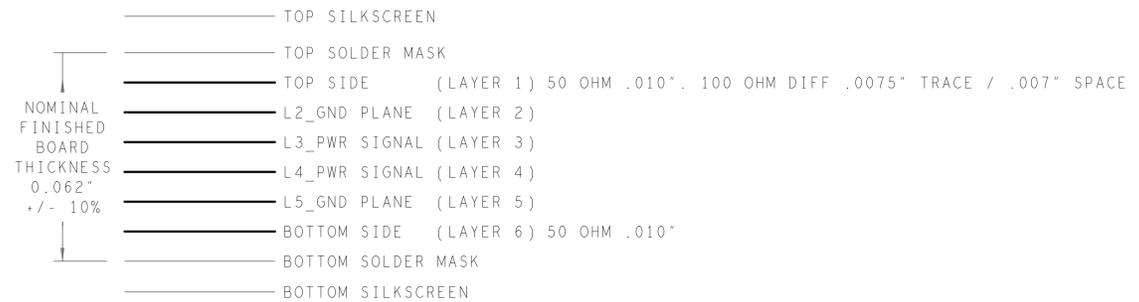


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	08JAN19	P. ROBINSON
B	AS PER ECR-089310	29JUL19	P. ROBINSON

6 LAYER STACKUP



CHARACTERISTIC IMPEDANCE = 50 OHMS +/- 5%
 ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = 0.010"
 CHARACTERISTIC IMPEDANCE = 100 OHMS +/- 5%
 ARTWORK LINE WIDTH FOR IMPEDANCE CONTROLLED LINES = 0.0075"/0.007" (L/S)

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 1 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 BLUE

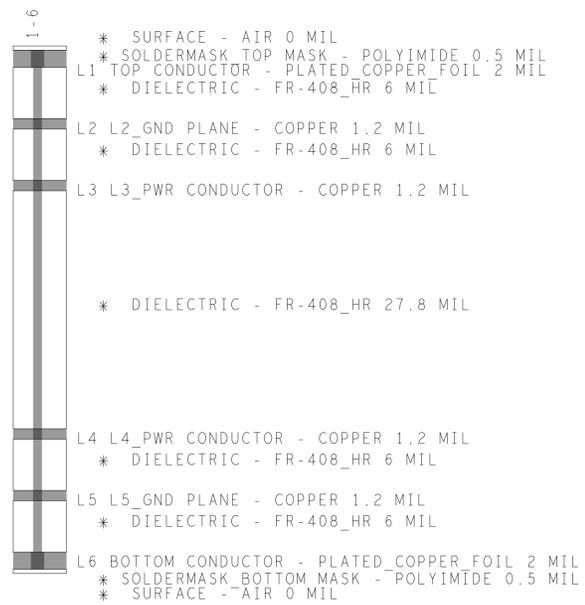
SILK SCREEN; SHALL BE PERMANENT NON-CONDUCTIVE EPOXY INK, COLOR: WHITE SYNTHETIC INKJET PRINTING ALLOWED FOR DENSE BOARDS, COLOR: WHITE

SURFACE FINISH; SURFACE TO BE ENIG (ELECTROLESS NICKEL/IMMERSION GOLD) PER IPC-4552 LATEST REVISION.

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:**
- REFER TO IPC-6010 SERIES (LATEST REV.), CLASS 2 FOR FABRICATION UNLESS OTHERWISE SPECIFIED.
 - ACCEPTABILITY PER ANALOG DEVICES, INC. SPECIFICATION TST00115. (LATEST REVISION.)
 - MODIFICATIONS TO THE ARTWORK ARE NOT ALLOWED WITHOUT WRITTEN AUTHORIZATION.
 - HOLE PATTERN TOLERANCES FOR UNDIMENSIONED HOLES SHALL BE A DIAMETER OF 0.005 INCHES FROM THEIR TRUE POSITION.
 - PLATED HOLE WALL THICKNESS SHALL NOT BE LESS THAN 0.001 INCH MINIMUM AVERAGE, WITH NO READING LESS THAN .0008 BY CROSS SECTION.
 - HOLE DIAMETERS APPLY AFTER PLATING.
 - FINISHED CONDUCTOR WIDTHS SHALL NOT BE REDUCED FROM THE NOMINAL INDICATED ON THE MASTER PATTERN, BY MORE THAN THE CONDUCTOR THICKNESS.
 - MINIMUM DESIGN LINE WIDTH IS .0075 INCH.
 - MINIMUM DESIGN SPACING IS .0070 INCH.
 - NON-FUNCTIONAL PAD REMOVAL FROM INNER SIGNAL LAYERS MAY BE PERFORMED AFTER CUSTOMER APPROVAL.
 - 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.)
 - 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.
 - 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.
 - REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED. REPAIRS ARE NOT ALLOWED IN ANY AREA DEFINED ON GOLD_PRM AND/OR GOLD_SEC ARTWORK LAYERS WHEN PROVIDED IN GERBER OR ODB+ DATA.
 - THRU VIAS FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER.



DESIGN CROSS SECTION CHART
 TOTAL THICKNESS 61.6 MIL

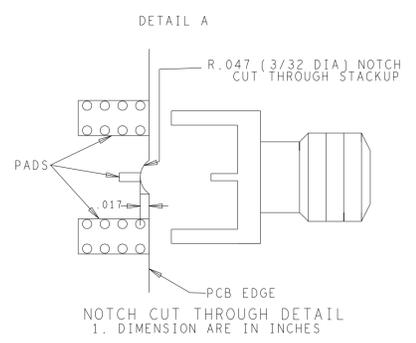
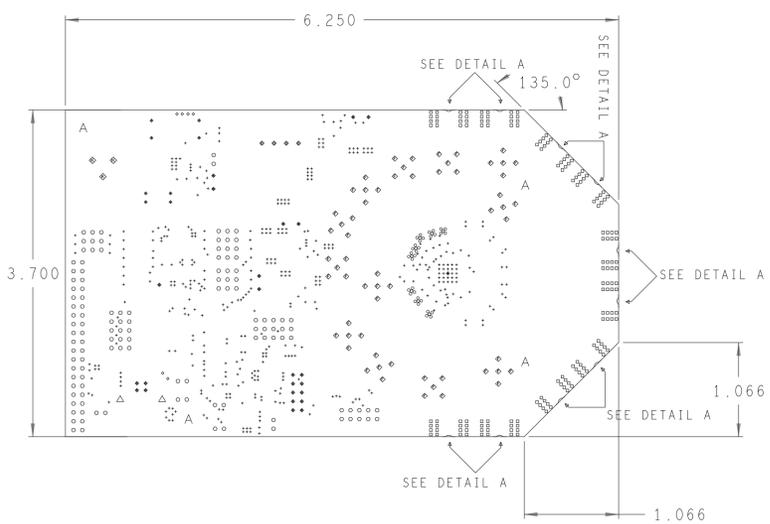
HOLE TOLERANCE

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

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
•	10.0	PLATED	40	MAX DIA
•	12.0	PLATED	431	MAX DIA/FILL
•	16.0	PLATED	160	MAX DIA/FILL
•	20.0	PLATED	6	
•	35.0	PLATED	8	
•	40.0	PLATED	23	
•	45.0	PLATED	124	
•	50.0	PLATED	4	
•	60.0	PLATED	60	
•	75.0	PLATED	3	
△	90.0	PLATED	2	
A	125.0	NON-PLATED	4	

see FABNOTES 15
 see FABNOTES 15

TOTAL HOLES: 865



PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVAL	DATE	WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887			
	TEMPLATE ENGINEER R. MARION	NA				
TOLERANCES	HARDWARE SERVICES	NA	TITLE FABRICATION AD9546 CUSTOMER EVALUATION BOARD Z			
DECIMALS FRACTIONS ANGLES	HARDWARE SYSTEMS	NA				
.XX . . . 010 . . . 1/32 . . . 2	TEST ENGINEER	NA	DESIGNER J. BOWNE 08JAN19 SIZE D FSCM NO 24355 DRAWING NUMBER 09-051441 REV B			
.XXX . . . 005 . . . 2	COMPONENT ENGINEER	NA				
.XXXX . . . 0050 . . . 2	TEST PROCESS	NA	DO NOT SCALE DWG SCALE 1/1 SHEET 1 OF 1			
	HARDWARE RELEASE	NA				
MATERIAL	DESIGNER	08JAN19	CHECKER P. ROBINSON 08JAN19 NA			
	PRO ENGINEER	08JAN19				