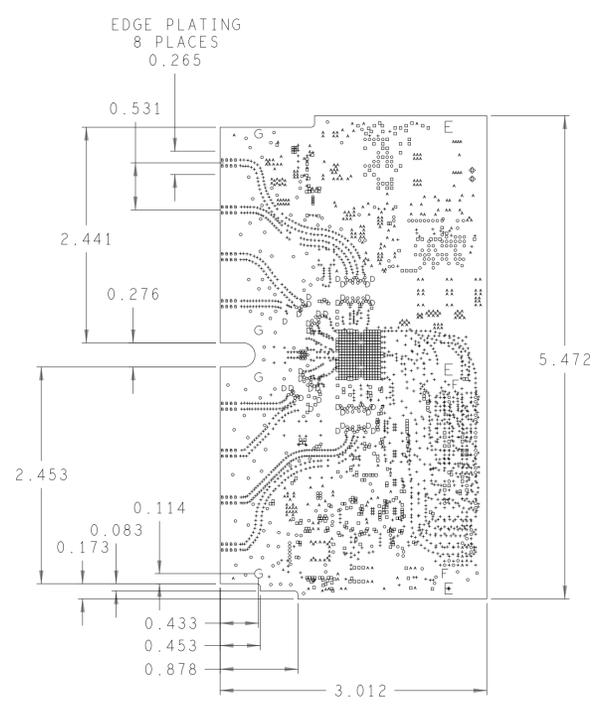


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	03OCT18	J.B.
B	REVISED PER ECR-083828	19DEC18	J.B.
C	REVISED PER ECR-086443	19JUN19	J.B.
D	REVISED PER ECR-096286	24JUN20	P.H.
E	REVISED PER ECR-100434	01DEC20	P.H.



PRIMARY SIDE

**HOLE TOLERANCE**  
 UNLESS SPECIFIED  
 PLATED: +/- .003  
 NON PLATED: +/- .001

DRILL CHART: TOP to BOTTOM				
FINISHED HOLES IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
•	8.0	PLATED	592	SEE NOTE 15
•	10.0	PLATED	393	SEE NOTE 15
•	12.0	PLATED	339	SEE NOTE 15
•	16.0	PLATED	64	SEE NOTE 15
c	20.0	PLATED	8	SEE NOTE 15
d	25.0	PLATED	33	SEE NOTE 15
♦	50.0	PLATED	2	
E	105.0	PLATED	3	
F	50.0	NON-PLATED	2	
G	105.0	NON-PLATED	4	

LAYER 1 TO LAYER 4 DRILLS				
DRILL CHART: TOP to L4 GROUND				
FINISHED HOLES IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
•	8.0	PLATED	862	

LAYER 12 TO LAYER 9 DRILLS				
DRILL CHART: L9_POWER_DVDD1 to BOTTOM				
FINISHED HOLES IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
•	8.0	PLATED	687	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVAL	DATE	HSX DIVISION 804 WOBURN STREET WILMINGTON, MA 01887			
	TOLERANCES DECIMALS FRACTIONS ANGLES .XX -.010 .-1/32 .- 2 .XXX -.005 .XXXX -.0050	TEMPLATE ENGINEER R. MARION HARDWARE SERVICES X HARDWARE SYSTEMS X TEST ENGINEER X COMPONENT ENGINEER X TEST PROCESS X HARDWARE RELEASE X				
MATERIAL			TITLE FABRICATION AD9081/AD9082 FMC EVALUATION BOARD			
FINISH	DESIGNER W. BURTON PTD ENGINEER J. BERGERON CHECKER X	28SEP18 28SEP18	SIZE D	FSCM NO 24355	DRAWING NUMBER 09-049648	REV E
DO NOT SCALE DWG			SCALE 1/1	SHEET 1 OF 2		

D

D

C

C

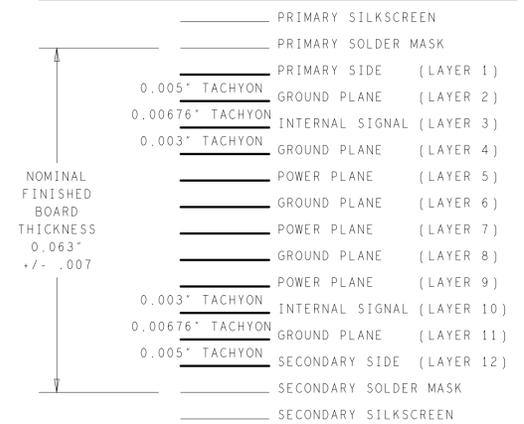
B

B

A

A

### 12 LAYER STACKUP



CHARACTERISTIC IMPEDANCE = 50 OHMS +/- 10%  
 ARTWORK LINE WIDTH FOR  
 IMPEDANCE CONTROLLED LINES = 0.0095" FOR L1 AND L12  
 IMPEDANCE CONTROLLED LINES = 0.0070" FOR L3 AND L10

DIFFERENTIAL IMPEDANCE = 100 OHMS +/- 10%  
 ARTWORK LINE WIDTH FOR  
 IMPEDANCE CONTROLLED LINES = 0.0040" FOR L1 AND L12  
 IMPEDANCE CONTROLLED LINES = 0.00525" FOR L3 AND L10

#### 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;** TACHYON 100G /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.

**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;** SURFACES SHALL HAVE ENIG FINISH PLATED WITH 2-6 MICROINCHES OF IMMERSION GOLD OVER 100-200 MICROINCHES OF ELECTROLESS NICKEL.

**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 .XXX INCH.
- MINIMUM DESIGN SPACING IS .XXX 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, MFR. 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:
  - THIEVING TO CARD EDGE, FIDUCIALS, NON-PLATED THROUGH HOLES. ALL OTHER FEATURES TO BE 0.200 INCH MINIMUM.
  - THERE SHALL BE NO THIEVING IN ANY AREAS FREE OF SOLDER MASK OR INTERNAL COPPER PLANES.
- MFR. TO LEGIBLY ETCH OR STAMP/SCREEN WITH PERMANENT NON-CONDUCTIVE INK ON SECONDARY SIDE IN A CLEAR AREA UNLESS OTHERWISE INDICATED;
  - U.L. CODE-FLAMMABILITY RATING
  - DATE CODE (STAMP).
  - LOT NUMBER
  - MFR LOGO
  - SUCCESSFUL ELECTRICAL TEST.
- REPAIRS PER IPC-7711/21 (LATEST REV.) ARE ALLOWED.
- THRU VIAS FILLED WITH NON-CONDUCTIVE EPOXY AND PLATED OVER. COPLANAR ON BOTH SIDES WITHIN .001 INCH PRIOR TO FINAL PLATING.

PRIMARY SIDE



SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-049648	E
SCALE	1/1		SHEET 2 OF 2