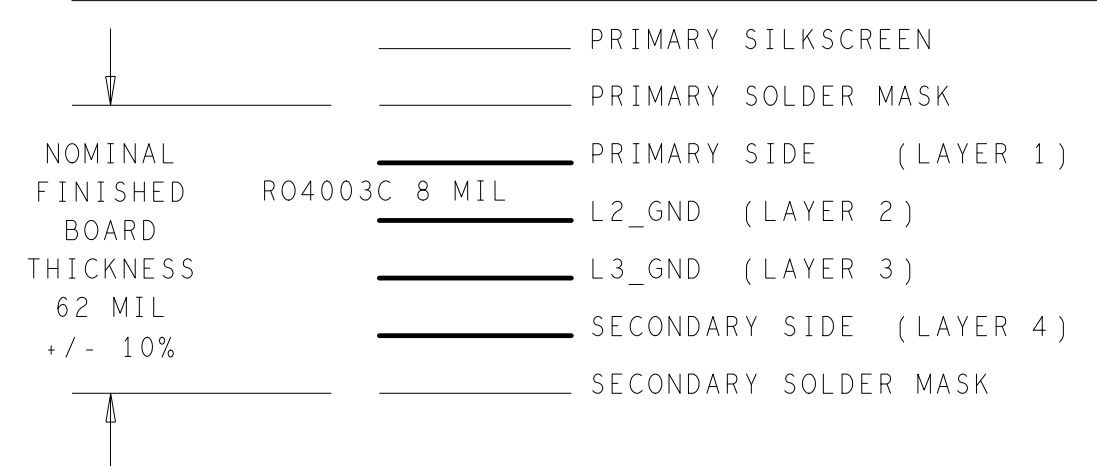


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	29MAR19	MEHMET DOGAN

## 4 LAYER STACKUP



## HOLE TOLERANCE

UNLESS SPECIFIED  
PLATED: +/- 3 MIL  
NON PLATED: +/- 3 MIL

FINISHED HOLES IN MILS				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
·	10.0	PLATED	47	SEE NOTE 16
·	12.0	PLATED	1061	SEE NOTE 16
·	14.0	PLATED	60	SEE NOTE 16
⊙	63.0	PLATED	5	
⊙	67.0	PLATED	10	
⊙	78.0	NON-PLATED	10	
⊙	100.0	NON-PLATED	1	

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;	R04003C 8 MIL / ISOLA 370HR

CLADDING;                   EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 2.2 MIL.  
INTERNAL PLANE LAYERS .5 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.  
LPI SOLDER MASK BOTH SIDE. COLOR: GREEN REGISTRATION: +/- .0005 MAX.

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)  
PER IPC-4552 LATEST REVISION

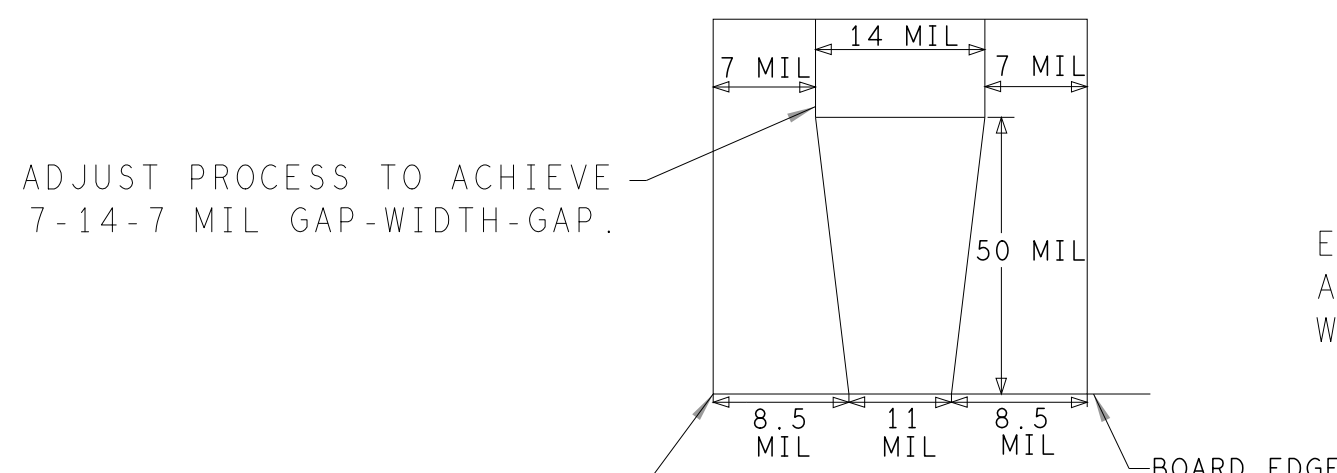
INTENTIONAL SHORTS; IF SUPPLIED DATA INCLUDES A FILE "READ\_ME.2", THEN  
INTENTIONAL NET SHORTS EXIST. CUSTOMER REVIEW AND APPROVAL  
IS REQUIRED IF SUPPLIED DATA REPORTS ANY CONDITION THAT  
DOES NOT MATCH "READ\_ME.2" FILE PROVIDED.

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:

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 8 MIL.
9. MINIMUM DESIGN SPACING IS 7 MIL.
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, MFR. 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. MFR. 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.~~ D. MFR LOGO
- B. DATE CODE (STAMP). E. SUCCESSFUL ELECTRICAL TEST.
- C. LOT NUMBER
14. 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.
15. CRITICAL LINE WIDTH OF = 14 MIL +/- 0.5 MIL ON PRIMARY SIDE. ADJUST PROCESS TO ACHIEVE WIDTH. SEE DETAIL B. CRITICAL SPACING WIDTH OF = 7 MIL +/- 0.5 MIL ON PRIMARY SIDE. ADJUST PROCESS TO ACHIEVE WIDTH. SEE DETAIL B. CRITICAL TAPER LINE WIDTH TOLERANCE = +/- 0.5 MIL ON PRIMARY SIDE. ADJUST PROCESS TO ACHIEVE WIDTH. SEE DETAIL B. CRITICAL TAPER LINE GAP TOLERANCE +/- 0.5 MIL ON PRIMARY SIDE. ADJUST PROCESS TO ACHIEVE WIDTH. SEE DETAIL B. RECORD RF LINE WIDTHS AND SPACINGS SHOWN IN DETAIL B ON A FIRST ARTICLE REPORT. ONE SAMPLE FROM EACH 10 BOARDS AND MARK THEM BY GIVING NUMBERS.
16. VIAS INDICATED TO BE FILLED WITH NON-CONDUCTIVE EPOXY GROUND FLUSH AND PLATED OVER.
17. CONNECTOR AREAS TO BE EDGE PLATED, PLATING MUST CONNECT ALL FOUR LAYERS. EDGE PLATING MUST BE REMOVED FOR CENTER CONNECTOR AREAS. SEE DETAIL C. BOARD CUTTING SHOULD BE CONTROLLED TO GET THE DESIRED DIMENSIONS SHOWN IN DETAIL B.
- DETAIL C



DETAIL B



5 PLACES

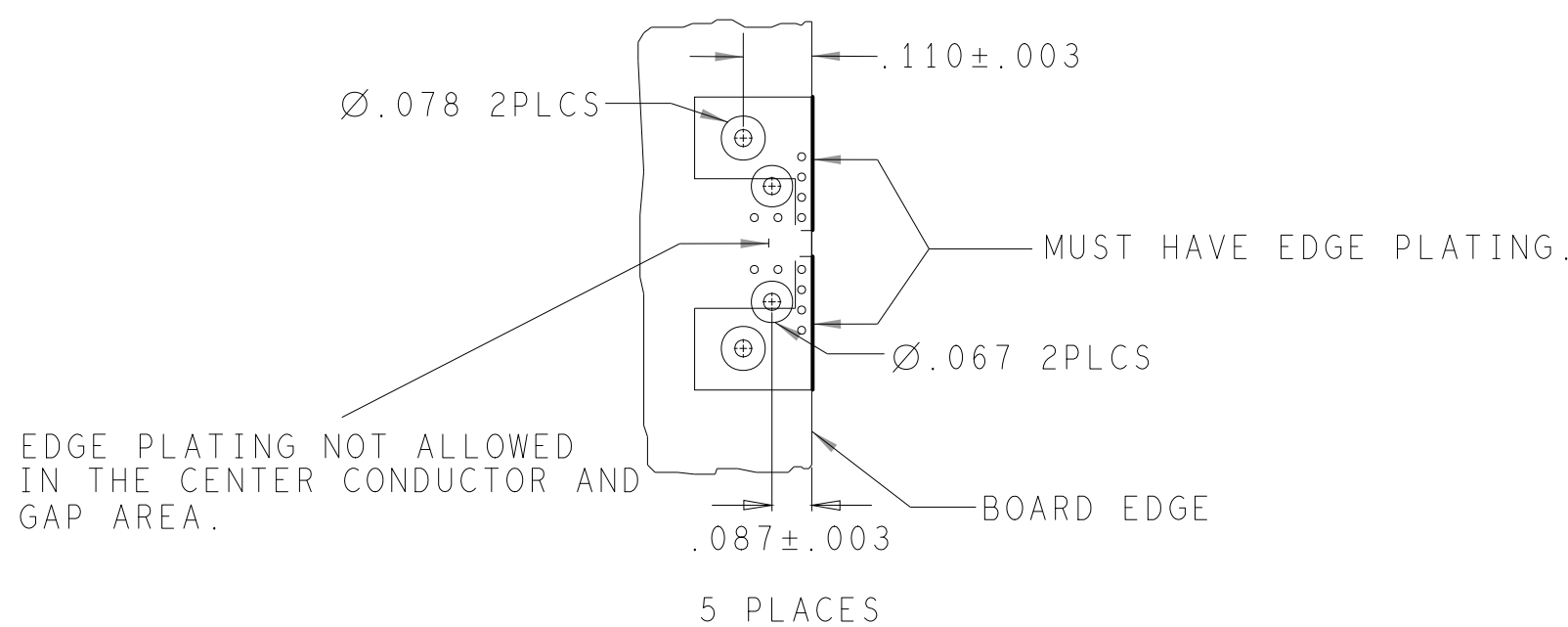
A TAPERED LINE IS USED FOR CONNECTOR  
TRANSITION. ADJUST PROCESS TO ACHIEVE  
8.5-11-8.5 MIL GAP-WIDTH-GAP.

## PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			APPROVAL		DATE		 <b>ANALOG DEVICES</b>		WWM DIVISION 804 WOUBURN STREET WILMINGTON, MA 01887	
TOLERANCES			TEMPLATE ENGINEER							
DECIMALS	FRACTIONS	ANGLES	HARDWARE SERVICES		29MAR19					
.XX -- .010	-- 1/32	-- 2	E CONDA							
XXX -- .005			HARDWARE SYSTEMS							
XXXX -- .0050										
MATERIAL			TEST ENGINEER				TITLE  FABRICATION  ADRF5022 EVAL Z			
			COMPONENT ENGINEER							
			TEST PROCESS							
			HARDWARE RELEASE							
FINISH			DESIGNER				SIZE FSCM NO DRAWING NUMBER REV			
			MEHMET DOGAN		29MAR19					
			PTD ENGINEER H. SAVCI		29MAR19					
			CHICKER E. CONDA		29MAR19					
DO NOT SCALE DWG							D 24355 09-057393 A			
			SCALE		1/1				SHEET 1 of 1	

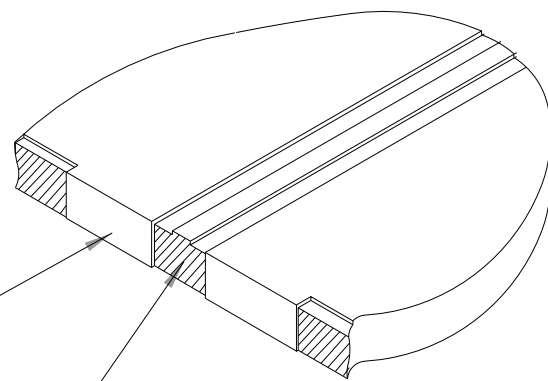
DETAIL "A"

G02SFB002-DETAIL



NOTES APPLY TO PATTERN REGARDLESS OF ORIENTATION.

DETAIL C



EDGE PLATING NOT ALLOWED IN CENTER CONDUCTOR  
AND GAP AREA. EDGE PLATING SHOULD BE IN LINE  
WITH TOP ETCH.