
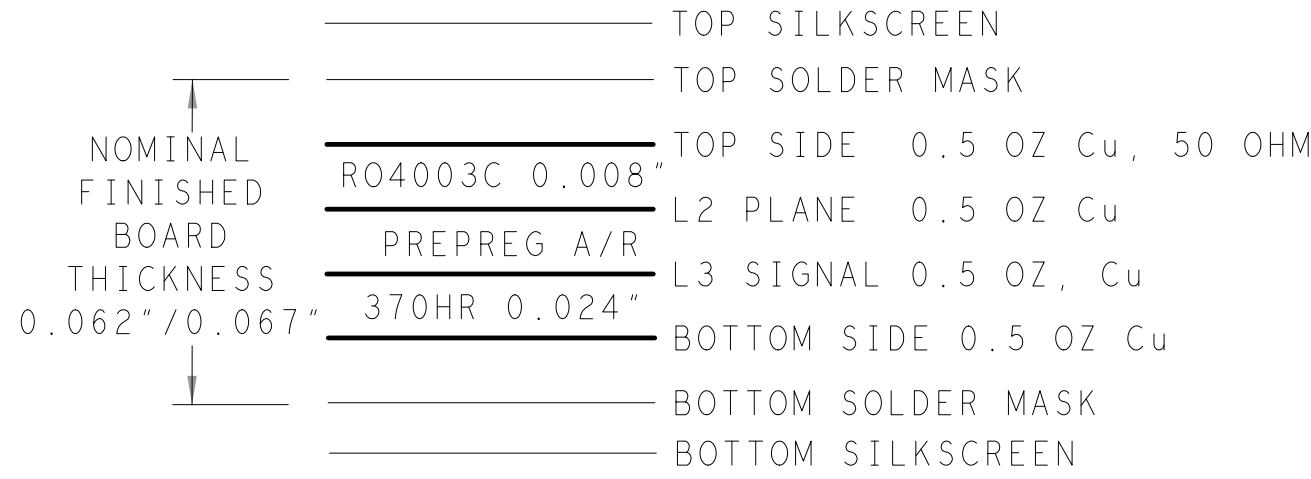


PRIMARY SIDE

ALL DIMENSIONS UNLESS SPECIFIED TOLERANCES ARE IN PARENTS		APPROVAL		DATE		 ANALOG DEVICES		WWM DIVISION	
TOLERANCES		TEMPERATURE ENGINEER R. MARION		ddmmyy		TITLE		FABRICATION	
DECIMALS XX .XX .000		HARDWARE SERVICES X		ddmmyy					
FRACTIONS XX /XX /000		HARDWARE FIXTURING X		ddmmyy					
XX .XX .000		TEST ENGINEER X		ddmmyy					
XX /XX /000		EQUIPMENT ENGINEER X		ddmmyy					
MATERIAL		TEST PROCESS X		ddmmyy		ADF4378 EVALUATION PCB			
		HARDWARE RELEASE X		ddmmyy					
FINISH		DESIGNER VIORELE YADUVA		30APR18		SIZE		FSCM NO	
		P2D ENGINEER MARTY RICHARDSON		30APR18		DRAWING NUMBER		REV	
		CHECKER X		ddmmyy		D 24355		09-065799	
DO NOT SCALE DWG						SCALE 1/1		SHEET 1 OF 2	



4 LAYER STACKUP



CHARACTERISTIC IMPEDANCE = 50 OHMS +/- 5%
ARTWORK LINE WIDTH FOR
IMPEDANCE CONTROLLED LINES = 0.016"

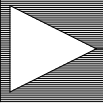
SPECIFICATIONS:

- 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, FR408
- CLADDING; EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 1.5 OZ. INTERNAL SIGNAL 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. 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" OPTION: IMMERSION GOLD PLATING, 2-8 MICRO INCHES GOLD OVER ELECTROLESS NICKEL PLATING 100 MICRO INCHES MINIMUM PER QQ-N-290, CLASS I.
- 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 0.003 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 .008 INCH.
- MINIMUM DESIGN SPACING IS .006 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 D. MFGR LOGO
B. DATE CODE (STAMP). E. SUCCESSFUL ELECTRICAL TEST.
C. LOT NUMBER
- 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. COPLANAR ON BOTH SIDES PRIOR TO FINAL PLATING.

PRIMARY SIDE



**ANALOG
DEVICES**

WWM
DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-065799	A
SCALE	1/1	SHEET	2 OF 2