


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	15DEC24	L. ONOFREL
B	CHANGES AS PER ECR-125371	10APR25	L. ONOFREL

HOLE TOLERANCE

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

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	PLATED	QTY	TOLERANCE/NOTES
+	10.0	PLATED	280	DIA MAX
◇	35.0	PLATED	15	
△	100.0	PLATED	11	
□	213.0	PLATED	4	
A	187.0	NON-PLATED	4	

PRIMARY SIDE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES .XX ±.010 ±1/32 ±.2 .XXX ±.005 .XXXX ±.0050		APPROVAL	DATE	<div> ANALOG DEVICES</div> <div>WWM DIVISION 804 WOBURN STREET WILMINGTON, MA 01887</div>		
		TEMPLATE ENGINEER N/A	N/A			
		HARDWARE SERVICES M. VALE	05FEB25			
		HARDWARE SYSTEMS N/A	N/A			
MATERIAL		TEST ENGINEER N/A	N/A	TITLE FABRICATION EVAL-LTC7899-AZ		
		COMPONENT ENGINEER N. BUENAFLO	05FEB25			
		TEST PROCESS X	N/A			
		HARDWARE RELEASE K. JABATAN	05FEB25			
FINISH		DESIGNER J. WU	05FEB25	SIZE	FSCM NO	DRAWING NUMBER
		PTD ENGINEER L. ONOFREL	05FEB25	C	24355	09-083945
		CHECKER N/A	N/A			
DO NOT SCALE DWG				SCALE	1/1	SHEET 1 OF 2

1. DIMENSIONS ARE IN INCHES (EXCEPT WHERE NOTED).
ALL DOCUMENTS & SPECIFICATIONS REFERRED TO BELOW SHOULD BE THE LATEST REVISIONS.

2. BOARD MATERIAL:(USE CHECKED ITEMS)

- (X) ISOLA 370HR OR S1000-2 OR IT180 OR EQUIVALENT
() ISOLA-FR408HR OR EQUIVALENT
() ISOLA IS410
() MEGTRON 6
() NELCO-4000-13
() ROGERS 4350B
() ROGERS 3003
() ARLON 85N
() EM370D
() OTHER _____
3. ALL LAMINATES & BONDING MATERIALS SHOULD BE SELECTED FROM IPC-4101 OR IPC-4103. (TG<170 DEGC TD>300 DEGC)
UL FLAMMABILITY RATING 94V-0. BOARD MATERIAL & CONSTRUCTION SHALL MEET THE REQUIREMENTS OF UL796/UL796F.
4. REFER TO IPC-6010 SERIES, CLASS 2 FOR FABRICATION. WORKMANSHIP SHALL CONFORM TO IPC-A-600, CLASS 2.
5. REFER TO LAMINATION DIAGRAM FOR OVERALL BOARD THICKNESS. TOLERANCE APPLIES AFTER ALL LAMINATION AND PLATING
PROCESSES. FINISHED THICKNESS MEASURED FROM TOP COPPER TO BOTTOM COPPER.
6. BOW & TWIST NOT TO EXCEED 0.0075 INCHES (0.75%) PER LINEAR INCH AND SHOULD BE MEASURED PER IPC-TM-650, METHOD 2.4.22.
7. ACCEPTABILITY PER ADI SPECIFICATION TST00115.

8. IMPEDANCE REQUIREMENTS: IF NO STACKUP IS DEFINED, THE VENDOR IS ALLOWED TO ADJUST THE DIELECTRIC THICKNESS & TRACE WIDTHS TO MEET THE IMPEDANCE REQUIREMENT. IF SPECIFIED, THE VENDOR MUST MEET THE REQUIREMENTS LISTED IN THE IMPEDANCE TABLE. ANY ADJUSTMENT MADE TO THE DEFINED STACKUP, TRACE WIDTH & SPACING THAT IMPACT THE REQUIREMENTS MUST HAVE WRITTEN APPROVAL FROM ADI.
9. FILLET OPTIONS TO ENHANCE RELIABILITY AT PAD JUNCTIONS WHERE SPACING PERMITS.
() FILLETS ALLOWED
(X) FILLETS NOT ALLOWED
10. THEIVING:
() VENDOR MAY ADD THEIVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS MAINTAINING A MINIMUM 0.100 INCH CLEARANCE FROM ALL COPPER FEATURES.
(X) VENDOR MAY NOT ADD THEIVING TO COMPENSATE FOR LOW COPPER DENSITY AREAS.
11. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.003 INCHES.

12. DRILL SIZES ARE FINISHED HOLE SIZES. ALL HOLES SHALL BE LOCATED WITHIN 0.005 INCHES DTP, UNLESS SPECIFIED.
MINIMUM BARREL PLATING OF 0.001 INCHES. PLATED HOLES SHALL NOT BE ROUGH OR IRREGULAR SO AS TO
HINDER PROPER SOLDER WICKING. BARREL RELIEF ON SOLDERMASK ALLOWED IN UNFILLED VIA IN PAD HOLES.

13. PLATING SPECIFICATION:
(X) REFER TO LAMINATION DIAGRAM FOR FINISHED COPPER WEIGHT/THICKNESS REQUIREMENTS
THE STARTING COPPER WEIGHT/THICKNESS CAN VARY AS LONG AS THE FINISHED COPPER
WEIGHT/THICKNESS IS NOT LESS THAN THE SPECIFIED VALUE.

14. SURFACE FINISH:
(X) IMMERSION GOLD (ENIG) 1.58-3.94 MICRO INCHES OVER 118-236 MICRO INCHES MIN. OF ELECTROLESS NICKEL PER IPC-4552
() OSP (ORGANIC SOLDERABILITY PRESERVATIVE)
() IMMERSION SILVER
() SOFT WIRE BONDABLE GOLD 30-50 MICRO INCHES OF SOFT WIRE
BONDABLE GOLD OVER 100-150 MICRO INCHES OF NICKEL
() EDGE CONNECTOR FINGERS ARE TO BE PLATED WITH 100 MICRO-INCHES(.0001") OF LOW STRESS
NICKEL UNDER 30 MICRO-INCHES (.0003") OF GOLD
() OTHER _____

15. SOLDERMASK:
SOLDERMASK OVER BARE COPPER OR BARE GOLD (BOTH SIDES) TO MEET IPC-SM-840.
IF PRESENT, DO NOT MODIFY SOLDERMASK DEFINED PADS (MASK OPENINGS LESS THAN COPPER PAD) WITHOUT APPROVAL.
(X) LPI
() OTHER _____

COLOR
() GREEN
(X) OTHER _____ BLUE

16. APPLY SILKSCREEN TO BOTH SIDES USING A NON-CONDUCTIVE, EPOXY BASED INK PER ARTWORK.
(X) WHITE
() OTHER _____

17. FINAL ELECTRICAL TEST TO BE PERFORMED USING PROVIDED IPC-D-356A NETLIST OR ODB++, FORMAT FILE.
THE PCB SHALL HAVE A VERIFICATION STAMP.

18. A TIME DOMAIN REFLECTOMETER REPORT (TDR) FOR EACH IMPEDANCE CONTROLLED LAYER & A CERTIFICATE OF COMPLIANCE SHALL BE PROVIDED BY VENDOR AT TIME OF SHIPMENT. INSTANCES WHERE TDR TESTING CAN'T BE PERFORMED BECAUSE THE TRACE LENGTH IS TOO SHORT ON THE OUTER LAYERS AT THE PIN ESCAPES IS ACCEPTABLE. ALL OTHER INSTANCES MUST BE REPORTED.

19. IF PRESENT, ALL BLIND/BURIED VIAS WITH AN ASPECT RATIO $<1:1$ TO BE PLATED SHUT WITH COPPER WHEN USED AS VIA-IN-PAD OR AS A STACKED VIA. BLIND/BURIED VIAS WITH AN ASPECT RATIO $>1:1$ TO BE FILLED WITH NON-CONDUCTIVE EPOXY.
20. FOR VIA FILL INFORMATION REFER TO DRILL CHART:
 - () NON-CONDUCTIVE EPOXY FILL ALL 0.XXXX INCHES DRILLED VIAS
 - () COPPER FILL ALL 0.XXXX INCHES DRILLED VIAS
21. INTENTIONAL SHORTS:
 - IF AN INTENTIONAL SHORT REPORT IS SUPPLIED AND DOES NOT MATCH THE FAB DATA THEN ADI APPROVAL IS REQUIRED.
22. PENNUTS:
 - () PENNUTS TO BE INSTALLED BY FABRICATOR
 - () PENNUTS NOT TO BE INSTALLED BY FABRICATOR
 - (X) NOT APPLICABLE
23. MANUFACTURER TO ETCH/STAMP WITH PERMANENT NON-CONDUCTIVE INK ON SECONDARY SIDE UNLESS OTHERWISE SPECIFIED:
 - A. UL CODE-FLAMMABILITY RATING FOR THOSE APPROVED MATERIALS(IF APPLICABLE)
 - B. DATE CODE
 - C. LOT NUMBER
 - D. MANUFACTURER LOGO
24. PANELIZATION:
 - BOARDS TO BE SHIPPED IN ARRAY AND KEPT INTACT
 - PANEL TO BE SUBJECTED TO CUSTOMERS APPROVAL
 - PANEL SOLDER PASTE STENCIL GERBER TO BE PROVIDED TO ANALOG
25. MINIMUM DESIGN LINE WIDTH IS .006 INCHES.
26. MINIMUM DESIGN LINE SPACING IS .006 INCHES.

FAB NOTES REVISION: 2ND NOVEMBER 2022

LAMINATION DIAGRAM				
LAYER NUMBER	LAYER NAME	COPPER THICKNESS (OZ, INCH)	DIELECTRIC THICKNESS (INCH)	MATERIALS
1	TOP	2 OZ, 0.0028"		FINAL CU (THICKNESS AFTER PLATING)
			0.006	ISOLA 370HR/EQUIVALENT
2	LAYER_2	2 OZ, 0.0028"		CU CLAD
			0.010	ISOLA 370HR/EQUIVALENT
3	LAYER_3	2 OZ, 0.0028"		CU CLAD
			0.0132	ISOLA 370HR/EQUIVALENT
4	LAYER_4	2 OZ, 0.0028"		CU CLAD
			0.010	ISOLA 370HR/EQUIVALENT
5	LAYER_5	2 OZ, 0.0028"		CU CLAD
			0.006	ISOLA 370HR/EQUIVALENT
6	BOTTOM	2 OZ, 0.0028"		FINAL CU (THICKNESS AFTER PLATING)

THE FINISHED PCB THICKNESS TO BE: 0.062" +/-10%

ANALOG DEVICES

WWM
DIVISION
804 WOBURN STREET
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER		REV
C	24355	09-083945		B
SCALE	1/1		SHEET	2 OF 2