

16 LAYER STACKUP

		PRIMARY SILKSCREEN	
		PRIMARY SOLDER MASK	
		2.15MIL 0.375OZ PRI SIDE	(LAYER 1) 50OHM SINGLE, 50OHM DIFF, 100OHM DIFF, COPLANAR
6.15MIL PREPREG I-SPEED 1035(77)/1035(77)	18.25GX24.25	0.55MIL 0.375OZ SIGNAL	(LAYER 2) 100OHM DIFF
3.20MIL PREPREG I-SPEED 1086(66.5)	18.25GX24.25	1.85MIL 0.375OZ PWR PLANE	(LAYER 3)
4.69MIL PREPREG I-SPEED 1035(71.5)/1035(71.5)	18.25GX24.25	0.6MIL 0.5OZ SIGNAL	(LAYER 4) 50OHM SINGLE, 100OHM DIFF
4.0MIL CORE I-SPEED 3313 0.5OZ/0.5OZ VLP2	18.25GX24.25	1.20MIL 1.0OZ PWR PLANE	(LAYER 5)
6.88MIL PREPREG I-SPEED 1078(69.5)/1078(69.5)	18.25GX24.25	0.6MIL 0.5OZ SIGNAL	(LAYER 6) 50OHM SINGLE
4.0MIL CORE I-SPEED 3313 0.5OZ/1.0OZ VLP2	18.25GX24.25	1.20MIL 1.0OZ PWR PLANE	(LAYER 7)
2.88MIL PREPREG I-SPEED 1035(77)	18.25GX24.25	1.85MIL 0.375OZ MIX LAYER	(LAYER 8) 50OHM SINGLE
4.25MIL PREPREG I-SPEED 1035(71.5)/1035(71.5)	18.25GX24.25	1.85MIL 0.375OZ RETURN	(LAYER 9)
2.98MIL PREPREG I-SPEED 1035(77)	18.25GX24.25	0.6MIL 0.5OZ MIX LAYER	(LAYER 10) 50OHM SINGLE, 100OHM DIFF
4.00MIL CORE I-SPEED 3313 0.5OZ/0.5OZ VLP2	18.25GX24.25	0.6MIL 0.5OZ MIX LAYER	(LAYER 11) 50OHM SINGLE, 100OHM DIFF
6.96MIL PREPREG I-SPEED 1078(69.5)/1078(69.5)	18.25GX24.25	0.6MIL 0.5OZ MIX LAYER	(LAYER 12) 50OHM SINGLE, 100OHM DIFF
4.00MIL CORE I-SPEED 3313 0.5OZ/1.0OZ VLP2	18.25GX24.25	1.20MIL 1.0OZ PWR PLANE	(LAYER 13)
4.58MIL PREPREG I-SPEED 1035(71.5)/1035(71.5)	18.25GX24.25	1.85MIL 0.375OZ RETURN	(LAYER 14)
3.20MIL PREPREG I-SPEED 1086(66.5)	18.25GX24.25	0.55MIL 0.375OZ MIX LAYER	(LAYER 15)
6.16MIL PREPREG I-SPEED 1035(77)/1035(77)	18.25GX24.25	2.15MIL 0.375OZ SEC SIDE	(LAYER 16) 50OHM SINGLE, 100OHM DIFF, COPLANAR
		SECONDARY SOLDER MASK	
		SECONDARY SILKSCREEN	

CHARACTERISTIC IMPEDANCE = 50 OHMS +/- 10%

SPECIFICATIONS:

MATERIALS;

MATERIAL FAMILY;  
CLADDING;

SOLDER MASK;

SILK SCREEN;

SURFACE FINISH;

INTENTIONAL SHORTS;

TEST REQUIREMENTS;

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

I-SPEED  
EXTERNAL LAYERS .5 OZ. COPPER, OVERPLATE TO 1.5 OZ. REFER TO STACKUP FOR INTERNAL INSTRUCTIONS.

NOTE: IF THE LAYER STACKUP CONFLICTS WITH THE ABOVE CLADDING SPECIFICATIONS THEN THE LAYER STACKUP SHALL TAKE PRECEDENCE.

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.

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

SURFACE TO BE ENIG

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.

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 .004 INCH.
- MINIMUM DESIGN SPACING IS .003 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:

- 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.


- 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.

- VIAS .008"-.020" ARE TO BE FILLED WITH NON-CONDUCTIVE EPOXY AND COPLANNAR ON BOTH SIDES WITHIN .001 INCH PRIOR TO FINAL PLATING.
- VIAS .008"-.010" MICRO VIAS ARE TO BE FILLED/PLATED WITH COPPER COPLANNAR ON BOTH SIDES WITHIN .001 INCH PRIOR TO FINAL PLATING.

- ADD 1ST TEST COUPON PROVIDED TWO PER PANEL, PREFERABLY ON CENTER OF PANEL.

PRIMARY SIDE

ANALOG  
DEVICES

WWM  
DIVISION  
804 WOBURN STREET  
WILMINGTON, MA 01887

SIZE	FSCM NO	DRAWING NUMBER	REV
D	24355	09-049168	C
SCALE	1/1	SHEET	2 OF 2