

8

7

6

5

4

3

2

1

REV #

DESCRIPTION

DATE

REV #

CCN #

DDMMYY

FABRICATION NOTES:

1. FABRICATE PCB IN ACCORDANCE WITH IPC-6012C, CLASS 2; PER IPC-6011.

2. MATERIALS:

1. LAMINATE AND PREPREG (B-STAGE) TO BE IN ACCORDANCE WITH IPC-4101/126. (MIN.TG 170)

2. COPPER FOIL TO BE IN ACCORDANCE WITH IPC-MF-150. UNLESS OTHERWISE SPECIFIED, ALL COPPER WEIGHT FOR INNER SIGNAL LAYERS AND INNER PLANE LAYERS TO BE 35UM (1 OZ.). FOR OUTER LAYERS 46UM (1.0 OZ). COPPER WEIGHT IS TO BE CONSIDERED "FINISHED". THE COPPER FOIL THICKNESS TOLERANCES SHALL BE AS PER IPC 6012B TABLE NO.3-7 AND 3-8.

3. ALL HOLES SHALL BE LOCATED WITHIN 0.15MM DIAMETER OF TRUE POSITION. LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.125MM.

4. BOW AND TWIST SHALL NOT EXCEED MORE THAN 0.75% OF THE DESIGN LENGTH.

5. CONDUCTOR WIDTH SHALL NOT BE LESS THAN 20% FROM ITS ORIGINAL DATA. INCASE FOR MATCHING IMPEDANCE MISTRAL SHALL APPROVE THE MODIFIED WIDTHS AND SPACING. TRACE WIDTH SHALL BE MEASURED ON THE SURFACE IN CONTACT WITH THE LAMINATE.

6. AUTOMATED OPTICAL INSPECTION OF ALL THE LAYERS IS REQUIRED.

7. FINISH:

1. ALL EXPOSED CONDUCTIVE PATTERN AREAS NOT COVERED WITH SOLDER MASK OR OTHER PLATING SHALL BE ENIG, ELECTROLESS NICKEL/IMMERSION GOLD, ELECTROLESS NICKEL SHALL BE 3-6 MICRONS, TYPICAL IMMERSION GOLD THICKNESS SHALL BE 0.03-0.07 MICRONS OF SOLDERABLE IMMERSION GOLD SURFACE.

2. APPLY LIQUID PHOTO IMAGEABLE SOLDER MASK PER IPC-SM-840, CLASS H, TO BOTH SIDES OF THE BOARD OVER BARE COPPER. VIA HOLES SHALL BE FILLED WITH NON CONDUCTIVE INK AND COVERED WITH SOLDER MASK. ONLY SOLDER MASK IMAGES THAT ARE 0.08(0.003") PER SIDE SHALL BE REDUCED IF REQUIRED. ALL OTHER SOLDER MASK IMAGES SHALL NOT BE ENLARGED. DEFAULT COLOUR OF SOLDER MASK SHALL BE GREEN.

3. SILKSCREEN SHALL BE WHITE, PERMANENT, ORGANIC, NON-CONDUCTIVE INK. THERE SHALL BE NO SILKSCREEN ON ANY SOLDERABLE COMPONENT PAD. CLIPPING OF SILK SCREEN SHALL BE ALLOWED IF THE SILK SCREEN FALLS ON SOLDERABLE AREAS.

4. SURFACE AND VIA HOLES FINISH SHALL NOT BE LESS THAN 20UM [0.00079"],

5. ALL HOLES SURROUNDED BY LAND <=0.010" SHALL BE COMPLAIN TO IPC6012, CLASS 2.

8. MARKING:

1. BOARD SHALL MEET THE REQUIREMENTS OF UL-796E WITH FLAMMABILITY RATING OF MINIMUM 94V-0. UL LOGO, UL FILE NUMBER MANUFACTURER'S IDENTIFICATION AND DATE CODE LETTER SHALL BE RENDERED IN SILKSCREEN.

9. TEST REQUIREMENTS:

1. 100% NET LIST ELECTRICAL VERIFICATION USING MISTRAL SUPPLIED IPC-D-356 NET LIST FOR OPENS AND SHORTS.

10. THIEVING IS ALLOWED ONLY IN THE PANEL FRAME, NOT IN THE CIRCUIT AREA.

11. TEAR DROPS SHALL BE ADDED ON INTERNAL AND EXTERNAL LAYER FOR ALL THE VIA'S AND THROUGH HOLE PADS.

12. FINISHED PCB THICKNESS SHALL BE 0.075" +/-10%.

13. MIN TRACE WIDTH/SPACING ON BOARD IS 0.004"/0.004".

14. ALL THE IMPEDANCE SHALL BE MATCHED AS PER IMPEDANCE TABLE WITH +/-10% TOLERANCE.

15. REMOVE THE UNUSED PADS IN ALL INTERNAL LAYERS.

DRILL CHART: TOP to BOTTOM

ALL UNITS ARE IN MILS

FIGURE	SIZE	TOLERANCE	PLATED	QTY
•	8.0	+3.0/-3.0	PLATED	1363
•	32.0	+2.0/-2.0	PLATED	10
•	36.0	+3.0/-3.0	PLATED	135
•	40.0	+3.0/-3.0	PLATED	56
•	40.0	+3.0/-3.0	PLATED	11
•	44.0	+2.0/-2.0	PLATED	30
•	44.0	+3.0/-3.0	PLATED	16
■	66.0	+3.0/-3.0	PLATED	10
⊕	126.0	+3.0/-3.0	PLATED	2
■	40.0	+3.0/-3.0	NON-PLATED	4
⊕	126.0	+3.0/-3.0	NON-PLATED	14

102.21

190.5 204.5

DETAIL-A

DETAIL-A

45°

TYP

0.71MM

1.51MM

0.5MM

0.10MM

DETAIL-A (V-GROOVE DETAILS)

SCALE: NTS

IMPEDANCE SPECIFICATIONS

SL#	TYPE	LAYER	TRACEWIDTH (Mils)	SPACING (Mils)	IMPEDANCE (Ohms)	REF LAYER
01	MICROSTRIP	L1, L8	6.8	NA	50	L2, L7
02	EDGE COUPLED MICROSTRIP	L1, L8	4.0	6.5	100	L2, L7
03	EDGE COUPLED MICROSTRIP	L8	5.0	7.3	120	L5
04	EDGE COUPLED MICROSTRIP	L8	4.0	12.0	150	L6
05	STRIPLINE	L3, L6	4.0	NA	50	L2/L4, L5/L7

LAYER STACKUP

LAYER NAME	FINISHED Cu	X-SECTION	DIELECTRIC THICKNESS
PRIMARY SIDE SILKSCREEN			[INCHES]
PRIMARY SIDE SOLDERMASK			
L01 PRIMARY SIDE	1oz.		0.0047
L02 GROUND-PLANE-1	1oz.		0.0050
L03 INNER-SIGNAL-1	1oz.		0.0070
L04 GROUND-PLANE-2	1oz.		0.0280
L05 POWER-PLANE-01	1oz.		0.0070
L06 INNER-SIGNAL-2	1oz.		0.0050
L07 GROUND-PLANE-3	1oz.		0.0050
L08 SECONDARY SIDE	1oz.		0.0047
SECONDARY SIDE SOLDERMASK			
SECONDARY SIDE SILKSCREEN			

SIGNATURES

DATE

LAYOUT BY VU 211119

REVIEWED BY ZA 211119

APPROVED BY AMB 211119

SIZE D

SCALE: NONE

TEXAS INSTRUMENTS

J7X GESI EXP BRD

Rev E3

SHEET 1 OF 15

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