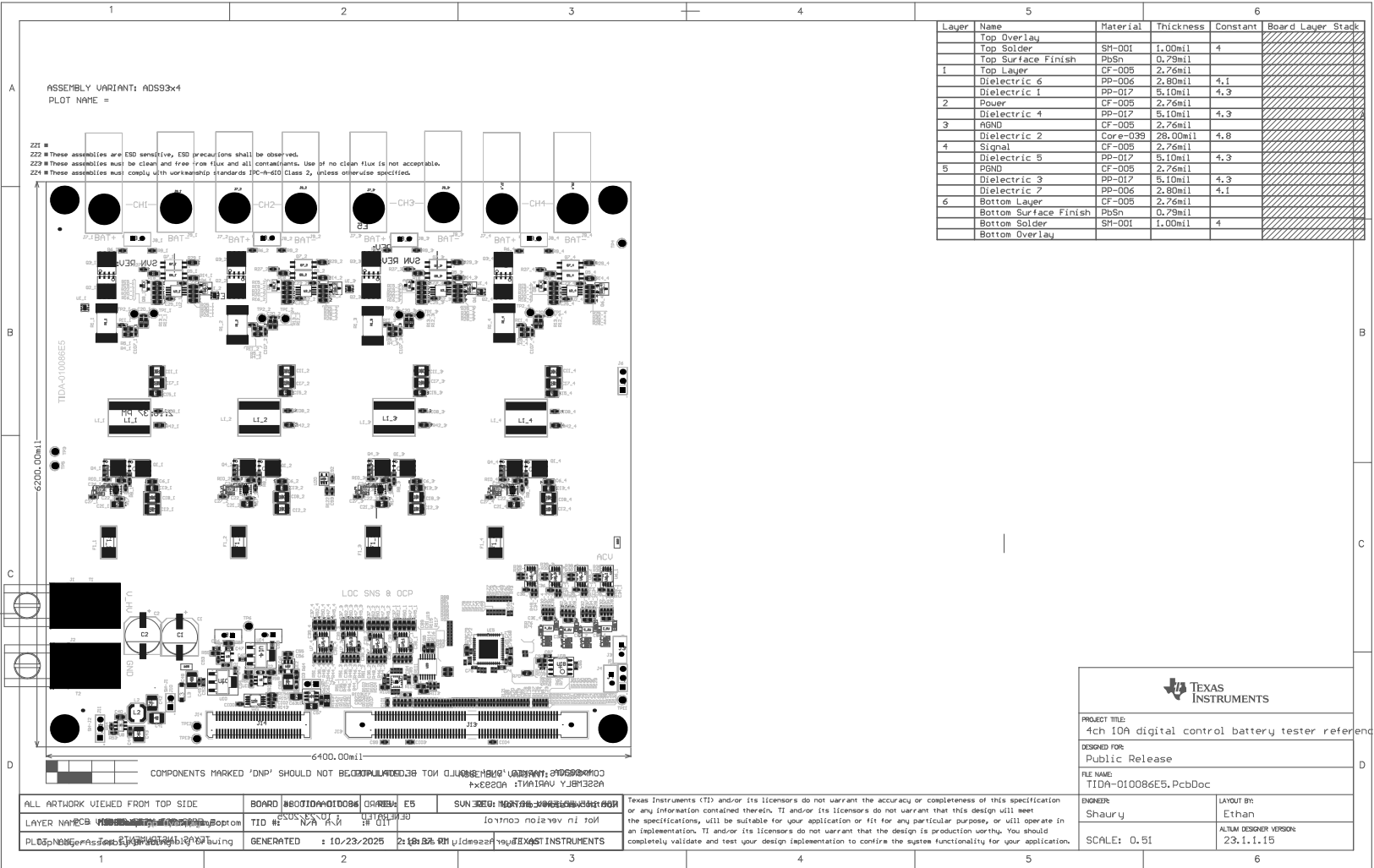


Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.



DESIGN INFORMATION

MIN. TRACK WIDTH: 6 MIL
MIN. CLEARANCE: 7.874 MIL
MIN. VIA PAD SIZE: 20 MIL
MINIMUM ANNUAL RING 0.15mm (5.8MIL) EXTERNAL
PER IPC-D-278 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL HOLES +/- 3 MIL
HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- 3 MIL

MATERIAL:

FR-408 ☒ FR-4 High Tg ☐ OTHER _____
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER _____
TOLERANCE: ☐ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-

DRILLING:

REFERENCE: ☒ AS SHOWN ☐ NC DRILL FILES
PTH COPPER THICKNESS: ☒ 20-30 um ☐ OTHER _____

BOARD FINISH:

SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER _____
SOLDER RESIST COLOR: ☒ GREEN ☐ OTHER _____
☐ MATTE ☐ SEMI-GLOSS

SURFACE FINISH: ☒ IMMERSION GOLD (ENIG) ☐ ENIG
☐ MM. TIN/SILVER OR EQUIV ☐ OTHER _____

ARRAY/PANEL: ☐ CUT AND TRIM PER M1 BOARD OUTLINE
☐ N.C. ROUTE ☐ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBs TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☐ RoHS ☐ OTHER _____ PER ORDER

ALL BOARDS MUST MEET OR EXCEED UL94V-0 FLAMMABILITY REQUIREMENTS.
PCB MUST BEAR THE UL94V-0 UL REGISTERED MATERIAL ID NUMBER

ADDITIONAL REQUIREMENTS:

MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
☐ XX MIL VAS REQUIRE NON-CONDUCTIVE FILL AND PLANARIZE
☒ 12.5mil MIL VAS REQUIRE CONDUCTIVE FILL AND PLANARIZE
☐ OUTER XX MIL TRACES REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE
☐ LAYER 2 & 3 (INNER LAYERS) XX MIL WIDE, XX MIL SPACE
TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE



PROJECT TITLE:
4ch 10A digital control battery tester reference design

DESIGNED FOR:
Public Release

FILE NAME:
TIDA-010086E5_PcbDoc

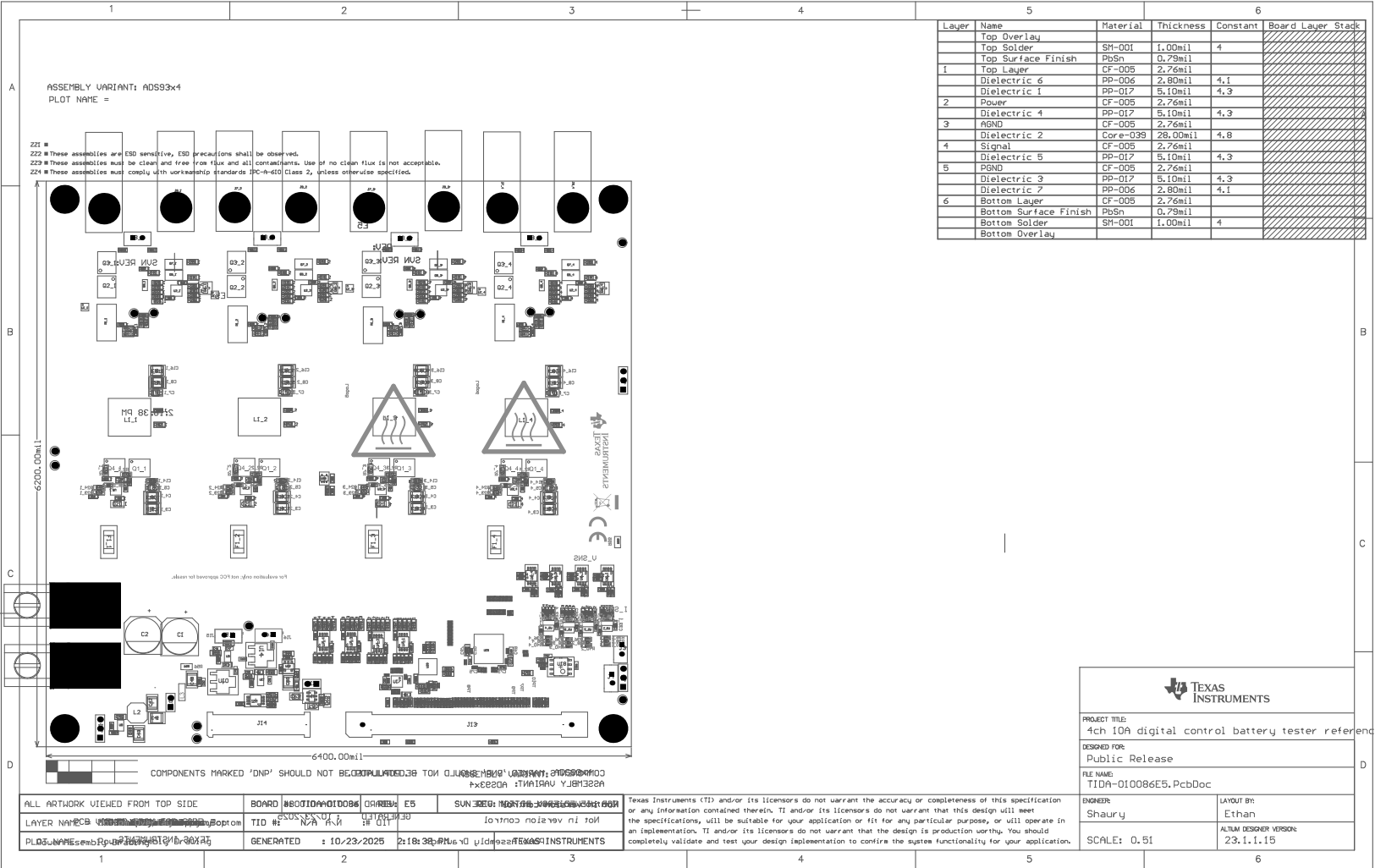
ENGINEER:
Shaury

LAYOUT BY:
Ethan

SCALE: 0.51

ALUM DESIGNER VERSION:
23.1.1.15

Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.



DESIGN INFORMATION

MIN. TRACK WIDTH: 6 MIL
MIN. CLEARANCE: 7.874 MIL
MIN. VIA PAD SIZE: 20 MIL
MINIMUM ANNUAL RING 0.15mm (5.8MIL) EXTERNAL
PER IPC-D-278 GLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL HOLES +/- 3 MIL
HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- 3 MIL

MATERIAL:

FR-408 ☒ FR-4 High Tg ☐ OTHER ☐
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ☒
TOLERANCE: ☐ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-

DRILLING:

REFERENCE: ☒ AS SHOWN ☐ NC DRILL FILES
PTH COPPER THICKNESS: ☒ 20-30 um ☐ OTHER

BOARD FINISH:

SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER
SOLDER RESIST COLOR: ☒ GREEN ☐ OTHER
☐ MATTE ☐ SEMI-GLOSS

SURFACE FINISH: ☒ IMMERSION GOLD (ENIG) ☐ ENPG
☐ MM. TIN/SILVER OR EQUIV ☐ OTHER

ARRAY/PANEL: ☐ CUT AND TRIM PER M1 BOARD OUTLINE
☐ N.C. ROUTE ☐ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBs TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☐ RoHS ☐ OTHER PER ORDER

ALL BOARDS MUST MEET OR EXCEED UL94-V0 REQUIREMENTS.
PCB MUST BEAR THE UL94V-0 UL REGISTERED MATERIAL ID NUMBER

ADDITIONAL REQUIREMENTS:

MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER

☒ XX MIL VAS REQUIRE NON-CONDUCTIVE FILL AND PLANARIZE
☒ 12.5mil MIL VAS REQUIRE CONDUCTIVE FILL AND PLANARIZE
☐ OUTER XX MIL TRACES REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE
☐ LAYER 2 & 3 (INNER LAYERS) XX MIL WDE, XX MIL SPACE
TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE



PROJECT TITLE:
4ch 10A digital control battery tester reference design

DESIGNED FOR:
Public Release

FILE NAME:
TIDA010086E5_PcbDoc

ENGINEER:
Shaury

SCALE: 0.51

LAYOUT BY:
Ethan

ALUM DESIGNER VERSION:
23.1.1.15

Layer	Name	Material	Thickness	Constant	Board Layer	Stack
	Top Overlay					
	Top Solder	SP-001	1.00mil	4		
	Top Surface Finish	PbSn	0.27mil			
1	Top Layer	CF-005	2.76mil			
	Dielectric 6	PP-006	2.80mil	4.1		
	Dielectric 1	PP-017	5.10mil	4.3		
2	Power	CF-005	2.76mil			
	Dielectric 4	PP-017	5.10mil	4.3		
	AGND	CF-005	2.76mil			
4	Dielectric 2	Core-039	28.00mil	4.8		
	Signal	CF-005	2.76mil			
	Dielectric 5	PP-017	5.10mil	4.3		
5	PBND	CF-005	2.76mil			
	Dielectric 3	PP-017	5.10mil	4.3		
	Dielectric 7	PP-006	2.80mil	4.1		
6	Bottom Layer	CF-005	2.76mil			
	Bottom Surface Finish	PbSn	0.27mil			
	Bottom Solder	SP-001	1.00mil	4		
	Bottom Overlay					

DESIGN INFORMATION

MIN. TRACK WIDTH: _____ .6 MIL
MIN. CLEARANCE: _____ .524 MIL
MIN. BOARD PAD SIZE: _____ .20 MIL
MINIMUM ANNUAL RING 0.15mm (3.93X) EXTERNAL
PER IPC-20-275 CLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL: +/- .5 MIL HOLES +/- .3 MIL
HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- .9 MIL

MATERIAL:

☐ FR-406 ☒ FR-4 High Tg ☐ OTHER _____

THICKNESS: ☒ .02 MIL (1.6mm) +/- .0108 ☐ OTHER _____

TOLERANCE: ☐ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- _____

BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/- _____

DRILLING:

REFERENCE: ☒ AS SHOWN ☐ NC DRILL FILES
PTH COATING THICKNESS: ☒ 20-30 um ☐ OTHER _____

BOARD FINISH:

SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER _____

SOLDER RESIST COLOR: ☒ GREEN ☐ OTHER _____
☐ MATTE ☐ SEMI-GLOSS

SURFACE FINISH: ☒ IMMERSION GOLD (ENG) ☐ ENPEG
☐ IMAL TRN/SILVER OR EQUIV ☐ OTHER _____

ARRAY-PLAN: ☐ CUT AND TRIM PER M1 BOARD OUTLINE
☐ NC. ROUTE ☐ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBs
TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS _____ ☐ 1 ☒ 2 ☐ 3
☐ RoHS ☐ OTHER _____ PER ORDER

ALL BOARDS MUST MEET OR EXCEED UL94-V0 REQUIREMENTS.
PCB MUST BEAR THE UL94-V0 - UL REGISTERED MATERIAL D NUMBER

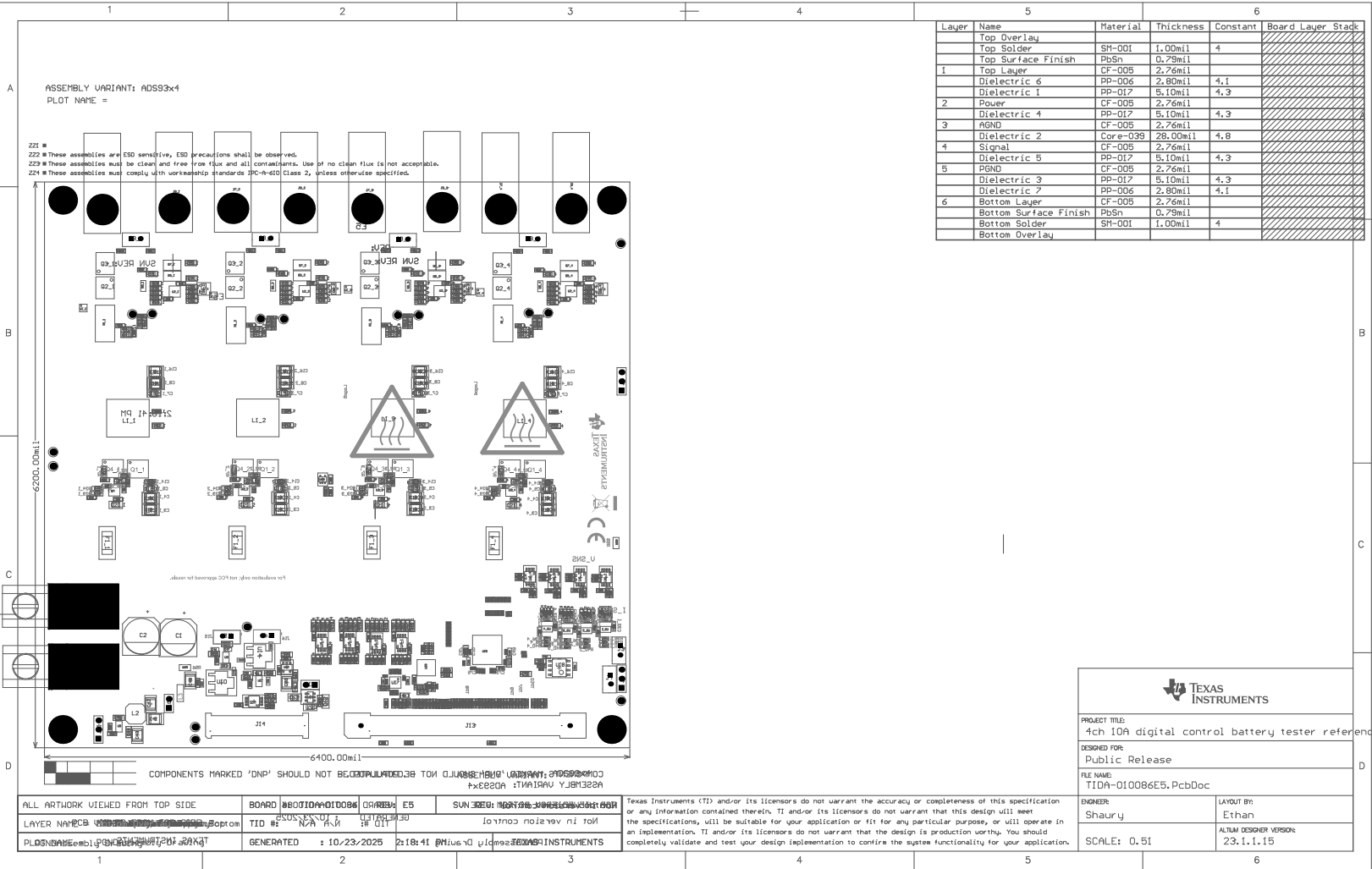
ADDITIONAL REQUIREMENTS:

MISCRECTION: ☐ YES
BASE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
☒ XX MIL WAS REQUIRE NON-CONDUCTIVE FILL AND PLANARIZE
☒ 12.5mil WAS REQUIRE CONDUCTIVE FILL AND PLANARIZE
☐ OUTER XX MIL TRACES REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE
☐ LAYER 2 & 3 (INNER LAYERS) XX MIL WIDE, XX MIL SPACE
TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE

Layer	Name	Material	Thickness	Constant	Board Layer	Stack
	Top Overlay					
	Top Solder	SP-001	1.00mil	4		
	Top Surface Finish	PbSn	0.27mil			
1	Top Layer	CF-005	2.76mil			
	Dielectric 6	PP-006	2.80mil	4.1		
	Dielectric 1	PP-017	5.10mil	4.3		
2	Power	CF-005	2.76mil			
	Dielectric 4	PP-017	5.10mil	4.3		
	AGND	CF-005	2.76mil			
4	Dielectric 2	Core-039	28.00mil	4.8		
	Signal	CF-005	2.76mil			
	Dielectric 5	PP-017	5.10mil	4.3		
5	PBND	CF-005	2.76mil			
	Dielectric 3	PP-017	5.10mil	4.3		
	Dielectric 7	PP-006	2.80mil	4.1		
6	Bottom Layer	CF-005	2.76mil			
	Bottom Surface Finish	PbSn	0.27mil			
	Bottom Solder	SP-001	1.00mil	4		
	Bottom Overlay					

DESIGN INFORMATION			
MIN. TRACK WIDTH:	.6 MIL		
MIN. CLEARANCE:	7.52(3) MIL		
MIN. BOARD PAD SIZE:	20 MIL		
MINIMUM ANNUAL RING 0.15mm (3.94) EXTERNAL			
PER IPC-2075 CLASS 2 LEVEL C			
REGISTRATION TOLERANCES: METAL: +/- .5 MIL HOLES +/- .3 MIL			
HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- .9 MIL			
MATERIAL:			
FR-406	☒ FR-4	High Tg	OTHER ☐
THICKNESS:	☒ 62 MIL (1.6mm)	+/- 10%	OTHER ☒
TOLERANCE:	☐ ANSI PCB-6012 TYPE 3 CLASS 2		
	OTHER +/- ☐		
BOW & TWIST:	☒ ANSI PCB-6012 TYPE 3 CLASS 2		
	OTHER +/- ☐		
DRILLING:			
REFERENCE:	☒ AS SHOWN	NC. DRILL FILES ☐	
P/TH CORN THICKNESS:	☒ 20-30 um	OTHER ☐	
BOARD FINISH:			
SILKSCREEN:	☒ TOP	☒ BOTTOM	
SILKSCREEN COLOR:	☒ WHITE ☐ OTHER		
SOLDER RESIST COLOR:	☒ GREEN ☐ OTHER		
	☐ MATE ☐ SEMI-GLOSS		
SURFACE FINISH:	☒ IMMERSION GOLD ☐ ENEPG		
	☐ IMAL TR/SILVER OR EQUIV ☐ OTHER		
ARRAY-PLAN:	☐ CUT AND TRIM PER M1 BOARD OUTLINE		
	☐ NC. ROUTE ☐ V. SCORE		
CERTIFICATION:	MATERIALS AND WORKMANSHIP FOR ALL PCBs TO MEET OR EXCEED THE REQUIREMENTS OF:		
	☒ ANSI IPC-A-600F CLASS 3	☐ 1	☒ 2
	☐ RoHS	☐ OTHER ☐ PER ORDER	
ALL BOARDS MUST MEET OR EXCEED UL94-V0 REQUIREMENTS.			
PCB MUST BEAR THE UL94-V0 - UL REGISTERED MATERIAL D NUMBER			
ADDITIONAL REQUIREMENTS:			
MISCRECTION: ☐ YES			
BASE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER			
☒ XX MIL WAS REQUIRE NON-CONDUCTIVE FLAT AND PLANARIZE			
☒ 12.5mil WAS REQUIRE CONDUCTIVE FLAT AND PLANARIZE			
☐ OUTER XX MIL TRACES REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE			
☐ LAYER 2 & 3 (INNER LAYERS) XX MIL WIDE, XX MIL SPACE			
☐ TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE			

Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.



DESIGN INFORMATION

MIN. TRACK WIDTH: 6 MIL
MIN. CLEARANCE: 7.874 MIL
MIN. VIA PAD SIZE: 20 MIL
MINIMUM ANNUAL RING 0.15mm (5.8MIL) EXTERNAL
PER IPC-D-278 GLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL HOLES +/- 3 MIL
HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- 3 MIL

MATERIAL:

FR-408 ☒ FR-4 High Tg ☐ OTHER ☐
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ☒
TOLERANCE: ☐ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-

DRILLING:

REFERENCE: ☒ AS SHOWN ☐ NC DRILL FILES
PTH COPPER THICKNESS: ☒ 20-30 um ☐ OTHER

BOARD FINISH:

SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER
SOLDER RESIST COLOR: ☒ GREEN ☐ OTHER
☐ MATTE ☐ SEMI-GLOSS

SURFACE FINISH: ☒ IMMERSION GOLD (ENG) ☐ ENPG
☐ MM. TIN/SILVER OR EQUIV ☐ OTHER

ARRAY/PANEL: ☐ CUT AND TRIM PER M1 BOARD OUTLINE
☐ N.C. ROUTE ☐ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBs TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☐ RoHS ☐ OTHER PER ORDER

ALL BOARDS MUST MEET OR EXCEED UL94-V0 REQUIREMENTS.
PCB MUST BEAR THE UL94V-0 UL REGISTERED MATERIAL ID NUMBER

ADDITIONAL REQUIREMENTS:

MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER
☐ XX MIL VAS REQUIRE NON-CONDUCTIVE FILL AND PLANARIZE
☒ 12.5mil MIL VAS REQUIRE CONDUCTIVE FILL AND PLANARIZE
☐ OUTER XX MIL TRACES REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE
☐ LAYER 2 & 3 (INNER LAYERS) XX MIL WDE, XX MIL SPACE
TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE



PROJECT TITLE:
4ch 10A digital control battery tester reference design

DESIGNED FOR:
Public Release

FILE NAME:
TIDA-010086E5_PcbDoc

ENGINEER:
Shaury

SCALE: 0.51

LAYOUT BY:
Ethan

ALUM DESIGNER VERSION:
23.1.1.15

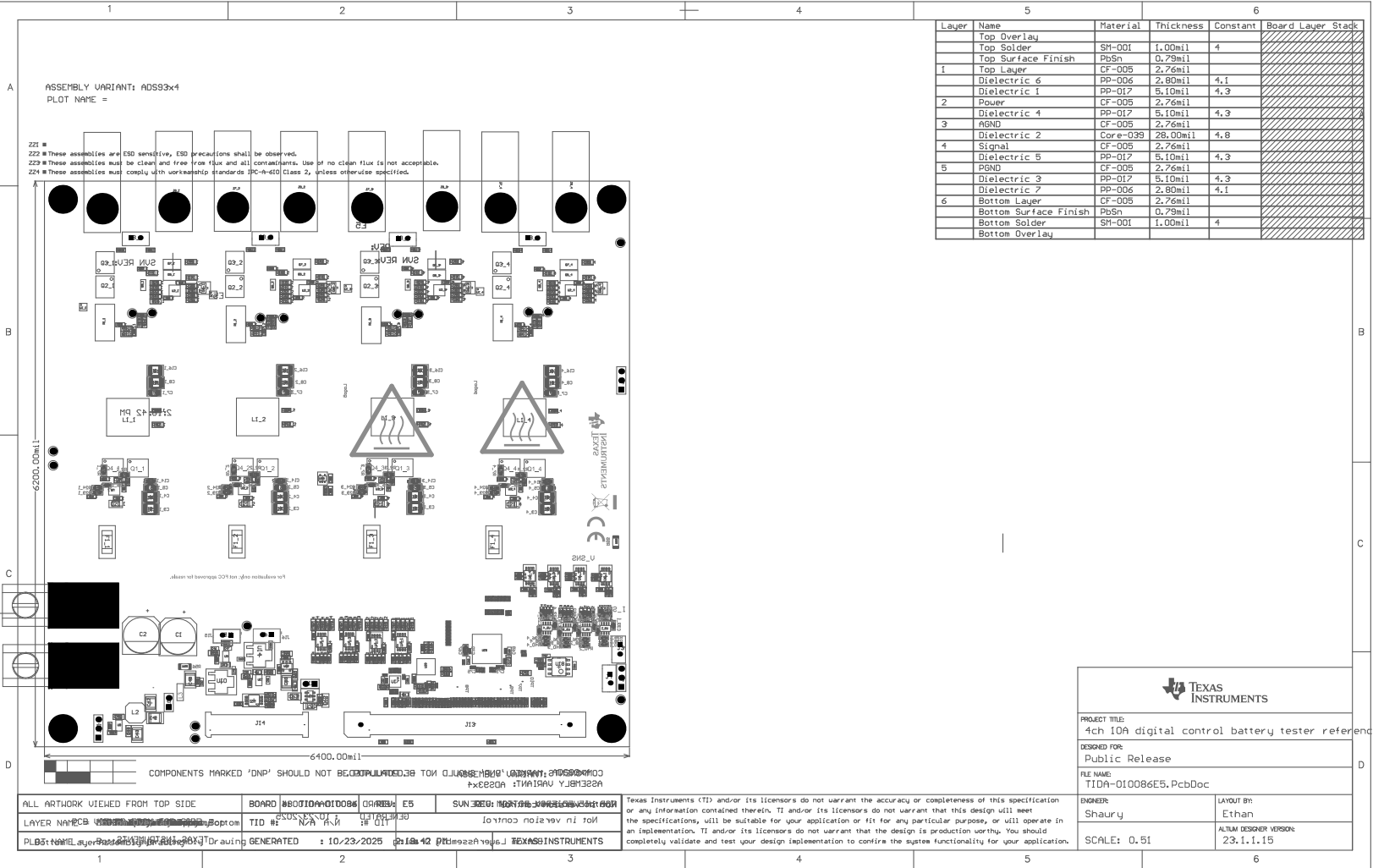
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BOARD: TIDA-010086E5
LAYER NAME: Bottom
PLOT NAME: Bottom

GENERATED: 10/23/2025 2:18:41 PM
TID #1: N/A
SUN #1: N/A
HIT #1: N/A

COMPONENTS MARKED 'DNP' SHOULD NOT BE ORDERED.

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Install label in silkscreened box after final wash. Text shall be 8 pt font. Text shall be per the Label Table in the PDF schematic.



DESIGN INFORMATION

MIN. TRACK WIDTH: 6 MIL
MIN. CLEARANCE: 7.874 MIL
MIN. VIA PAD SIZE: 20 MIL
MINIMUM ANNUAL RING 0.15mm (5.8MIL) EXTERNAL
PER IPC-D-278 GLASS 2 LEVEL C
REGISTRATION TOLERANCES: METAL +/- 5 MIL HOLES +/- 3 MIL
HOLE SIZE TOLERANCE (UNLESS OTHERWISE SPECIFIED): +/- 3 MIL

MATERIAL:

FR-408 ☒ FR-4 High Tg ☐ OTHER ☐
THICKNESS: ☒ 62 MIL (1.6mm) +/-10% ☐ OTHER ☒
TOLERANCE: ☐ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-
BOW & TWIST: ☒ ANSI IPC-6012 TYPE 3 CLASS 2
☐ OTHER +/-

DRILLING:

REFERENCE: ☒ AS SHOWN ☐ NC DRILL FILES
PTH COPPER THICKNESS: ☒ 20-30 um ☐ OTHER

BOARD FINISH:

SILKSCREEN: ☒ TOP ☒ BOTTOM
SILKSCREEN COLOR: ☒ WHITE ☐ OTHER
SOLDER RESIST COLOR: ☒ GREEN ☐ OTHER
☐ MATTE ☐ SEMI-GLOSS

SURFACE FINISH: ☒ IMMERSION GOLD (ENIG) ☐ ENPG
☐ MM. TIN/SILVER OR EQUIV ☐ OTHER

ARRAY/PANEL:

☐ CUT AND TRIM PER M1 BOARD OUTLINE
☐ N.C. ROUTE ☐ V. SCORE

CERTIFICATION: MATERIALS AND WORKMANSHIP FOR ALL PCBs TO MEET OR EXCEED THE REQUIREMENTS OF:
☒ ANSI IPC-A-600F CLASS -> ☐ 1 ☒ 2 ☐ 3
☐ RoHS ☐ OTHER PER ORDER

ALL BOARDS MUST MEET OR EXCEED UL94-V0 REQUIREMENTS.
PCB MUST BEAR THE UL94-V0 UL REGISTERED MATERIAL ID NUMBER

ADDITIONAL REQUIREMENTS:

MICROSECTION: ☐ YES
BARE BOARD ELEC. TEST: ☐ NONE ☒ REQUIRED ☐ PER ORDER

☒ XX MIL VAS REQUIRE NON-CONDUCTIVE FILL AND PLANARIZE
☒ 12.5mil MIL VAS REQUIRE CONDUCTIVE FILL AND PLANARIZE
☐ OUTER XX MIL TRACES REQUIRE 50 OHM SINGLE-ENDED IMPEDANCE
☐ LAYER 2 & 3 (INNER LAYERS) XX MIL WDE, XX MIL SPACE
TRACES REQUIRE 100 OHM DIFFERENTIAL IMPEDANCE

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