

11. ELECTRICAL TEST: CONTINUITY SHORT AND OPEN TESTING ON ALL AVAILABLE EXPOSED TERMINAL PADS USING IPC-D-356A NETLIST DATA. CONTINUITY TEST SHALL BE AT 5 OHMS MAX. SHORTS TESTING SHALL BE PERFORMED AT 250V. MINIMUM ISOLATION OF 20M OHMS.
10. BOW AND TWIST: SHALL NOT EXCEED .007 IN PER INCH
- 9 SILKSCREEN: BOTH SIDES WITH WHITE NON-CONDUCTIVE EPOXY INK. LANDS AND EXPOSED PLATED AREAS TO BE FREE OF INK.
- 8 SOLDER MASK: PHOTO-IMAGED LIQUID POLYMER, GREEN COLOR, ON BOTH SIDES OF BOARD IN ACCORDANCE WITH IPC-SM-840, TYPE B, CLASS 2, OVER BARE COPPER.
7. FABRICATION TOLERANCES: END PRODUCT TRACE WIDTHS AND LANDS SHALL NOT VARY MORE THAN THE SMALLER OF .002 IN OR 10% OF THE TRACE WIDTH FROM THE GERBER DATA.
6. ALL HOLES SPECIFIED IN THE DRILL CHART ARE FINISHED HOLE DIAMETERES. HOLE TOLERANCE +/- 0.002 IN FOR NON-PLATED HOLES AND +/- 0.003 IN FOR PLATED HOLES.
5. SURFACE FINISH TO BE ELECTROLESS NICKEL/IMMERSION GOLD (ENIG) PLATING PER IPC-6013. ALL PLATED HOLES AND CONDUCTIVE SURFACES SHALL BE PLATED WITH 0.001 IN COPPER MINIMUM. ALL Ni/Au PLATED AREA SHOULD HAVE MINIMUM THICKNESS 0.0001 IN FOR Ni AND 0.000002 IN FOR Au.
4. MATERIAL: .062 IN (+/- 10%) THICK GLASS EPOXY, NATURAL COLOR, LAMINATED NEMA GRADE FR4.
3. FABRICATE AND INSPECT PER IPC-6012.
2. THIS DOCUMENT AND RELATED ARTWORK ARE COMPUTER GENERATED. CHANGES ARE TO BE PERFORMED ON THE ORIGINAL DATABASE IN SECTION 383.
1. THE FINISHED PRINTED WIRING BOARD SHALL MEET THE REQUIREMENTS OF IPC-A-600-X (LATEST REVISION).

NOTES: UNLESS OTHERWISE SPECIFIED

THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.

10364584	TMT
NEXT ASSEMBLY	USED ON
APPLICATION	

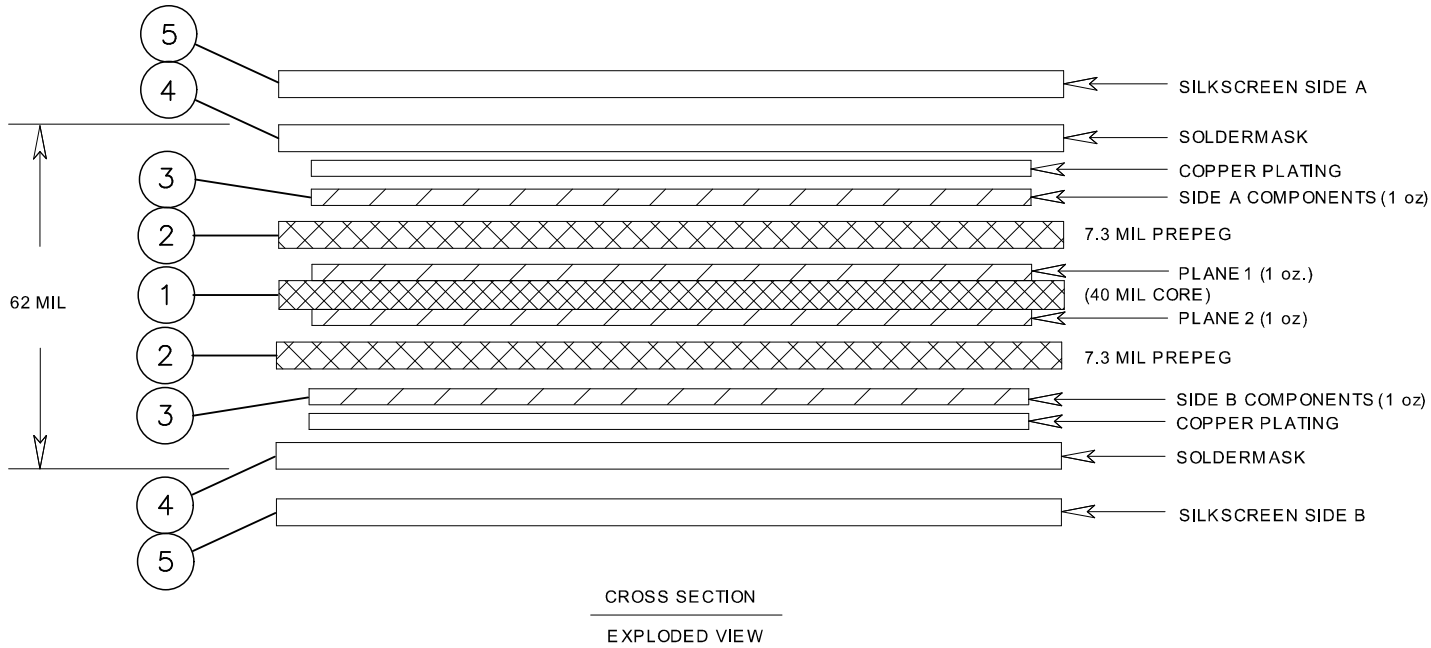
MATERIAL:
MATERIAL PER SPECIFICATION
THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES LINEAR TOLERANCES: .XX .03 .XXX .010 ANGULAR TOLERANCES: 0.5 MACHINE FINISH	CONTRACT NO _____ APPD _____ DATE _____ DWN D. PALMER 2013/11/11 CHK _____ STRUCT _____ MATL _____ THRM CONT _____ ENGR _____ DSGN SUPV _____
DO NOT SCALE DRAWING INTERPRET DWG PER ASME Y14.100	

JET PROPULSION LABORATORY CALIFORNIA INSTITUTE OF TECHNOLOGY PASADENA, CA 91109			
TMT ACTUATOR BASE BOARD PCB FABRICATION			
SIZE	CAGE CODE	REV	
B	23835	10364583	c
SCALE: 1/1	UNCLASSIFIED	SHEET 1 OF 14	

	AR	5			HYSOL SERIES M. CATALYST 20/A	INK, WHITE EPOXY	IPC-4781	9
	AR	4			LPI, SM P41	SOLDERMASK, PROBIMER 52	IPC-SM-840 CL A	8
	AR	3			3 CU E3	COPPER FOIL, 1 OZ.	IPC-4562	
	AR	2			P 26-E2116 TW RE VC	GLASS BASE EPOXY RESIN PREPREG, B-STAGE	IPC-4104/26	
	AR	1			L 26-0400-C1/C1	GLASS BASE EPOXY RESIN CU CLAD 1 OZ / 1 OZ	IPC-4104/26	
QTY REQD		ITEM NO	REF DES	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE

REVISION HISTORY											
LTR	DESCRIPTION				DWN	CHK	STRUCT	MATL	THRM CONT	ENGR	DSGN SUPV
A	INITIAL RELEASE				CLASS E	SEE TITLE BLOCK				JLM	2013/11/12
B	FLIPPED J1A and J1B AND CORRECTED U16 FOOTPRINT				E					JLM	2014/05/21
C	CHANGED ITAR NOTICE, ADDED COPYRIGHT AND PARTS LIST				E						



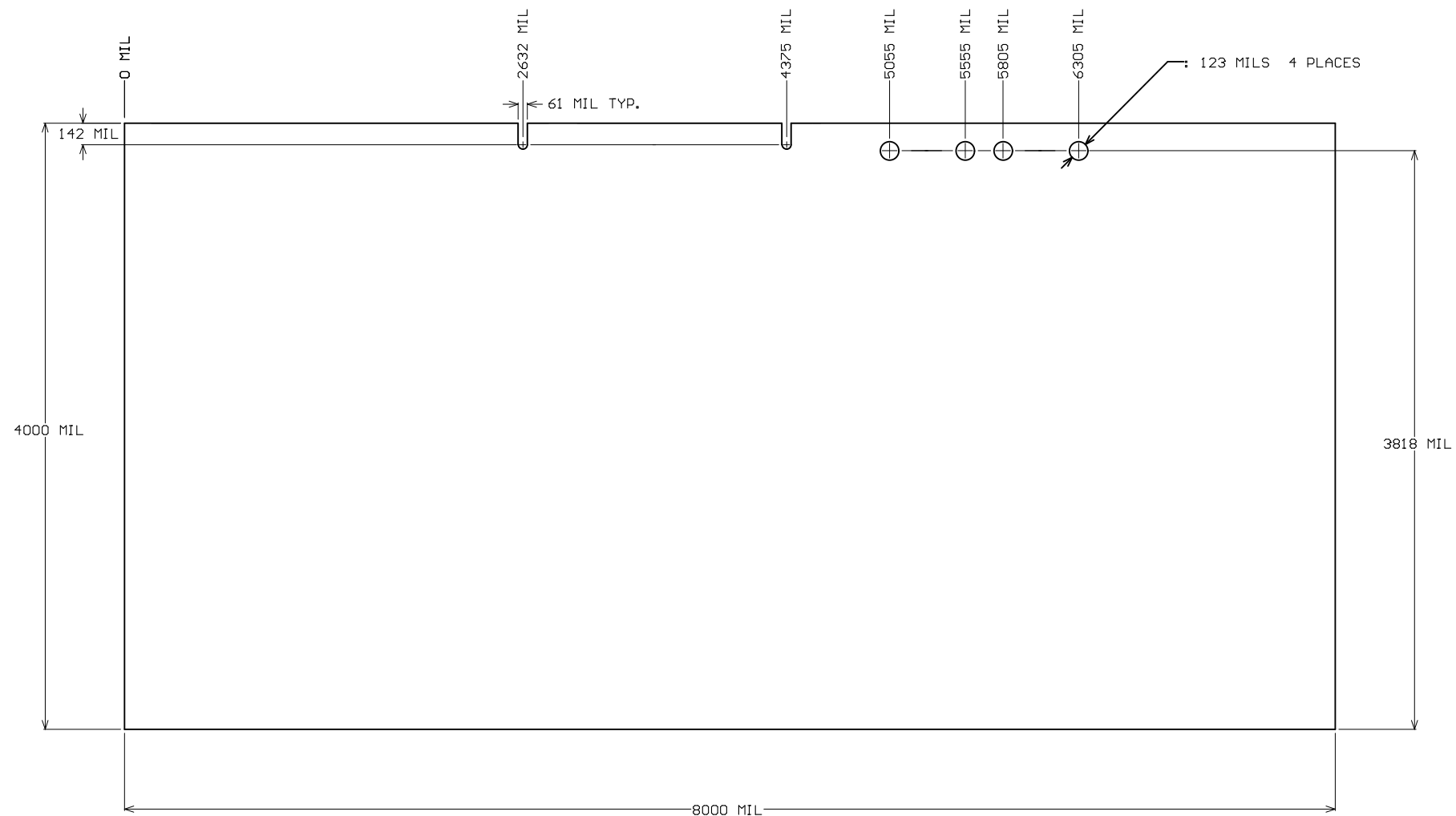
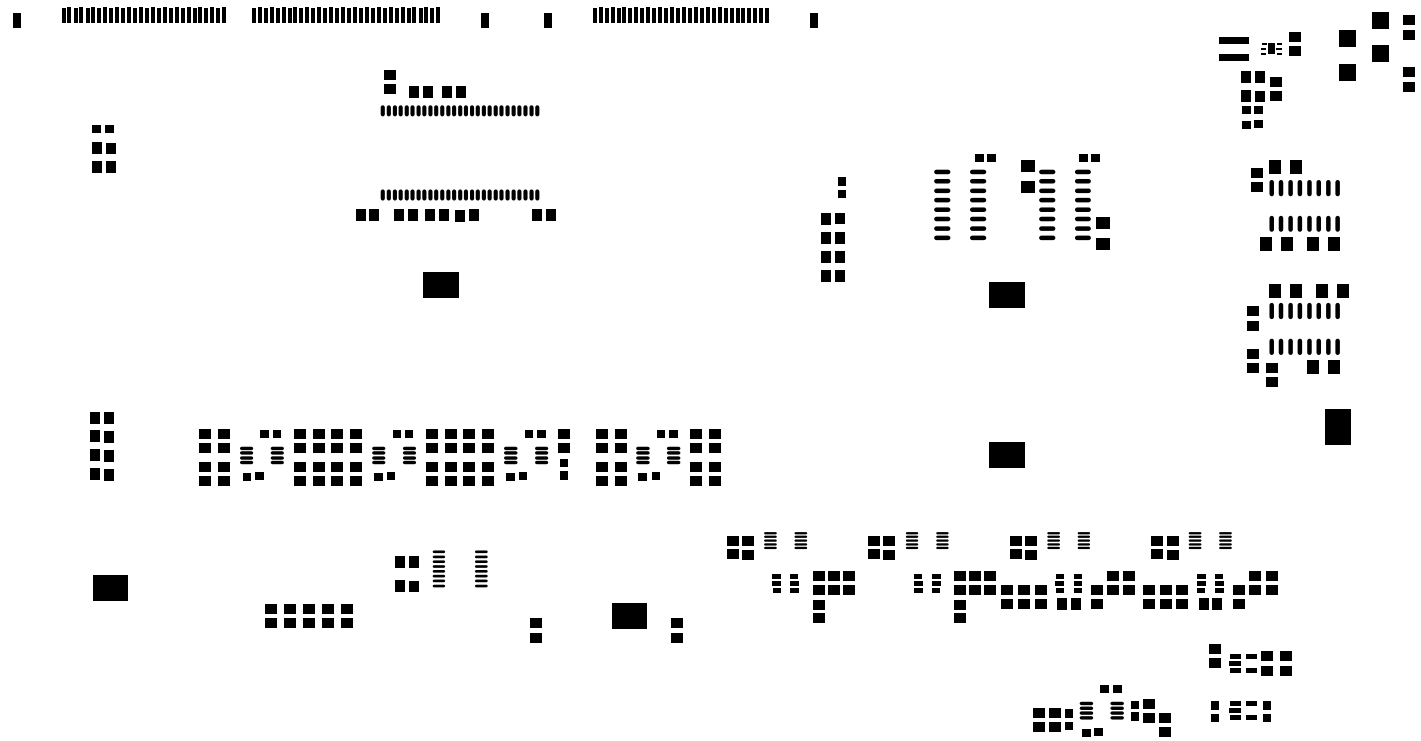


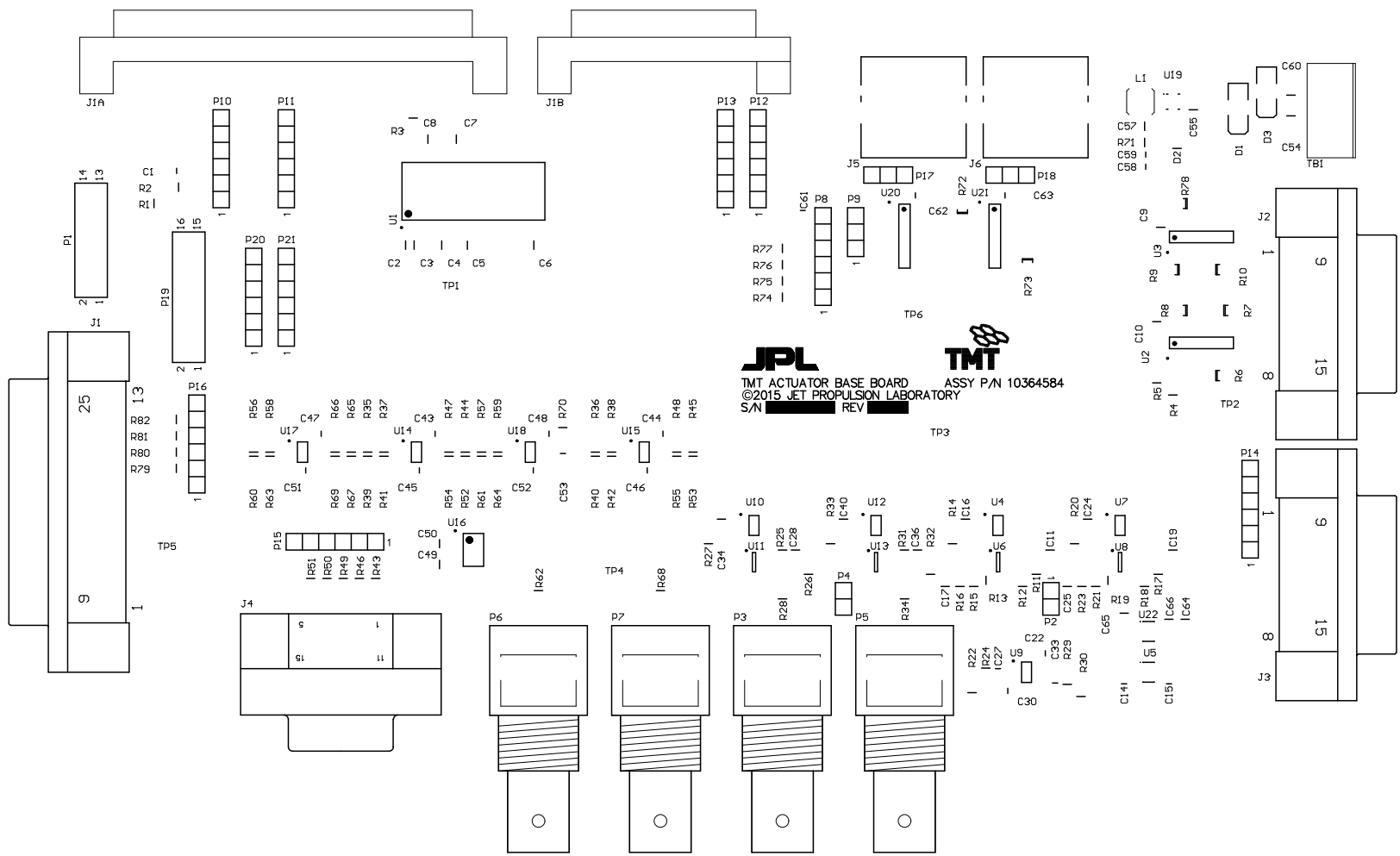
TABLE A / ARTWORK FILE DESIGNATION				
SN NO.	FILE:	LOGICAL LAYER	PHYSICAL LAYER	DESCRIPTION
4	10364583.GTP	-	OUTER LAYER 1	PASTE MASK SIDE A
5	10364583.GTO	-	OUTER LAYER 2	OVERLAY SIDE A
6	10364583.GTS	-	OUTER LAYER 3	SOLDER MASK SIDE A
7	10364583.GTL	COPPER SIDE A	OUTER LAYER COPPER	COMPONENTS SIDE A
8	10364583.GP1	COPPER LAYER 2	INNER LAYER	PLANE - GND
9	10364583.GP2	COPPER LAYER 2	INNER LAYER	PLANE - +5V/3V3 SPLIT
10	10364583.GBL	COPPER SIDE B	OUTER LAYER COPPER	COMPONENTS SIDE B
11	10364583.GBS	-	OUTER LAYER 4	SOLDER MASK SIDE B
12	10364583.GBO	-	OUTER LAYER 5	OVERLAY SIDE B
13	10364583.GBP	-	OUTER LAYER 6	PASTE MASK SIDE B
14	10364583.GD1	-	DRILL LOCATIONS	DRILL DRAWING

TABLE B / APERATURE SIZES			
SN NO.	FILE:	APERTURE TYPE	EMBEDDED D-CODE
4	10364583.GTP	RS274-X STANDARD	YES
5	10364583.GTO		YES
6	10364583.GTS		YES
7	10364583.GTL		YES
8	10364583.GP1		YES
9	10364583.GP2		YES
10	10364583.GBL		YES
11	10364583.GBS		YES
12	10364583.GBO		YES
13	10364583.GBP		YES
14	10364583.GD1		YES



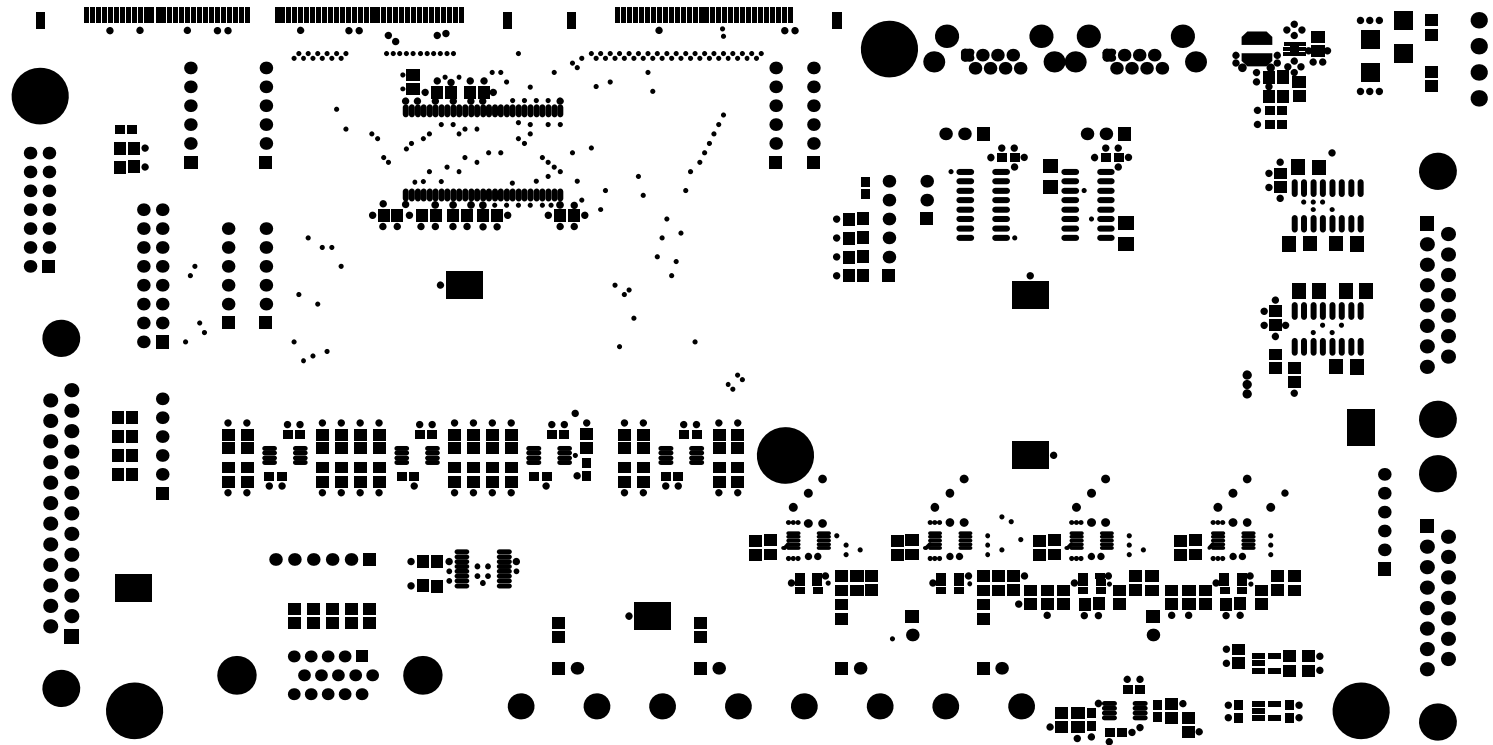
PASTEMASK – SIDE A

THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10364583	C
SCALE: 1/1		UNCLASSIFIED	SHEET 4 OF 14	



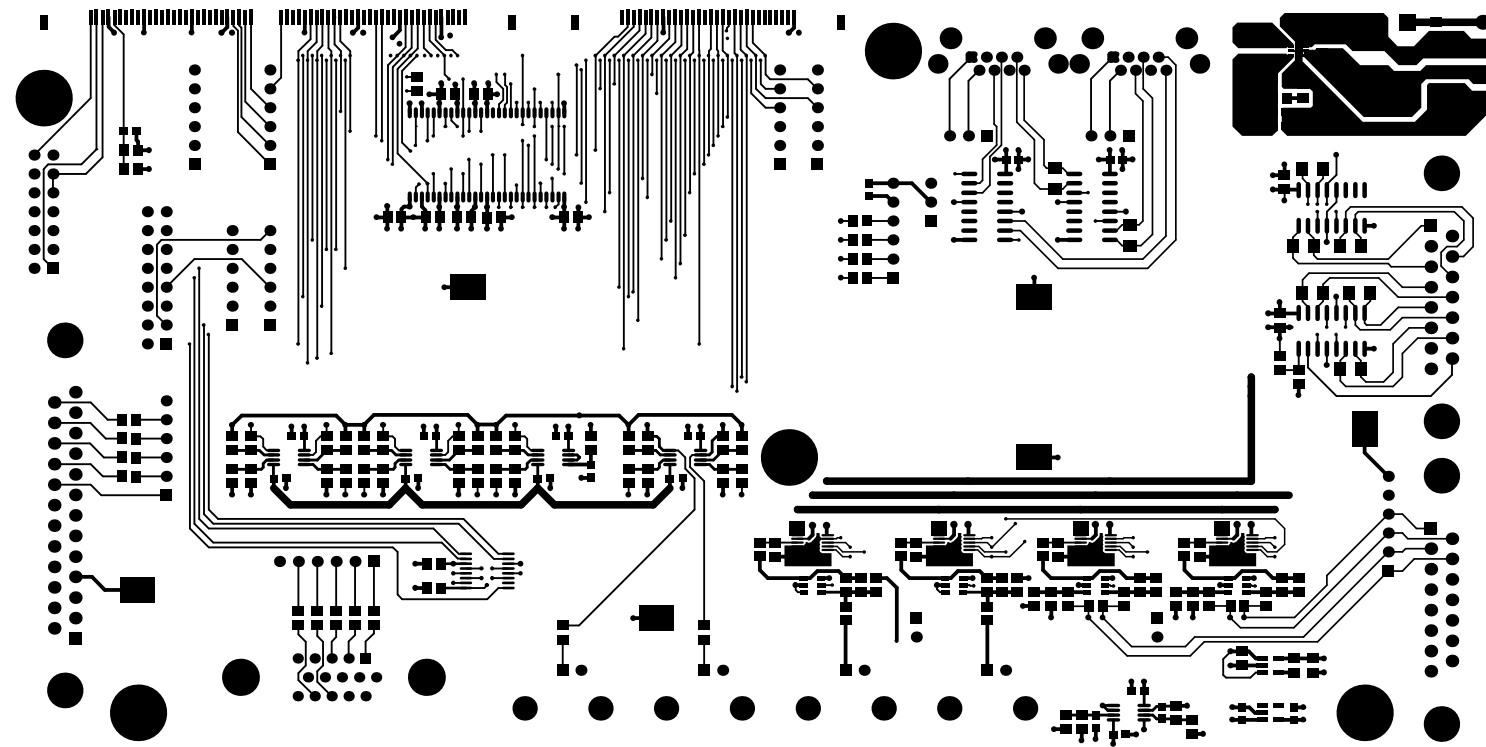
SILKSCREEN – SIDE A

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SCALE: 1/1		UNCLASSIFIED	SHEET 5 OF 14	



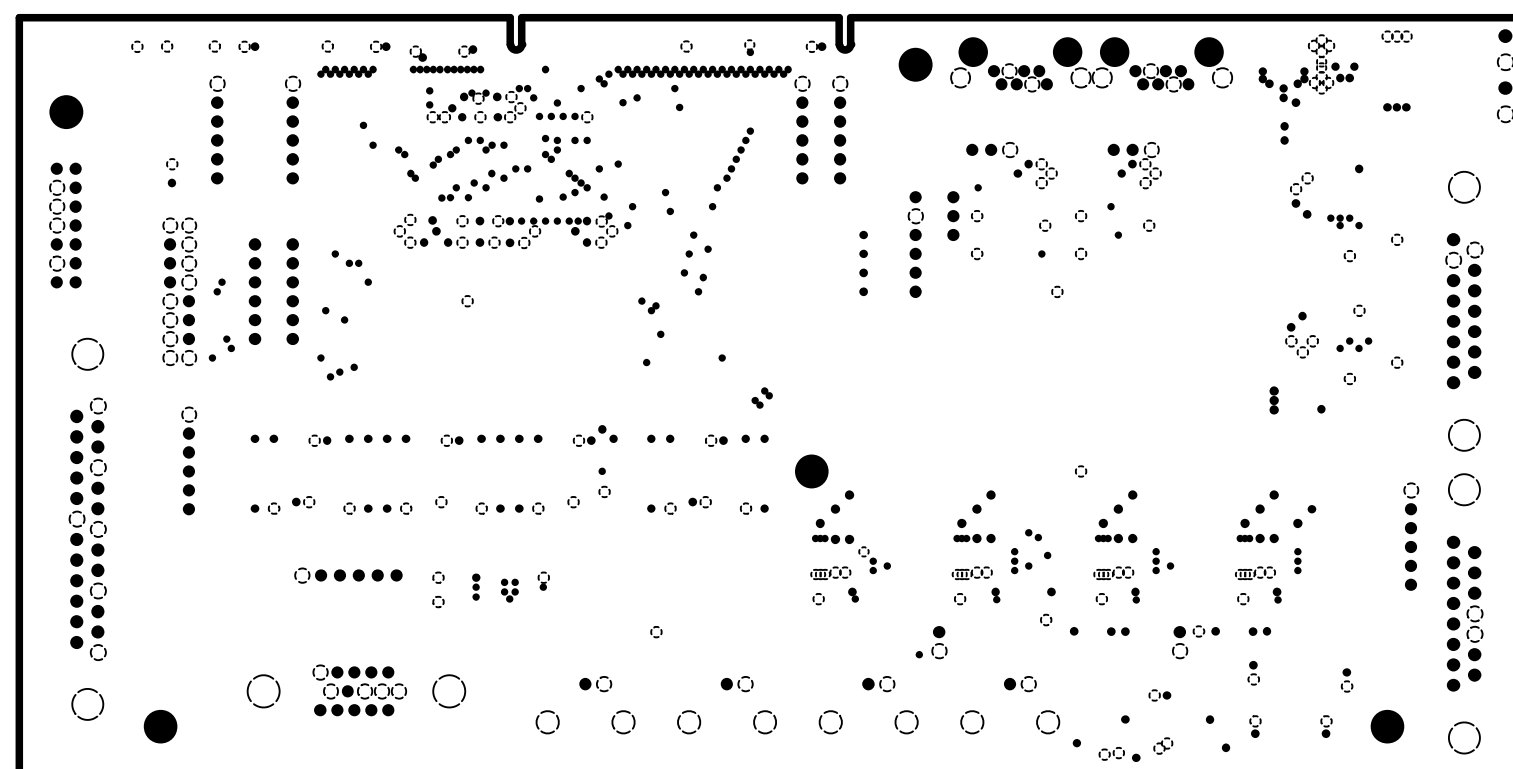
SOLDERMASK — SIDE A

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SCALE: 1/1		UNCLASSIFIED	SHEET 6 OF 14	

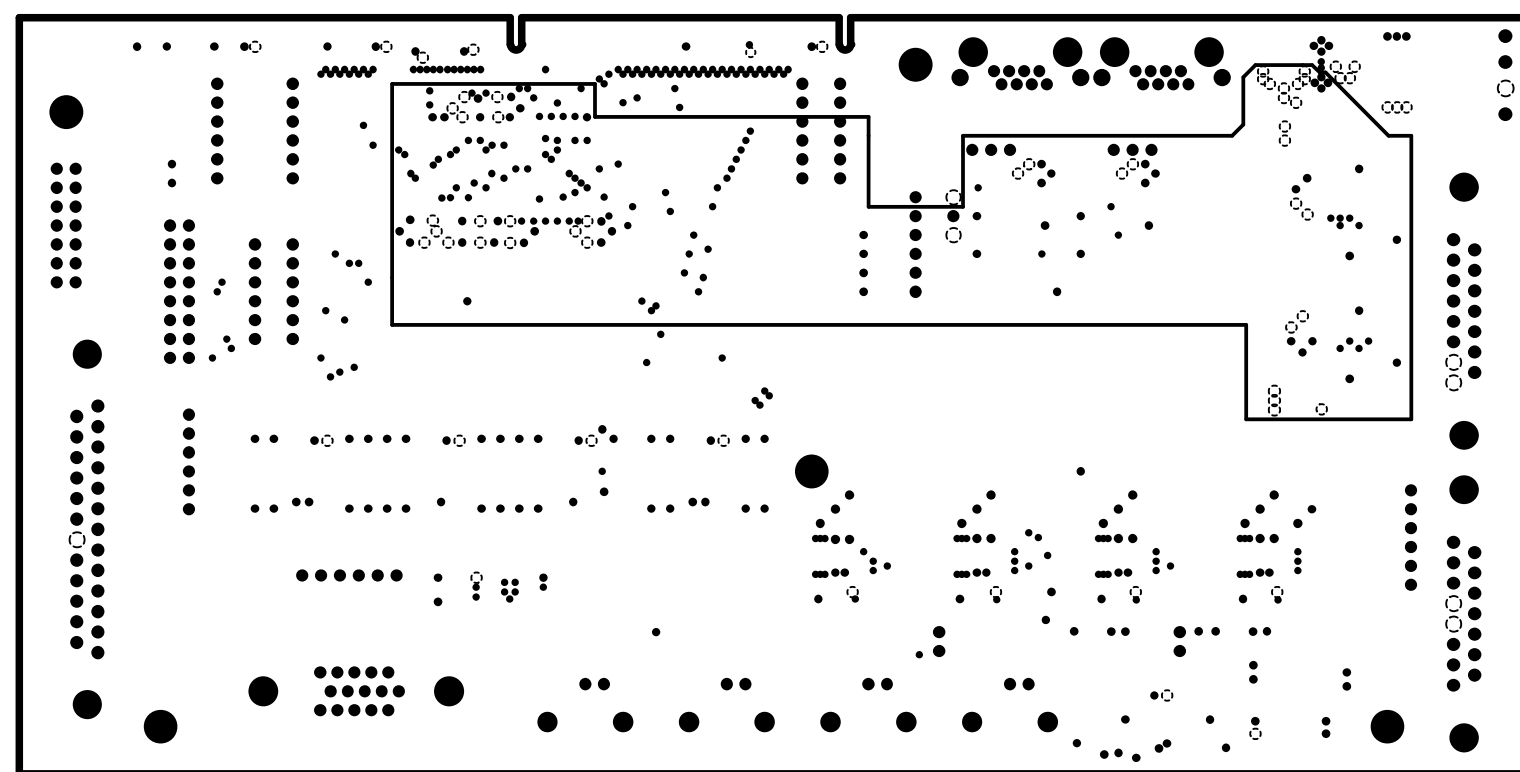


COPPER LAYER 1 – SIDE A

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	B	23835	10364583	C
SCALE: 1/1		UNCLASSIFIED	SHEET 7 OF 14	

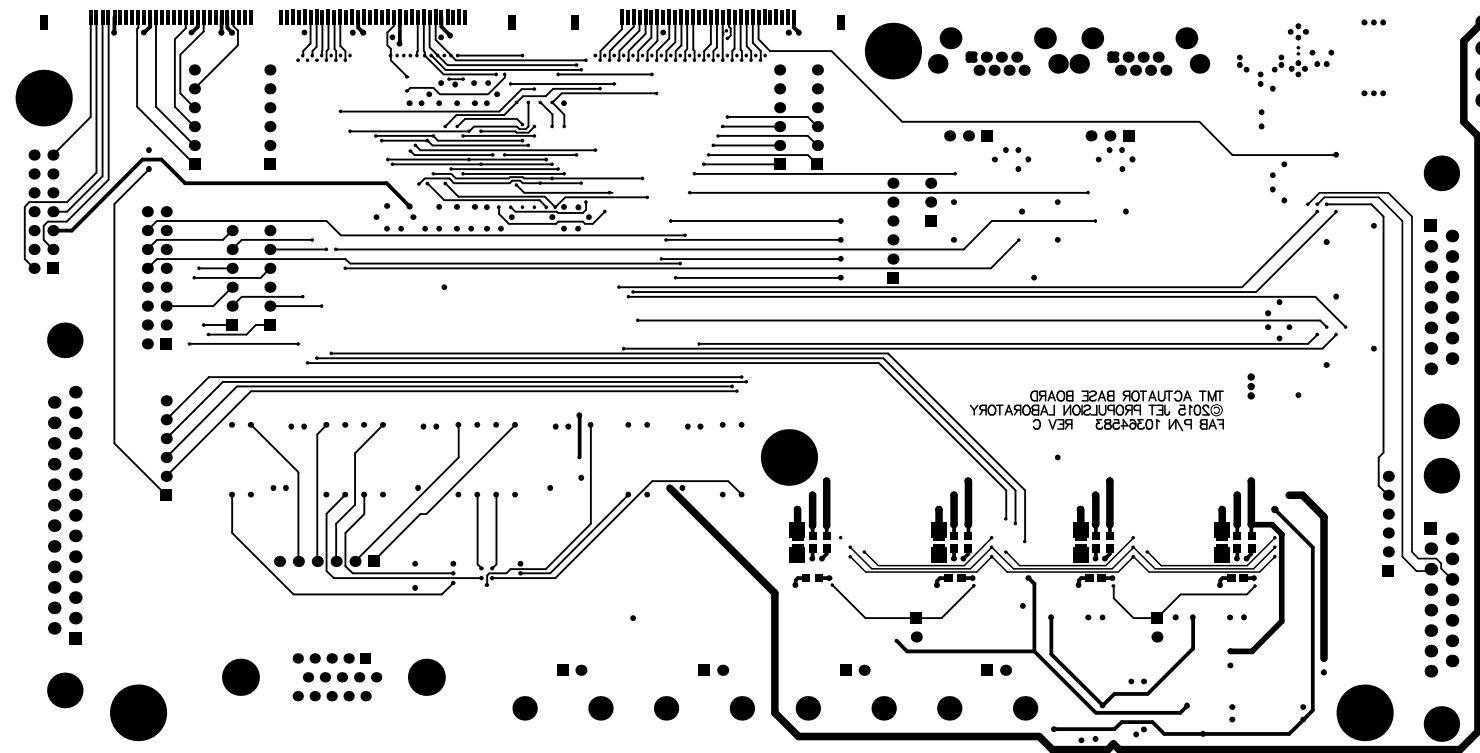


PLANE 1 - GND



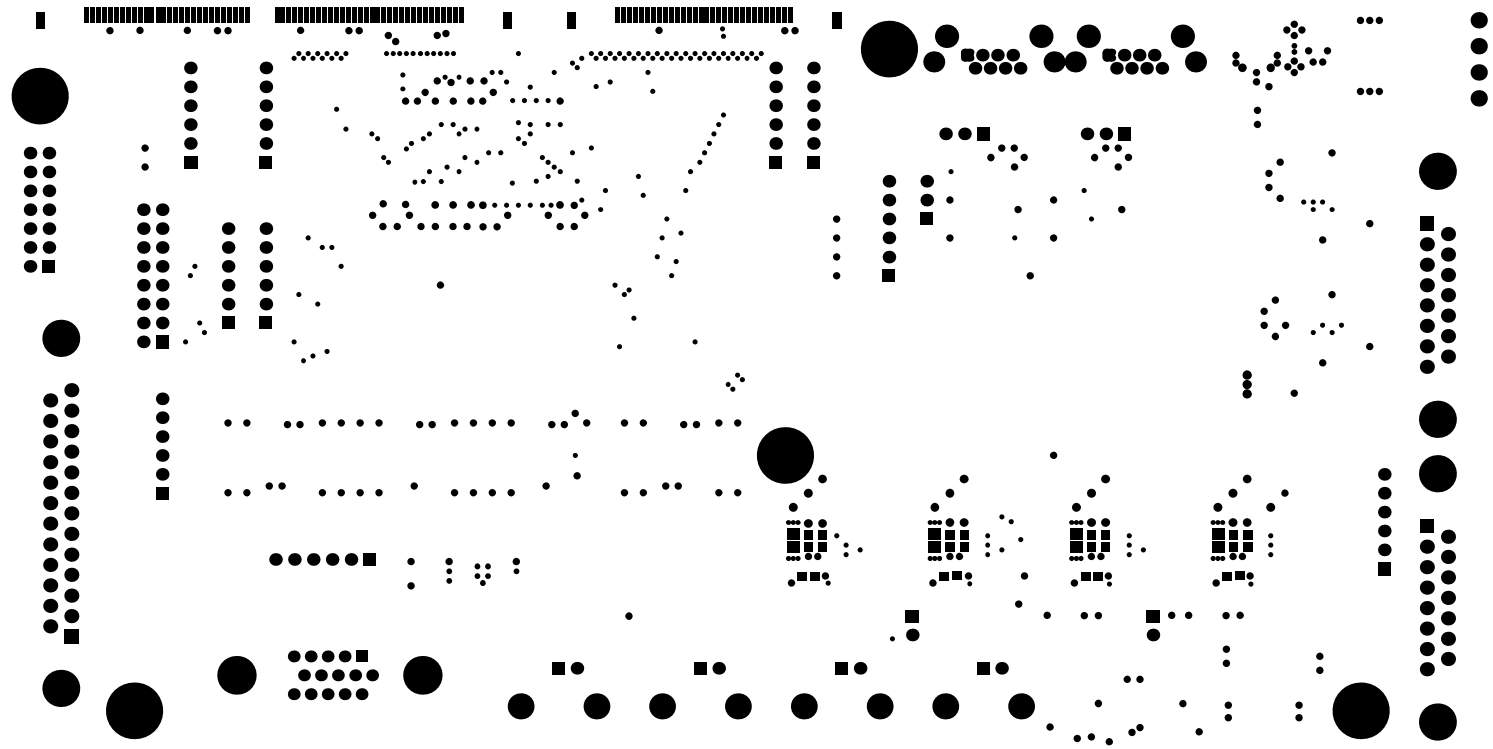
PLANE 2 – +5V/3V3 SPLIT

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SCALE: 1/1		UNCLASSIFIED	SHEET 9 OF 14	



COPPER LAYER 2 – SIDE B

THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10364583	C
SCALE: 1/1		UNCLASSIFIED	SHEET 10 OF 14	



SOLDERMASK – SIDE B

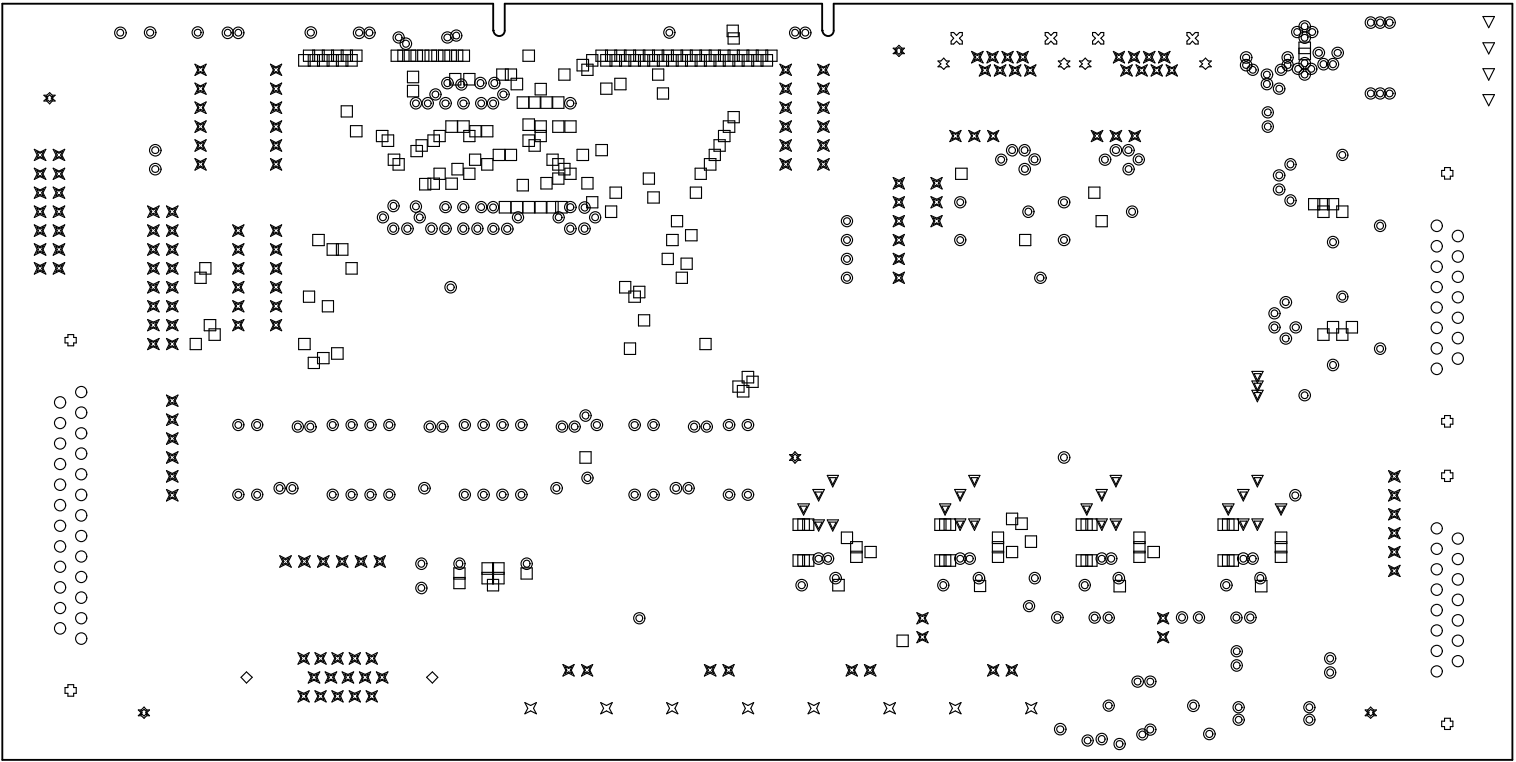
THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10364583	C
SCALE: 1/1		UNCLASSIFIED	SHEET 11 OF 14	

THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10364583	C
SCALE: 1/1		UNCLASSIFIED	SHEET 12 OF 14	

C38 I C37 I C35 I C34 I C33 I
C38 I C41 I C45 I C39 I
C13 I C18 I C19 I C17 I C16 I C15 I C14 I C13 I C12 I C11 I C10 I C9 I C8 I C7 I C6 I C5 I C4 I C3 I C2 I C1 I



SILKSCREEN - SIDE B



DRILL DRAWING

Symbol	Hit Count	Finished Hole Size	Plated	Hole Type
◇	2	129.92mil (3.300mm)	PTH	Round
▽	4	43.31mil (1.100mm)	PTH	Round
☆	4	62.99mil (1.600mm)	PTH	Round
⊠	4	127.95mil (3.250mm)	NPTH	Round
★	5	150.00mil (3.810mm)	PTH	Round
⊕	6	125.00mil (3.175mm)	PTH	Round
⋈	8	78.74mil (2.000mm)	PTH	Round
▼	24	20.00mil (0.508mm)	PTH	Round
○	55	41.00mil (1.041mm)	PTH	Round
✕	142	35.43mil (0.900mm)	PTH	Round
⦿	216	16.00mil (0.406mm)	PTH	Round
□	246	10.00mil (0.254mm)	PTH	Round
716 Total				