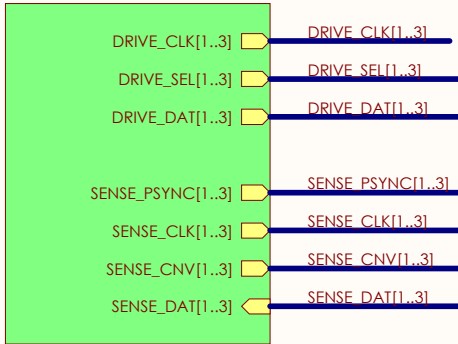
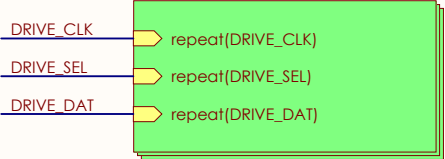


REVISION HISTORY												
LTR	DESCRIPTION					DWN	CHK	STRUCT	MATL	THRM CONT		
A	INITIAL RELEASE					CLASS E	SEE PRODUCT DATA MANAGEMENT SYSTEM (PDMS) FOR APPROVAL SIGNATURES AND DATES					
B	FIXED LVDS ENABLES AND PREPARED FOR UNLIMITED RELEASE.					E	SEE PRODUCT DATA MANAGEMENT SYSTEM (PDMS) FOR APPROVAL SIGNATURES AND DATES					

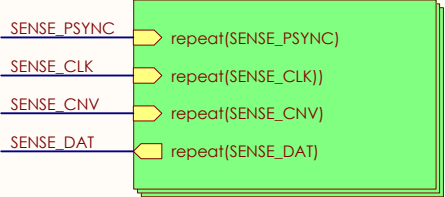
POWER & FPGA IFACE
conn_brd_v3_Pg4.SchDoc



Repeat(DRIVE_IFACE, 1, 3)
conn_brd_v3_Pg2.SchDoc



Repeat(SENSE_IFACE, 1, 3)
conn_brd_v3_Pg3.SchDoc



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

10398523	TMT
NEXT ASSEMBLY	USED ON
APPLICATION	

MATERIAL:

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

LINEAR TOLERANCES:

.XX ± .03
.XXX ± .010

ANGULAR TOLERANCES: ± 0.5°

MACHINE FINISH ✓

DO NOT SCALE DRAWING
INTERPRET DWG PER ASME Y14.100

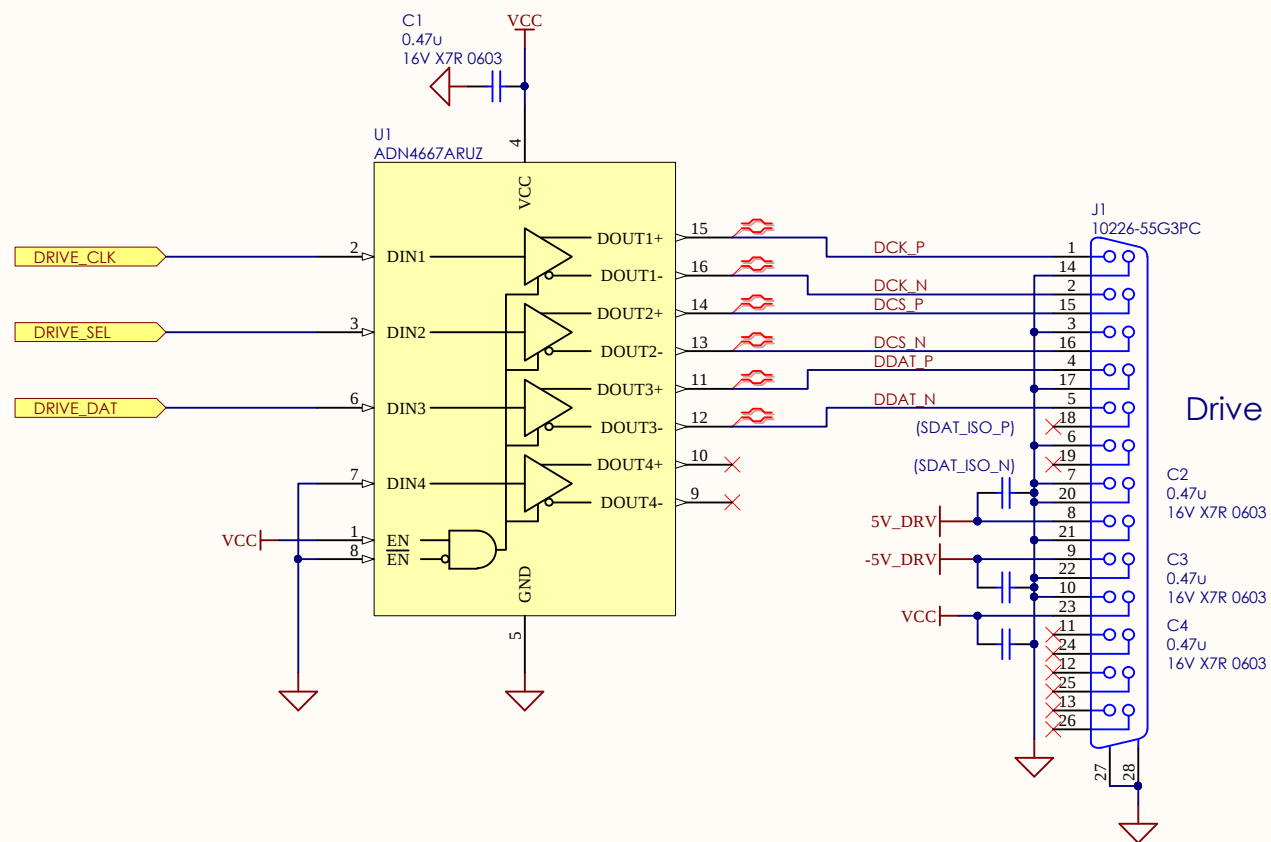
CONTRACT NO	
APPD	DATE
DWN	SEE PDMS FOR APPROVAL SIGNATURES AND DATES
CHK	
STRUCT	
MATL	
THRM CONT	
ENGR	
DSGN SUPV	

JET PROPULSION LABORATORY

CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CA 91109

EDGE SENSOR
CONNECTOR BOARD
SCHEMATIC DIAGRAM

SIZE	CAGE CODE		REV
B	23835	10398522	B
SCALE:	1/1	UNCLASSIFIED	SHEET 1 OF 4



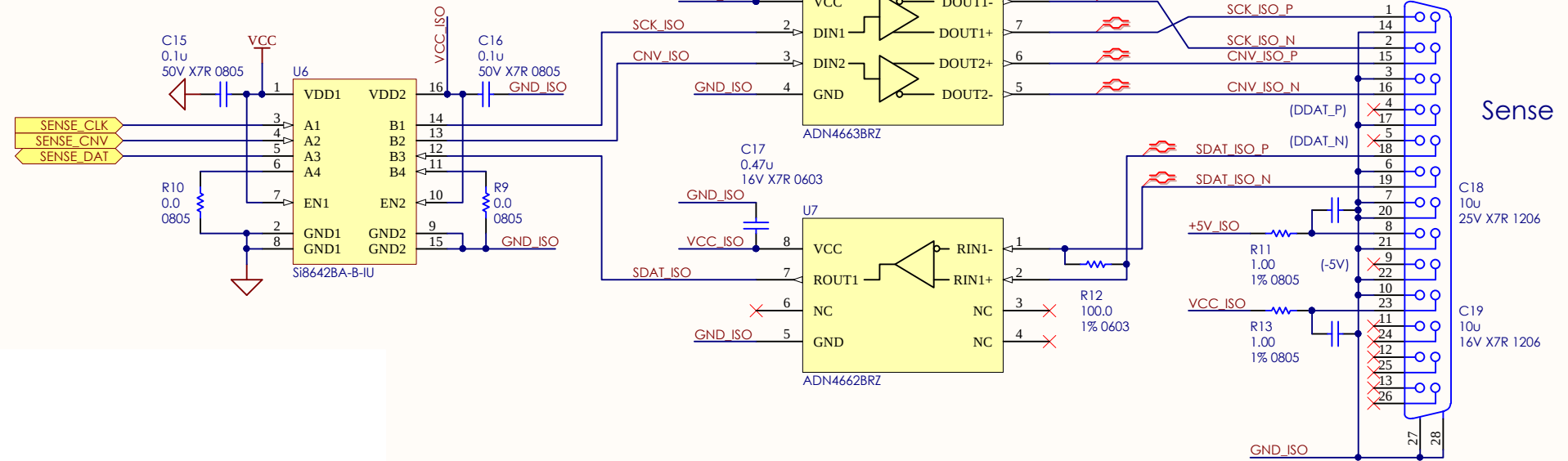
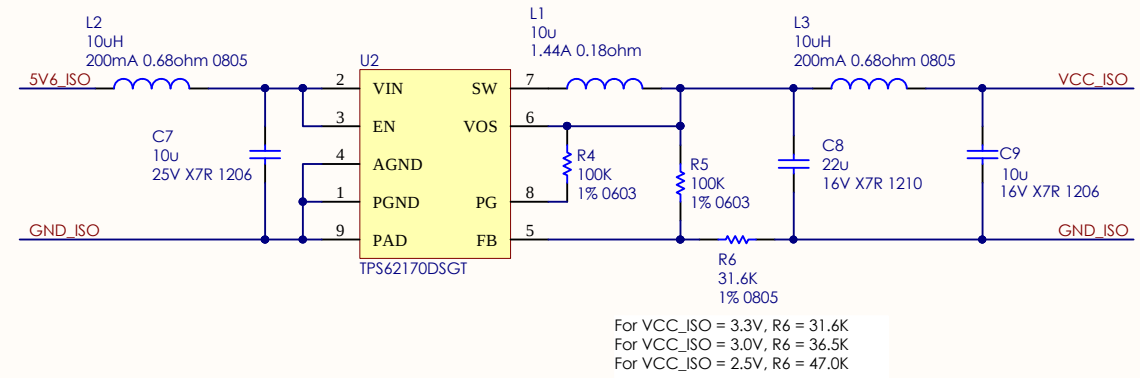
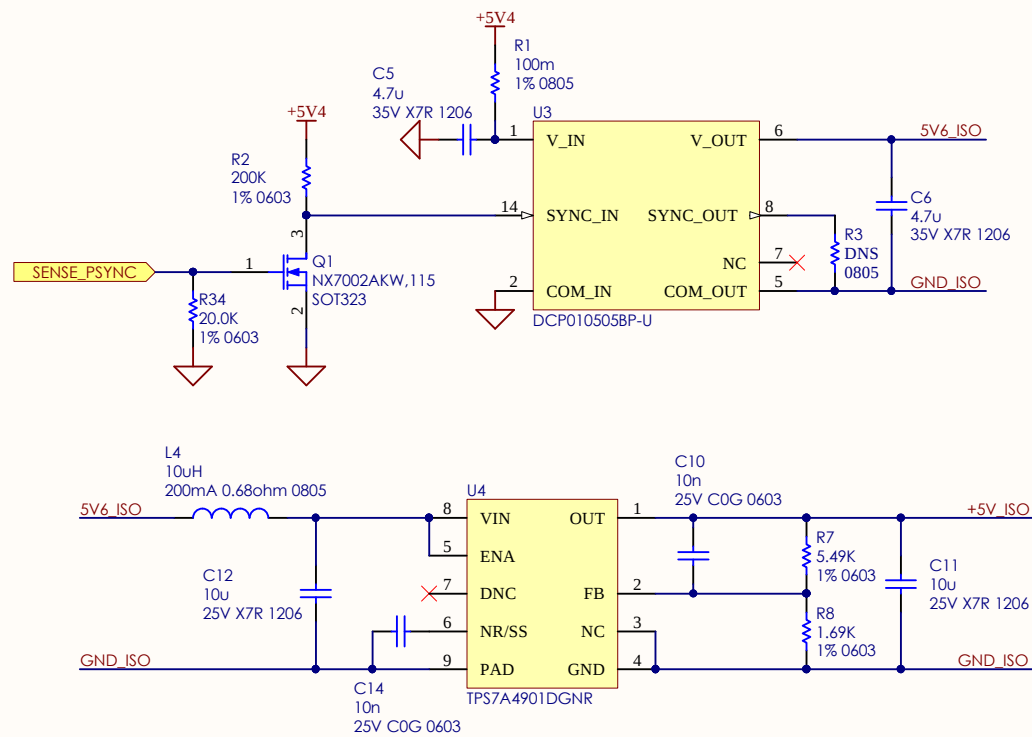
NOTES

Parts are numbered by DRIVE channel number
For example -
C1_1, C1_2, C1_3

DRIVE INTERFACE

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

SIZE	CAGE CODE	REV
B	23835	B
SCALE: 1/1	UNCLASSIFIED	SHEET 2 OF 4



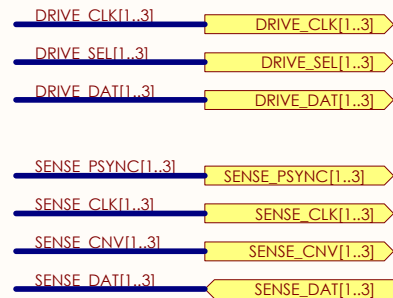
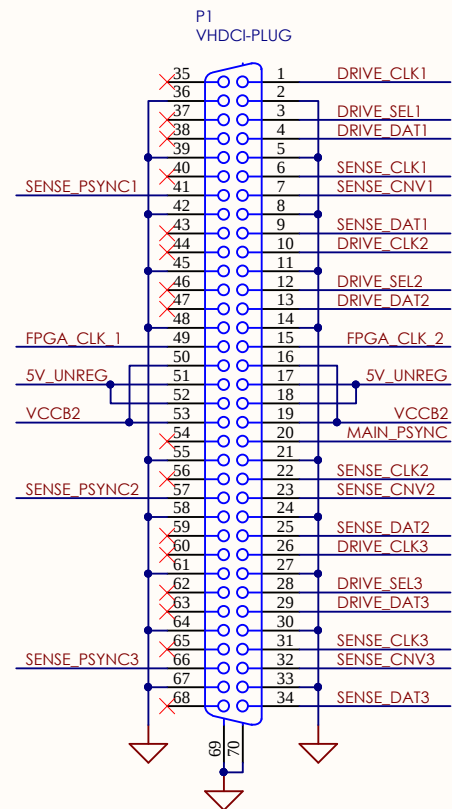
NOTES

Parts are numbered by SENSE channel number
For example -
Q1_1, Q1_2, Q1_3

Each sense channel has separate galvanic isolation, and gets its own GND_ISO AND 3V3_ISO planes, labeled GND_ISO_1, GND_ISO_2, etc.

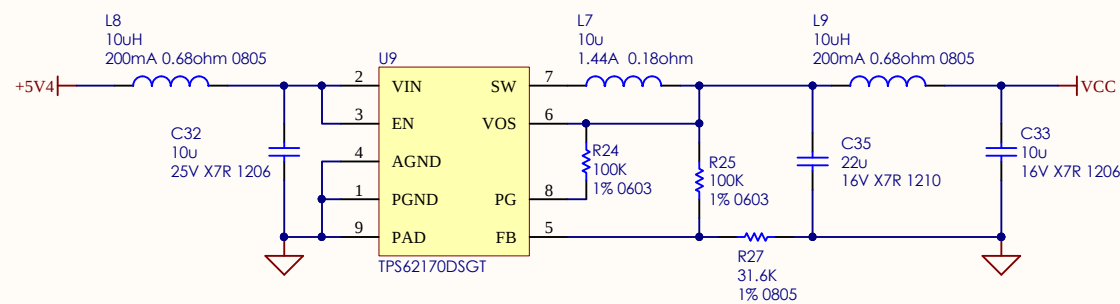
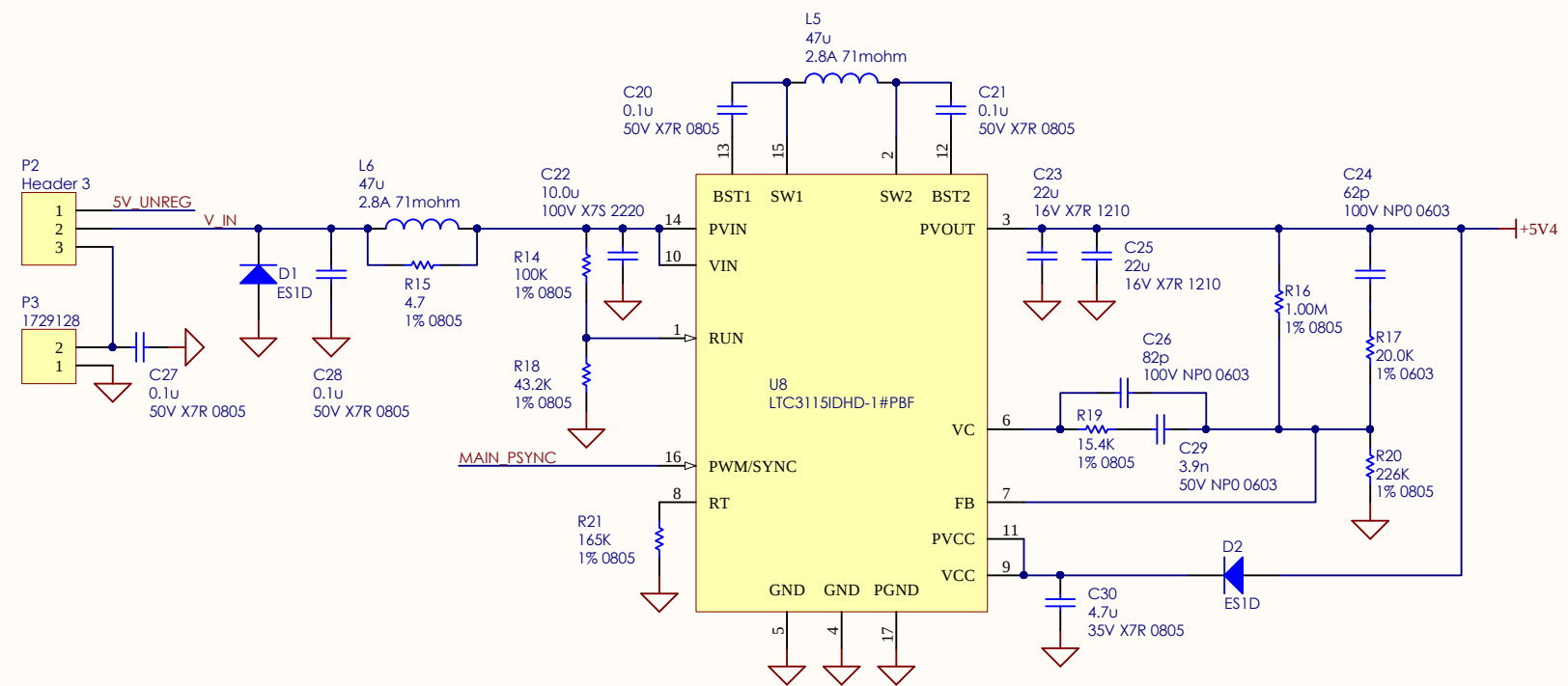
Notes on the isolated power part (DCP010505BP-U, above):
Split isolated ground plane from main ground plane under this part.
Minimize total capacitance of node connecting to SYNC_IN pin and keep on one layer.
Place guard ring around node connecting to SYNC_IN pin and connect to COM_IN pin.
Place guard ring around node connecting to SYNC_OUT pin and connect to COM_OUT pin.
This part has a 150C internal thermal cutout which auto-resets. It does not otherwise have intrinsic current limiting.

SENSE INTERFACE

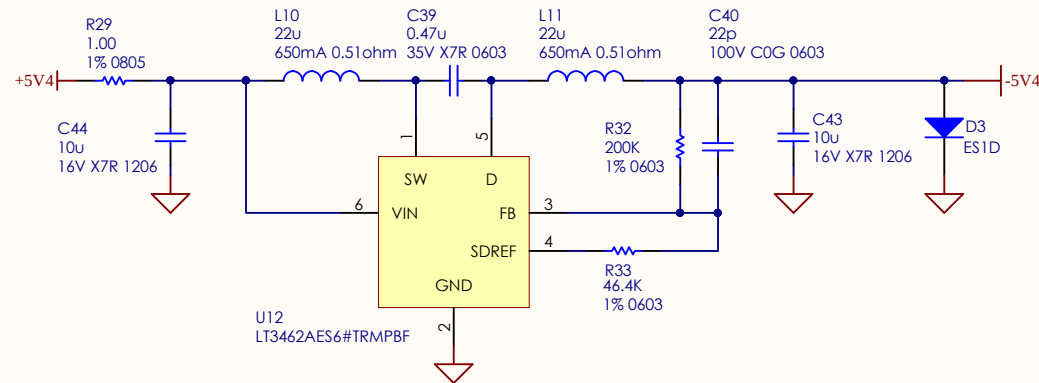
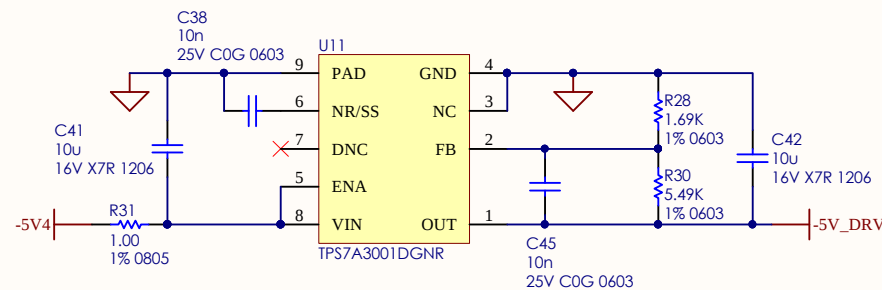
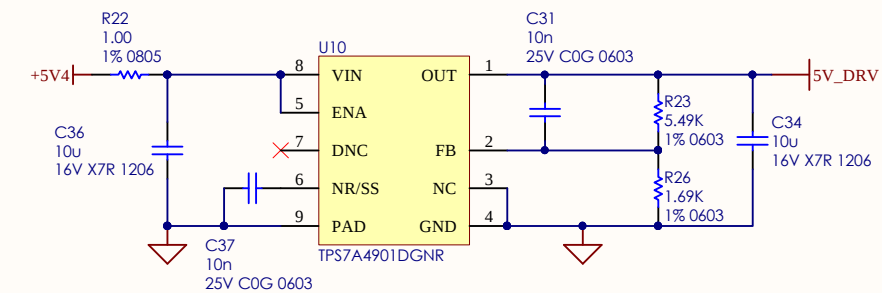


Internal Supply 1-2
External Supply 2-3

External Supply
+4 to +40V



For VCC = 3.3V, R27 = 31.6K
For VCC = 3.0V, R27 = 36.5K
For VCC = 2.5V, R27 = 47.0K



Power & FPGA Interface

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

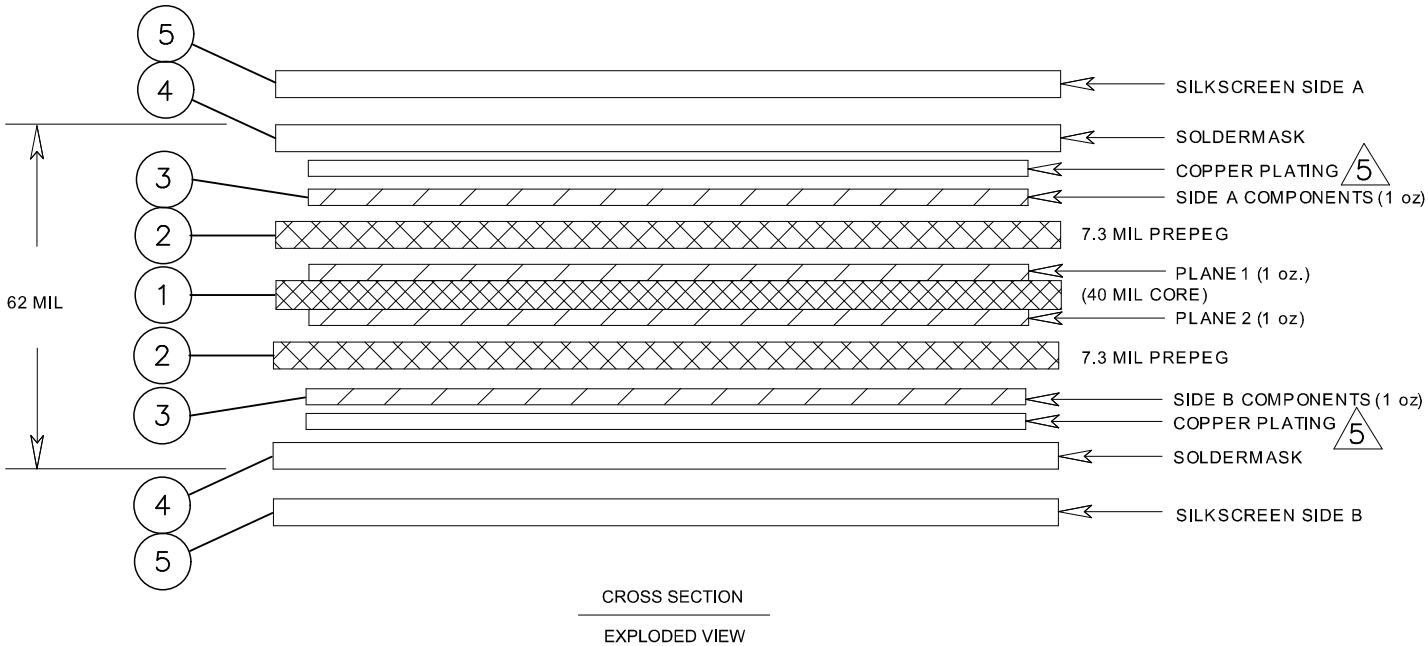
THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.

10398524	TMT
NEXT ASSEMBLY	USED ON
APPLICATION	

	AR	5			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	
		ITEM NO	REF DES	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE
QTY REQD								

MATERIAL:		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES LINEAR TOLERANCES: .XX .03 .XXX .010 ANGULAR TOLERANCES: 0.5 MACHINE FINISH ✓ DO NOT SCALE DRAWING INTERPRET DWG PER ASME Y14.100		CONTRACT NO _____ APPD _____ DATE _____ DWN CHK STRUCT MATL THRM CONT ENGR DSGN SUPV		JET PROPULSION LABORATORY CALIFORNIA INSTITUTE OF TECHNOLOGY PASADENA, CA 91109 EDGE SENSOR CONNECTOR BOARD PWB FABRICATION	
MATERIAL PER SPECIFICATION		THIRD ANGLE PROJECTION		SEE PDMS FOR APPROVAL SIGNATURES AND DATES		SIZE CAGE CODE REV B 23835 10398523 B	
10398524 TMT		NEXT ASSEMBLY USED ON		SCALE: 1/1 UNCLASSIFIED SHEET 1 OF 14			

REVISION HISTORY															
LTR	DESCRIPTION				DWN	CHK	STRUCT	MATL	THRM CONT			ENGR	DSGN SUPV	DATA MGT	RELEASE DATE
A	_____ INITIAL RELEASE _____				CLASS E	SEE PRODUCT DATA MANAGEMENT SYSTEM (PDMS) FOR APPROVAL SIGNATURES AND DATES									
B	FIXED LVDS ENABLES AND PREPARED FOR UNLIMITED RELEASE.				E	SEE PRODUCT DATA MANAGEMENT SYSTEM (PDMS) FOR APPROVAL SIGNATURES AND DATES									



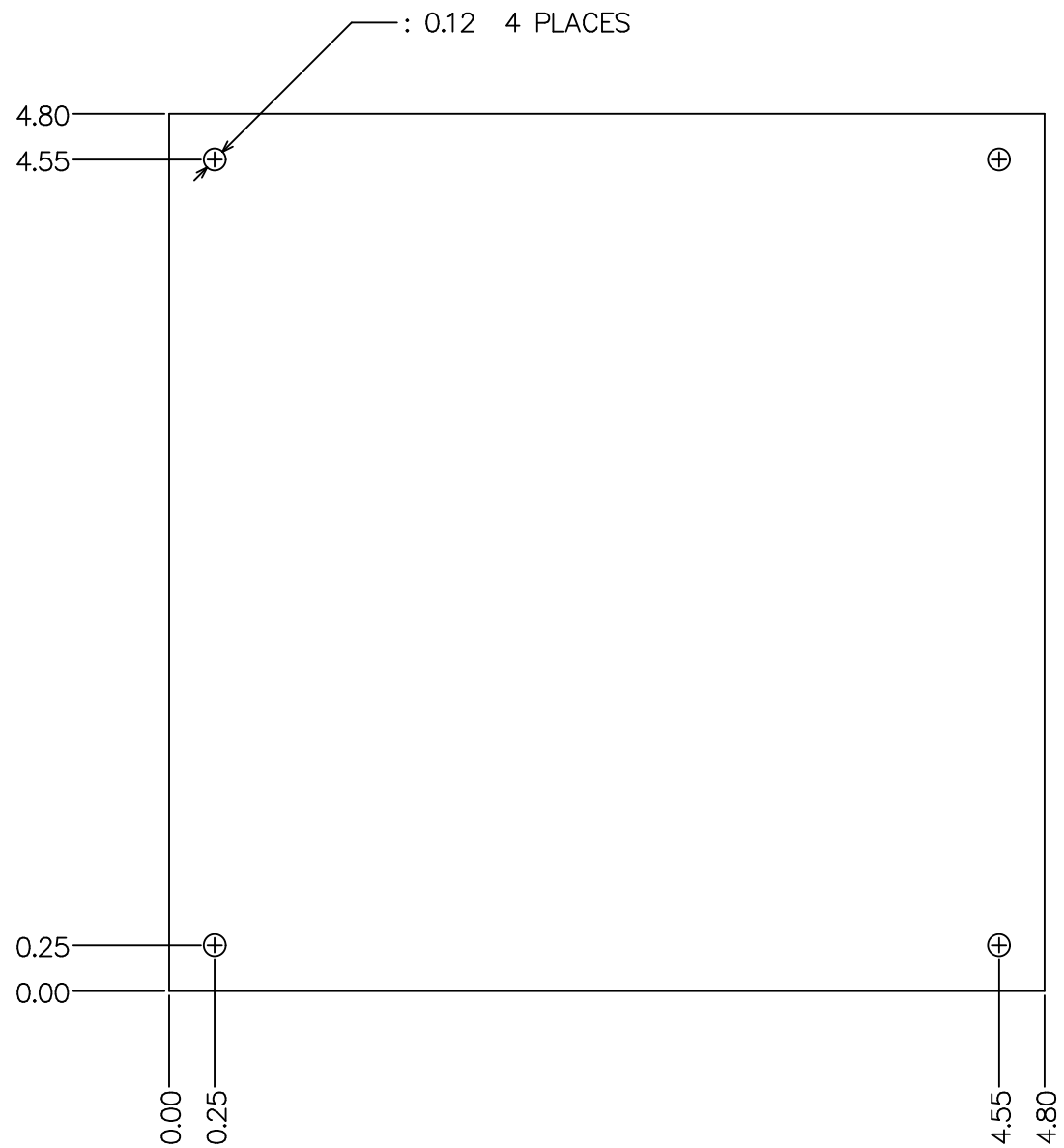
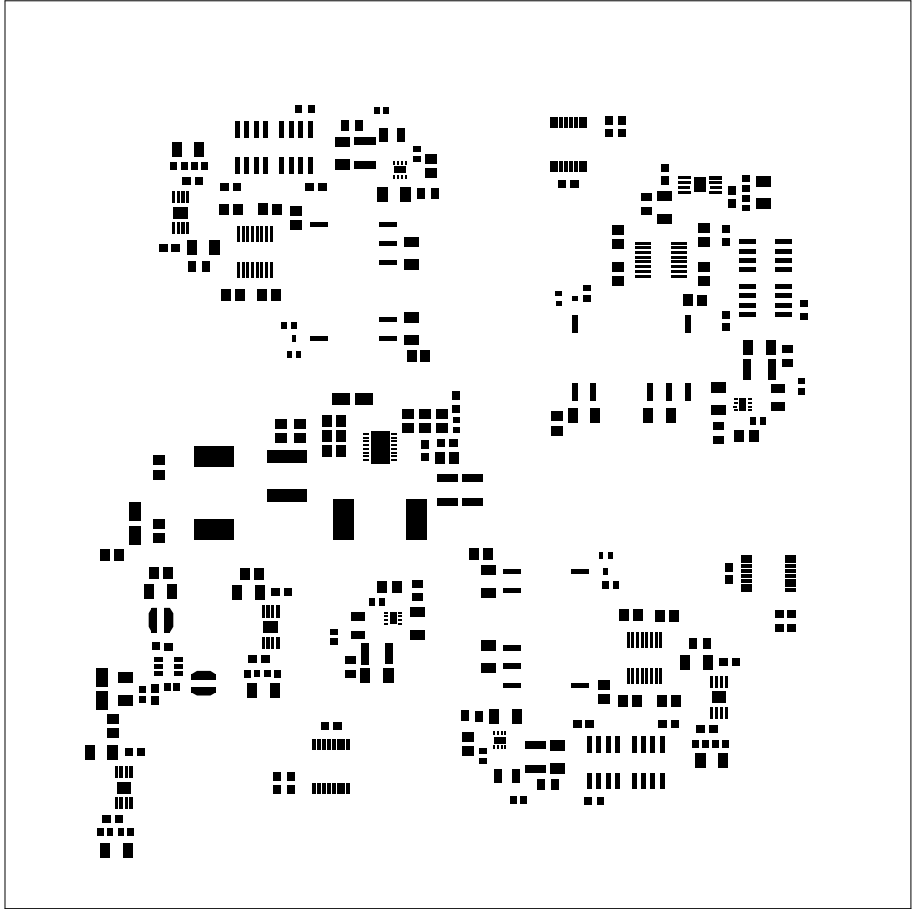


TABLE A / ARTWORK FILE DESIGNATION				
SN NO.	FILE:	LOGICAL LAYER	PHYSICAL LAYER	DESCRIPTION
4	10398523.GTP	-	OUTER LAYER 1	PASTE MASK SIDE A
5	10398523.GTO	-	OUTER LAYER 2	OVERLAY SIDE A
6	10398523.GTS	-	OUTER LAYER 3	SOLDER MASK SIDE A
7	10398523.GTL	COPPER SIDE A	OUTER LAYER COPPER	COMPONENTS SIDE A
8	10398523.GP1	COPPER LAYER 2	INNER LAYER	PLANE - GND
9	10398523.GP2	COPPER LAYER 3	INNER LAYER	PLANE - SPLIT
10	10398523.GBL	COPPER SIDE B	OUTER LAYER COPPER	COMPONENTS SIDE B
11	10398523.GBS	-	OUTER LAYER 4	SOLDER MASK SIDE B
12	10398523.GBO	-	OUTER LAYER 5	OVERLAY SIDE B
13	10398523.GBP	-	OUTER LAYER 9	PASTE MASK SIDE B
14	10398523.GD1	-	DRILL LOCATIONS	DRILL DRAWING

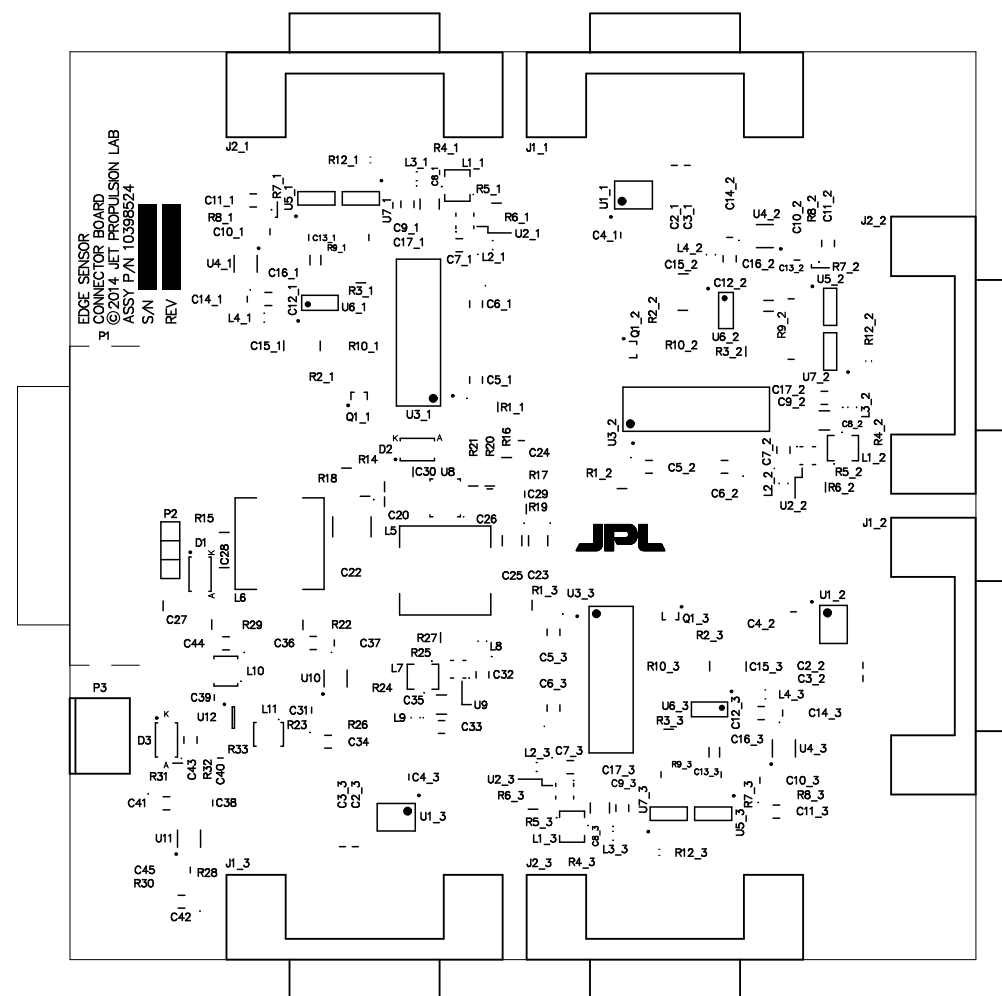
TABLE B / APERATURE SIZES			
SN NO.	FILE:	APERTURE TYPE	EMBEDDED D-CODE
4	10398523.GTP	RS274-X STANDARD	YES
5	10398523.GTO		YES
6	10398523.GTS		YES
7	10398523.GTL		YES
8	10398523.GP1		YES
9	10398523.GP2		YES
10	10398523.GBL		YES
11	10398523.GBS		YES
12	10398523.GBO		YES
13	10398523.GBP		YES
14	10398523.GD1		YES



PASTEMASK – SIDE A

EDGE SENSOR CONNECTOR BOARD
10398523–104 REV A
JPL D.P. 06/28/2015

THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
SCALE: 1/1		UNCLASSIFIED	SHEET 4 OF 14	

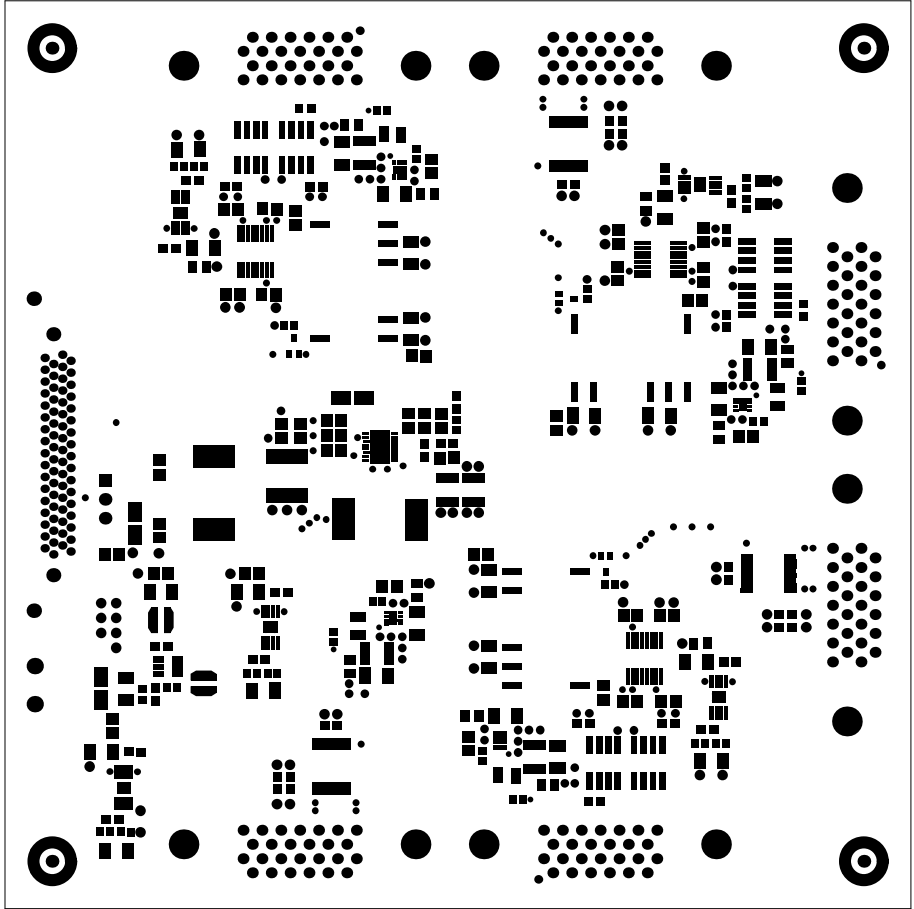


SILKSCREEN - SIDE A

EDGE SENSOR CONNECTOR BOARD
10398523-105 REV A
JPL D.P. 06/28/2015

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

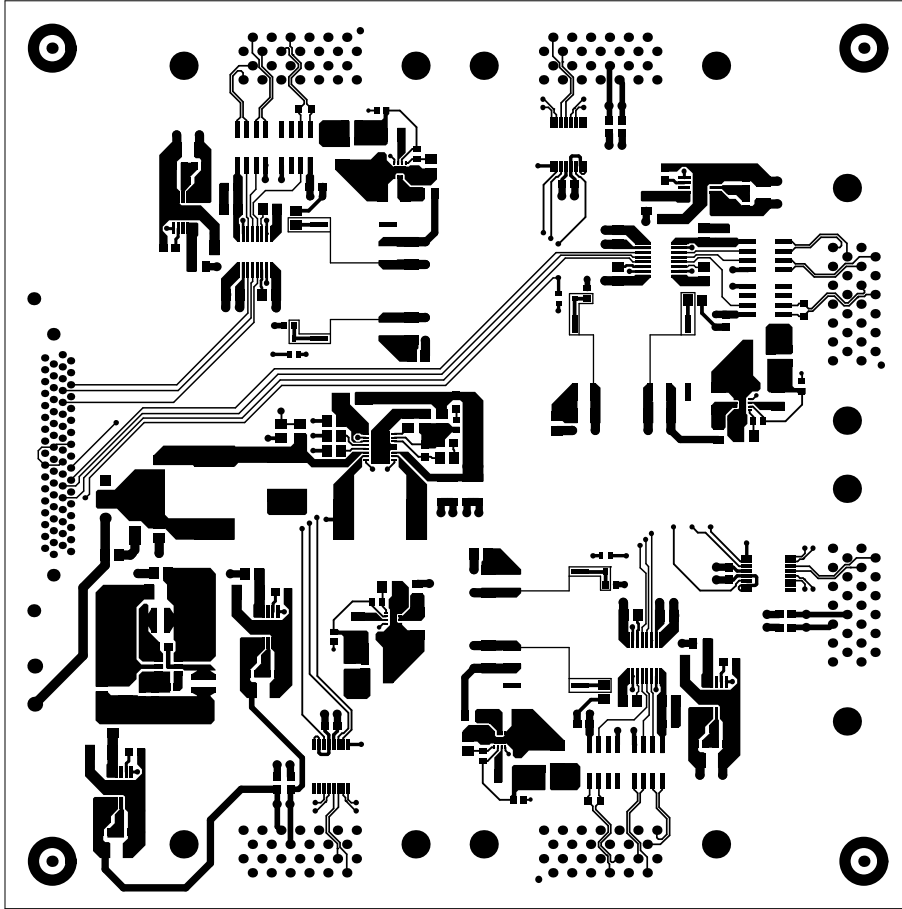
SIZE	CAGE CODE				REV
B	23835	10398523			B
SCALE: 1/1		UNCLASSIFIED	SHEET 5	OF 14	



SOLDERMASK -- SIDE A

EDGE SENSOR CONNECTOR BOARD
10398523--106 REV A
JPL D.P. 06/28/2015

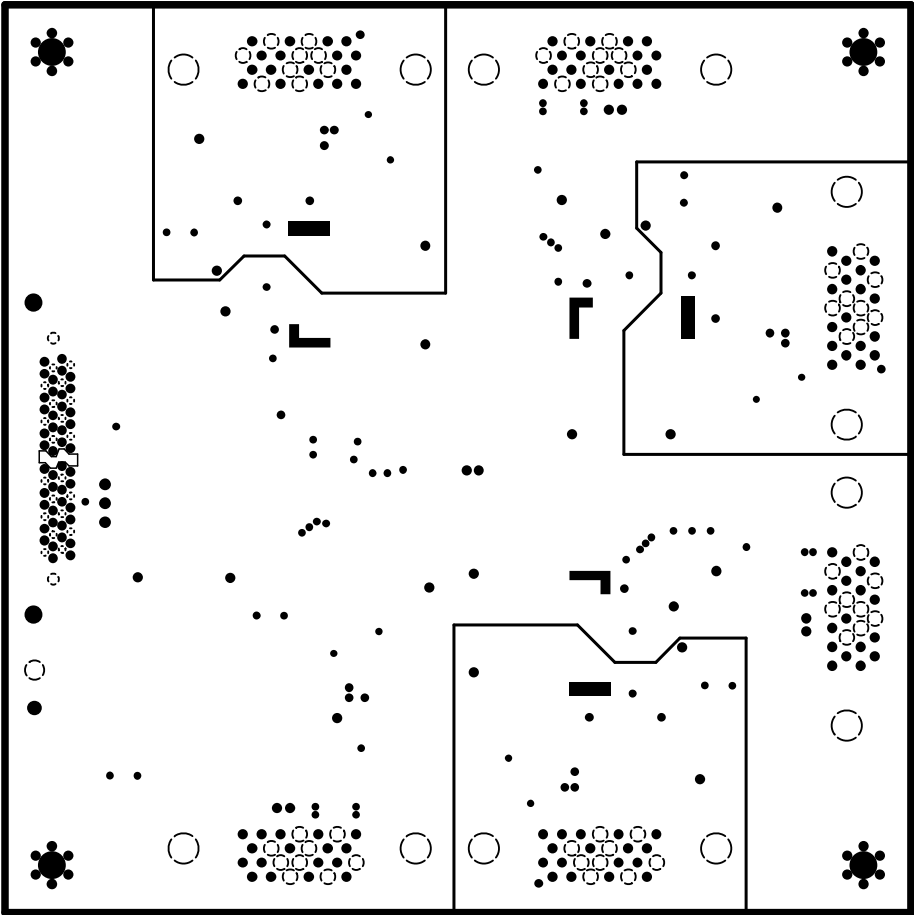
THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
SCALE: 1/1		UNCLASSIFIED	SHEET 6 OF 14	



COPPER LAYER 1 – SIDE A

EDGE SENSOR CONNECTOR BOARD
10398523–107 REV A
JPL D.P. 06/28/2015

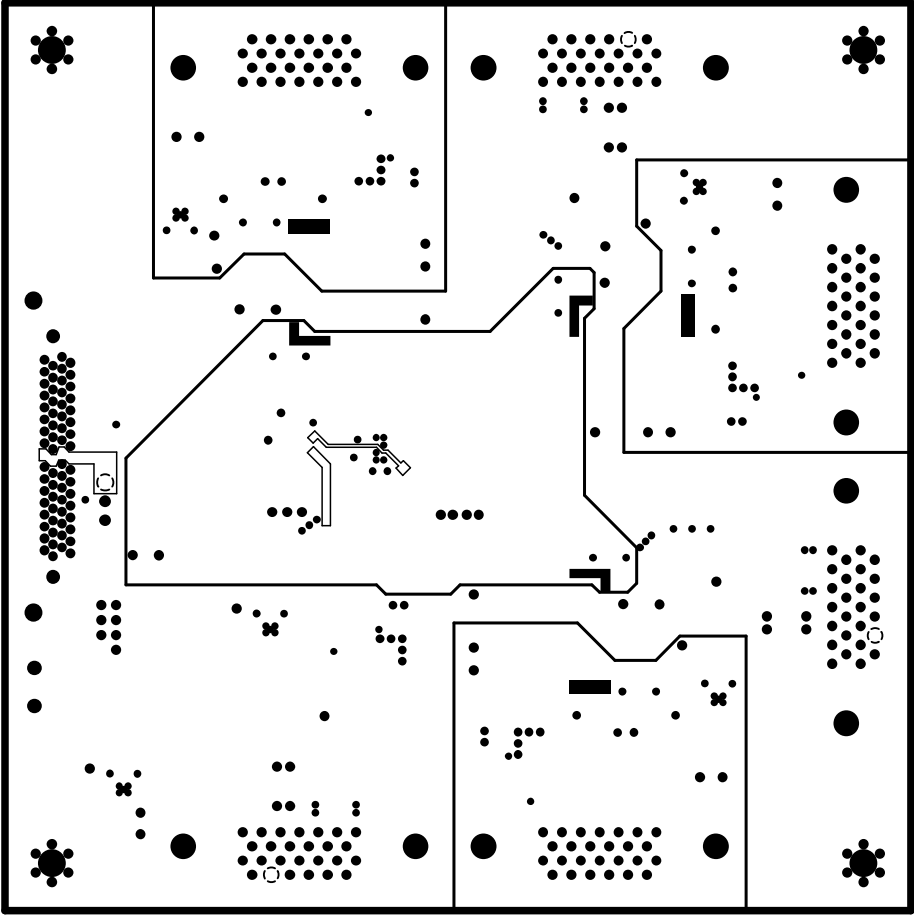
THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
SCALE: 1/1		UNCLASSIFIED	SHEET 7 OF 14	



PLANE 1 – GND SPLIT

EDGE SENSOR CONNECTOR BOARD
10398523–108 REV A
JPL D.P. 06/28/2015

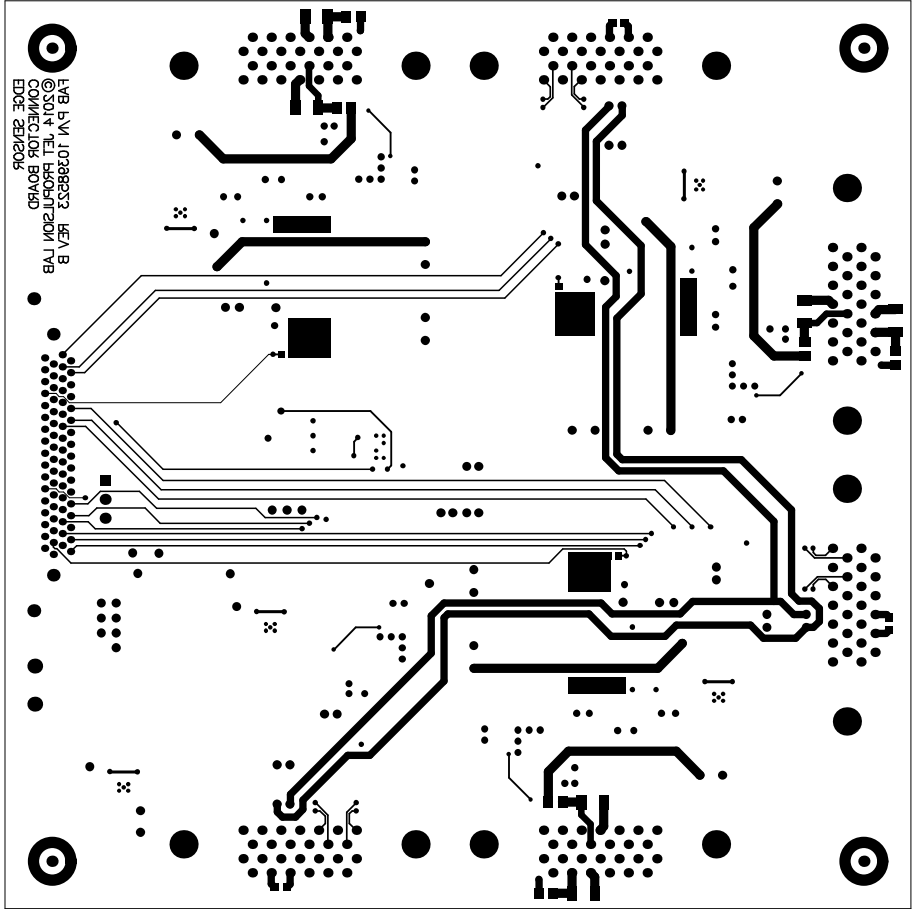
THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
SCALE: 1/1		UNCLASSIFIED	SHEET 8 OF 14	



PLANE 2 - PWR SPLIT

EDGE SENSOR CONNECTOR BOARD
10398523-109 REV A
JPL D.P. 06/28/2015

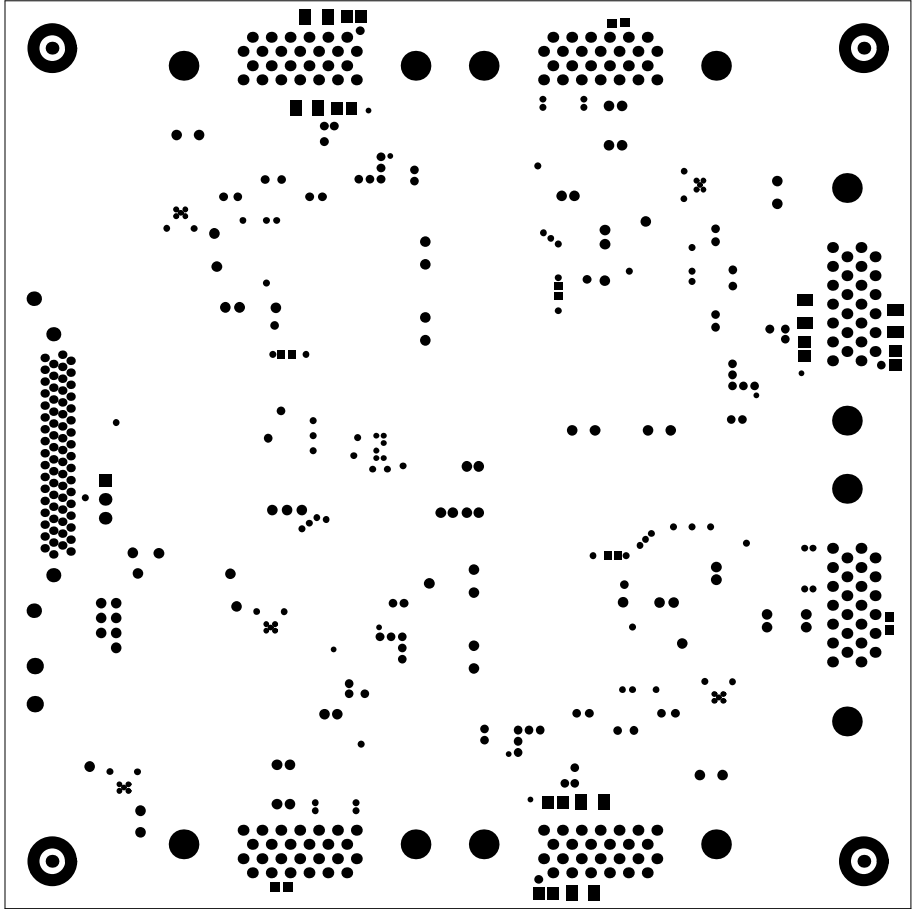
THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
SCALE: 1/1		UNCLASSIFIED	SHEET 9 OF 14	



COPPER LAYER 2 – SIDE B

EDGE SENSOR CONNECTOR BOARD
10398523–110 REV A
JPL D.P. 06/28/2015

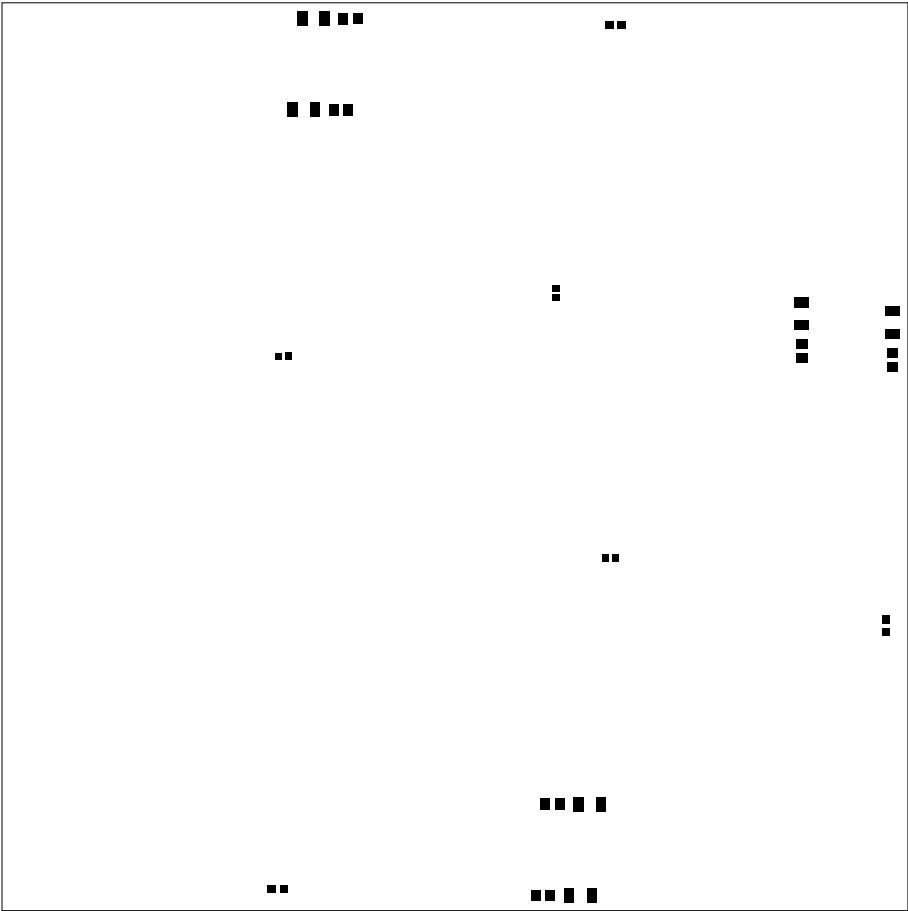
THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
SCALE: 1/1		UNCLASSIFIED	SHEET 10 OF 14	



SOLDERMASK – SIDE B

EDGE SENSOR CONNECTOR BOARD
10398523–111 REV A
JPL D.P. 06/28/2015

THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
SCALE: 1/1		UNCLASSIFIED	SHEET 11 OF 14	

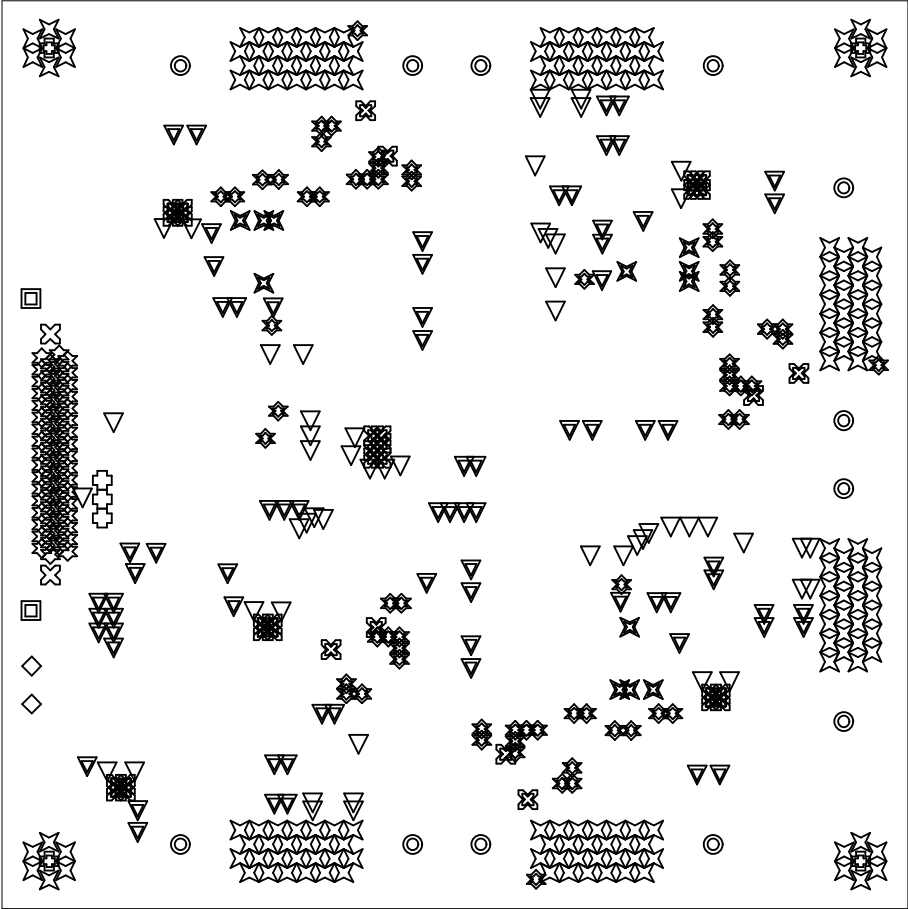


PASTEMASK – SIDE B

EDGE SENSOR CONNECTOR BOARD
10398523–113 REV A
JPL D.P. 06/28/2015

THIS DOCUMENT HAS BEEN REVIEWED AND DETERMINED NOT TO CONTAIN ITAR CONTROLLED TECHNICAL DATA.	SIZE	CAGE CODE		REV
	B	23835	10398523	B
	SCALE: 1/1		UNCLASSIFIED	SHEET 13 OF 14

Symbol	Hit Count	Finished Hole Size	Plated	Hole Type
⌘	2	1.200mm (47.24mil)	PTH	Round
◇	2	1.300mm (51.18mil)	PTH	Round
■	2	1.750mm (68.90mil)	NPTH	Round
⊕	3	0.900mm (35.43mil)	PTH	Round
⊗	4	3.048mm (120.00mil)	NPTH	Round
×	12	0.381mm (15.00mil)	PTH	Round
●	12	2.794mm (110.00mil)	PTH	Round
⌘	39	0.305mm (12.00mil)	PTH	Round
▽	54	0.375mm (14.76mil)	PTH	Round
*	66	0.500mm (19.69mil)	PTH	Round
☆	68	0.650mm (25.59mil)	PTH	Round
▼	74	0.700mm (27.56mil)	PTH	Round
⌘	180	0.711mm (28.00mil)	PTH	Round
518 Total				



DRILL DRAWING

EDGE SENSOR CONNECTOR BOARD
10398523-114 REV A
JPL D.P. 06/28/2015

NOTES: UNLESS OTHERWISE SPECIFIED

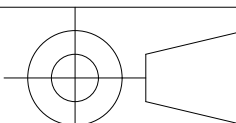
- ③ SOLDER COMPONENTS USING LEAD FREE SOLDER, ITEM 3.
- ④ MARK OR INK STAMP DASH NUMBER, REVISION LETTER AND SERIAL NUMBER (0XX) USING INK, ITEM 2. CHARACTERS TO BE 50mil HIGH MINIMUM.

	TMT
NEXT ASSEMBLY	USED ON
APPLICATION	

MATERIAL:

MATERIAL PER SPECIFICATION

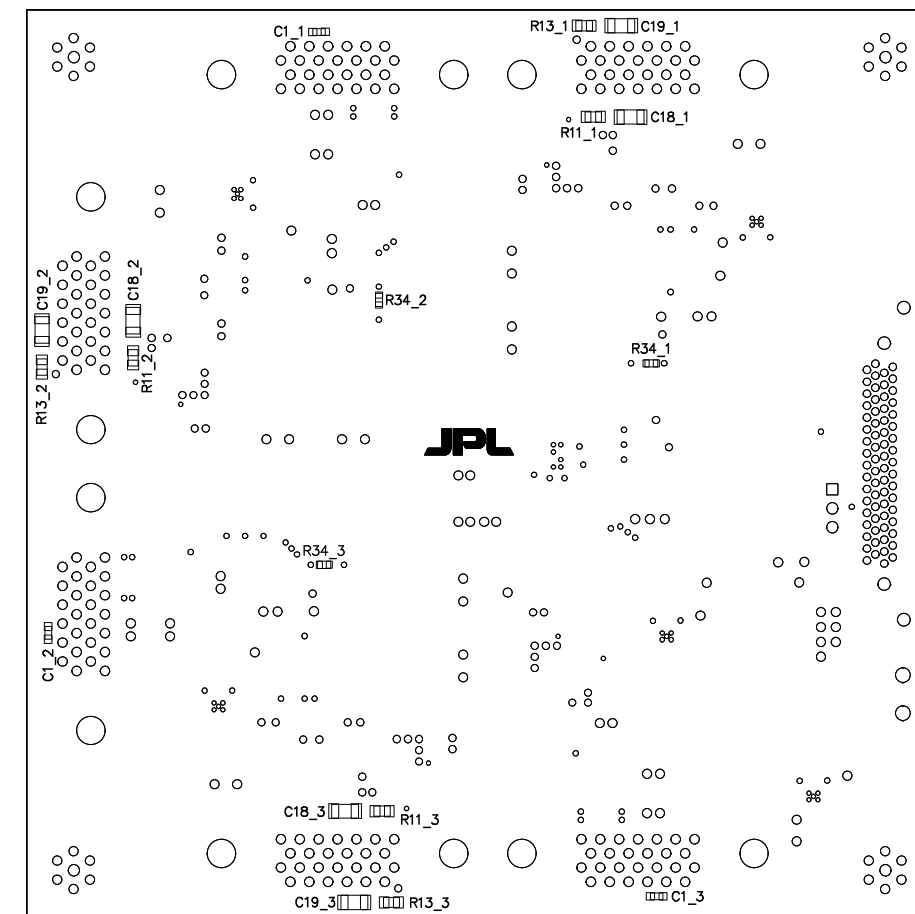
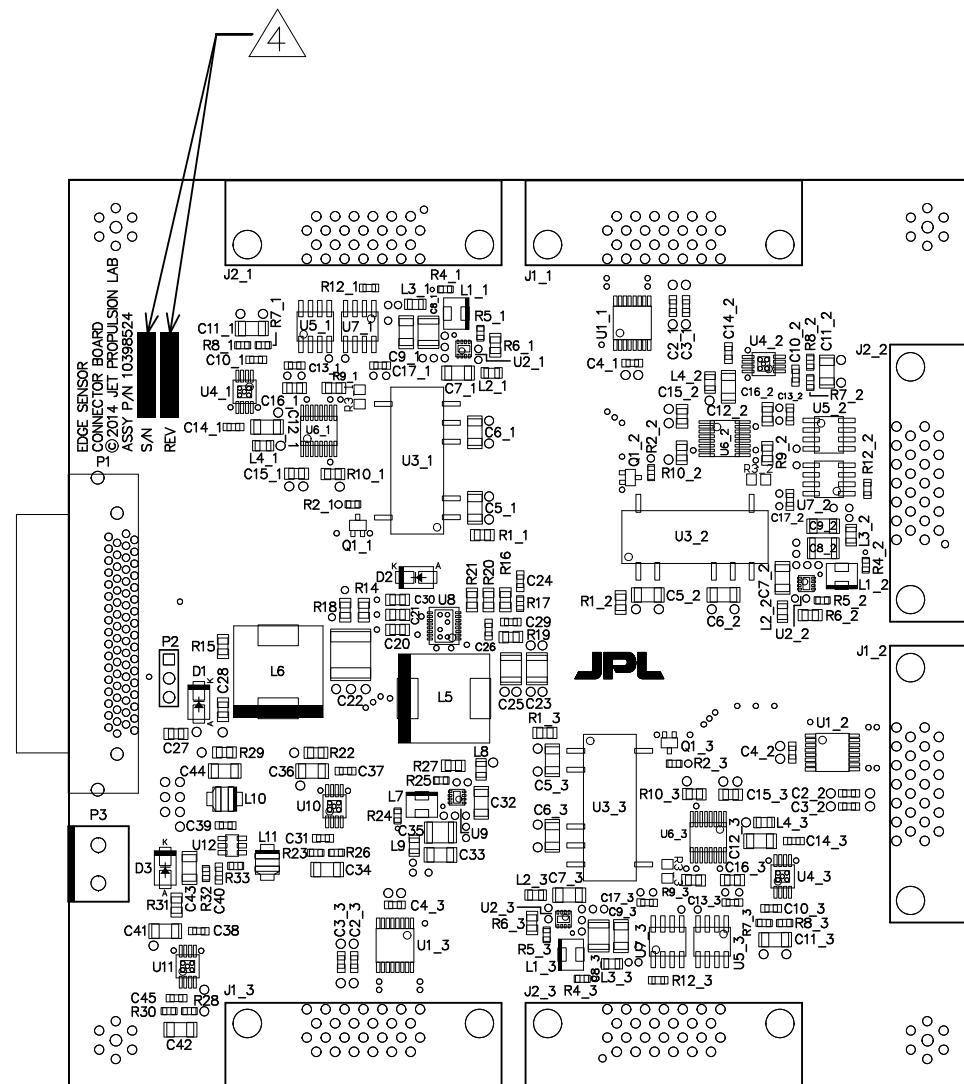
THIRD ANGLE PROJECTION



DO NOT SCALE DRAWING
INTERPRET DWG PER ASME Y14.100

DSGN
SUPV

REV 01/2013



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TECHNICAL DATA.

SIZE

B

SCALE: 1/1

CAGE CODE

B	23835
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10398524

RFV

B

UNCLASSIFIED

SHEET	2	OF	2
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REV 02/2013

DBASE NAME: ANSI B-SH2/A5

PL10398623-A Bill of Materials For EDGE SENSOR CONNECTOR BOARD PWB Assembly

Source Data From: connector_brd_v3.PrfPCB

Project: connector_brd_v3.PrfPCB

Report Date: 6/29/201512:49:06 AM

Print Date: 8/14/20151:24:07 AM

Item	Quantity	Designator	Description	Footprint	Manufacturer	ManufacturerPN	Supplier	SupplierPN
1.	10	C15_1, C15_2, C15_3, C16_1, C16_2, C16_3, C20, C21, C27, C28	CAP CER 0.1UF 50V 10% X7R 0805	CAPCP2012X14N	TDK	C2012X7R1H104K125AM	Digikey	445-6045-1-ND
2.	18	C1_1, C1_2, C1_3, C2_1, C2_2, C2_3, C3_1, C3_2, C3_3, C4_1, C4_2, C4_3, C13_1, C13_2, C13_3, C17_1, C17_2, C17_3	CAP CER .47UF 16V X7R 0603	CAPCP1608X09N	Murata	GCM188R71C474KA55D	Digikey	490-4775-1-ND
3.	1	C39	CAP CER 0.47UF 35V 20% X7R 0603	CAPCP1608X09N	TDK	CGA3E1X7R1V474M080AC	Digikey	445-12554-1-ND
4.	6	C5_1, C5_2, C5_3, C6_1, C6_2, C6_3	CAP CER 4.7UF 35V 10% X7R 1206	CAPCP3316X19N	TDK	CGA5L1X7R1V475K160AE	Digikey	445-8805-1-ND
5.	1	C30	CAP CER 4.7UF 35V 20% X7R 0805	CAPCP2012X14N	TDK	CGA4J1X7R1V475M125AE	Digikey	PCC104BCT-ND
6.	13	C9_1, C9_2, C9_3, C19_1, C19_2, C19_3, C33, C34, C36, C41, C42, C43, C44	CAP CER 10UF 16V 10% X7R 1206	CAPCP3316X19N	TDK	CGA5L1X7R1C106K160AC	Digikey	445-12902-1-ND
7.	13	C7_1, C7_2, C7_3, C11_1, C11_2, C11_3, C12_1, C12_2, C12_3, C18_1, C18_2, C18_3, C32	CAP CER 10UF 25V 10% X7R 1206	CAPCP3316X19N	TDK	CGA5L1X7R1E106K160AE	Digikey	445-8806-1-ND
8.	1	C22	CAP CER 10UF 100V 10% X7S 2220	CAPCP5850X26N	TDK	CGA9N3X7S2A106K230KE	Digikey	445-8768-1-ND
9.	1	C40	CAP CER 22PF 100V 5% NP0 0603	CAPCP1608X09N	Murata	GRM1885C2A220JA01D	Digikey	490-1335-1-ND
10.	6	C8_1, C8_2, C8_3, C23, C25, C35	CAP CER 22UF 16V 10% X7R 1210	CAPCP3225X28N	TDK	C3225X7R1C226K250AC	Digikey	445-3945-1-ND
11.	1	C24	CAP CER 62PF 100V 5% NP0 0603	CAPCP1608X09N	Murata	GRM1885C2A620JA01D	Digikey	490-1346-1-ND
12.	1	C26	CAP CER 82PF 100V 5% NP0 0603	CAPCP1608X09N	Murata	GRM1885C2A820JA01D	Digikey	490-1349-1-ND
13.	1	C29	CAP CER 3900PF 50V 5% NP0 0603	CAPCP1608X09N	Murata	GRM1885C1H392JA01D	Digikey	490-6387-1-ND
14.	10	C10_1, C10_2, C10_3, C14_1, C14_2, C14_3, C31, C37, C38, C45	CAP CER 10000PF 25V 5% C0G 0603	CAPCP1608X09N	TDK	C1608C0G1E103J080AA	Digikey	445-2664-1-ND
15.	1	P2	CONN HEADR BRKWAY .100 03POS STR	9-146285-0-03	TE Connectivity	9-146285-0-03	Digikey	A32700-03-ND
16.	6	J1_1, J1_2, J1_3, J2_1, J2_2, J2_3	CONN MDR RCPT 26POS R/A M2.5	10226-55G3PC	3M	10226-55G3PC	Digikey	3M1818-ND
17.	1	P3	CONN TERM BLOCK 2POS 5.08MM PCB	1729128	Phoenix Contact	1729128	Digikey	277-1247-ND
18.	1	P1	CONN, VHDCI PLUG, R/A PCB	VHDCI-PLUG_RA_PCB	All Best Electronics Co.	R-HI-008068-2	Digilent Inc.	163-433P
19.	3	D1, D2, D3	DIODE ULTRA FAST 1A 200V SMA	DO-214AC	Vishay	ES1D-E3/61T	Digikey	ES1D-E3/61TGICT-ND
20.	4	L1_1, L1_2, L1_3, L7	FIXED IND 10UH 1.44A 180 MOHM	IND_VLF403215	TDK	VLF403215MT-100M-CA	Digikey	445-17152-1-ND
21.	11	L2_1, L2_2, L2_3, L3_1, L3_2, L3_3, L4_1, L4_2, L4_3, L8, L9	FIXED IND 10UH 300MA 680 MOHM	INDC2012X14N	TDK	MLZ2012M100HT000	Digikey	445-8656-1-ND
22.	2	L10, L11	FIXED IND 22UH 650MA 510 MOHM	IND_LQH3NP	Murata	LQH3NPN220MM0L	Digikey	490-6637-1-ND
23.	2	L5, L6	FIXED IND 47UH 2.8A 71 MOHM SMD	IND_VLF12060T	TDK	VLF12060T-470M2R8	Digikey	445-3597-1-ND
24.	3	U6_1, U6_2, U6_3	IC DGTL ISO 1KV 4CH GEN PURP 16QSOP	SLAB_QSOP-16_N	Silicon Labs	Si8642BA-B-IU	Digikey	336-2091-5-ND
25.	3	U5_1, U5_2, U5_3	IC DRIVER DIFF LVDS 2CH 8SOIC	R-8_N	Analog Devices	ADN4663BRZ	Digikey	ADN4663BRZ-ND
26.	3	U1_1, U1_2, U1_3	IC LINE DVR QUAD DIFF 16-TSSOP	RU-16_N	Analog Devices	ADN4667ARUZ	Digikey	ADN4667ARUZ-ND
27.	3	U7_1, U7_2, U7_3	IC RCVR DIFF LVDS 1CH 8SOIC	R-8_N	Analog Devices	ADN4662BRZ	Digikey	ADN4662BRZ-ND
28.	1	U8	IC REG BUCK BST ADJ 1A/2A 16-DFN	LT-DHD-16_V	Linear Technology	LTC3115IDHD-1#PBF	Digikey	LTC3115IDHD-1#PBF-ND
29.	4	U2_1, U2_2, U2_3, U9	IC REG BUCK SYNC ADJ 0.5A 8WSON	SON50P200X80_HS-9N	Texas Instruments	TPS62170DSGT	Digikey	296-30229-1-ND
30.	1	U12	IC REG INV ADJ 0.25A TSOT23-6	LT-S6-6-TSOT-23_N	Linear Technology	LT3462AES6#TRMPBPF	Digikey	LT3462AES6#TRMPBFCT-ND
31.	3	U3_1, U3_2, U3_3	IC REG ISOLATED 5V 0.2A 7SOP	TI-DUA7_N	Texas Instruments	DCP010505BP-U	Digikey	DCP010505BP-U-ND
32.	4	U4_1, U4_2, U4_3, U10	IC REG LDO ADJ 0.15A 8MSOP	TSOP65P490X110_HS-9N	Texas Instruments	TPS7A4901DGNR	Digikey	296-27751-1-ND
33.	1	U11	IC REG LDO NEG ADJ 0.2A 8MSOP	TSOP65P490X110_HS-9N	Texas Instruments	TPS7A3001DGNR	Digikey	296-27750-1-ND
34.	3	Q1_1, Q1_2, Q1_3	MOSFET N-CH 60V SOT323	SOT65P210X110-3N	NXP	NX7002AKW,115	Digikey	568-10513-1-ND
35.	1	R15	RES 4.7 OHM 1/8W 1% 0805 SMD	RESC2012N	Panasonic	ERJ-6RQF4R7V	Digikey	P4.7DCT-ND
36.	1	R14	RES 100K OHM 1/8W 1% 0805 SMD	RESC2012N	Panasonic	ERJ-6ENF1003V	Digikey	P100KCCT-ND
37.	6	R9_1, R9_2, R9_3, R10_1, R10_2, R10_3	RES SMD 0.0 OHM JUMPER 1/8W 0805	RESC2012N	Vishay/Dale	CRCW08050000Z0EA	Digikey	541-0.0ATR-ND
38.	3	R1_1, R1_2, R1_3	RES SMD 0.1 OHM 1% 1/4W 0805	RESC2012N	Panasonic	ERJ-L06KF10CV	Digikey	P100LLCT-ND
39.	1	R16	RES SMD 1M OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF1004V	Digikey	P1.00MCCT-ND
40.	9	R11_1, R11_2, R11_3, R13_1, R13_2, R13_3, R22, R29, R31	RES SMD 1 OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6RQF1R0V	Digikey	P1.0DCT-ND
41.	5	R8_1, R8_2, R8_3, R26, R28	RES SMD 1.69K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF1691V	Digikey	P1.69KHCT-ND
42.	5	R7_1, R7_2, R7_3, R23, R30	RES SMD 5.49K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF5491V	Digikey	P5.49KHCT-ND
43.	1	R19	RES SMD 15.4K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF1542V	Digikey	P15.4KCCT-ND
44.	4	R17, R34_1, R34_2, R34_3	RES SMD 20K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF2002V	Digikey	P20.0KHCT-ND
45.	4	R6_1, R6_2, R6_3, R27	RES SMD 31.6K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF3162V	Digikey	P31.6KCCT-ND
46.	1	R18	RES SMD 43.2K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF4322V	Digikey	P43.2KCCT-ND
47.	1	R33	RES SMD 46.4K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF4642V	Digikey	P46.4KHCT-ND
48.	8	R4_1, R4_2, R4_3, R5_1, R5_2, R5_3, R24, R25	RES SMD 100K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF1003V	Digikey	P100KHCT-ND
49.	3	R12_1, R12_2, R12_3	RES SMD 100 OHM 1% 1/10W 0603	RESC1608N	Yageo	RC0603FR-07100L	Digikey	311-100HRCT-ND
50.	1	R21	RES SMD 165K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF1653V	Digikey	P165KCCT-ND
51.	4	R2_1, R2_2, R2_3, R32	RES SMD 200K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF2003V	Digikey	P200KHCT-ND
52.	1	R20	RES SMD 226K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF2263V	Digikey	P226KCCT-ND