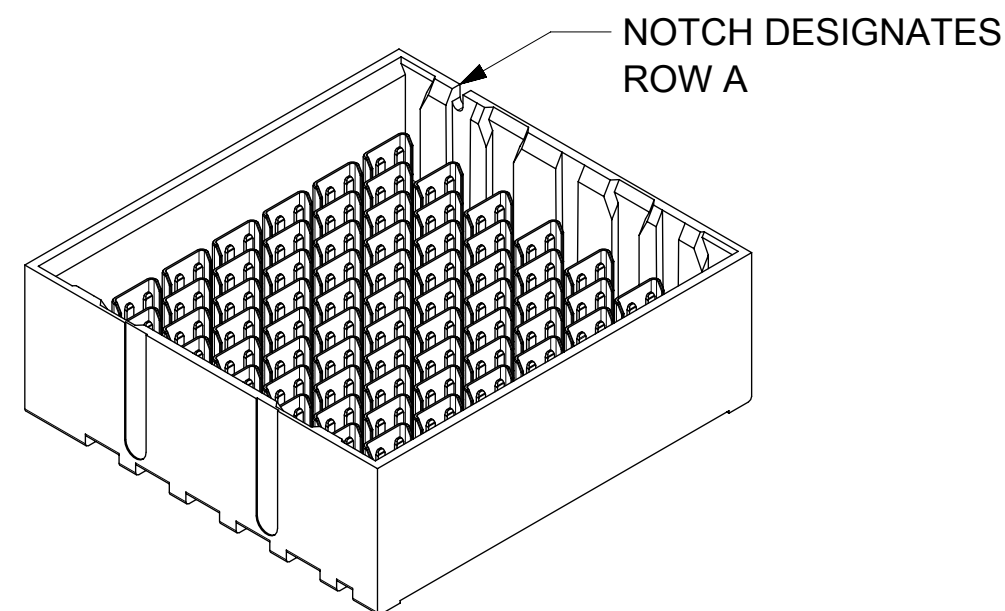
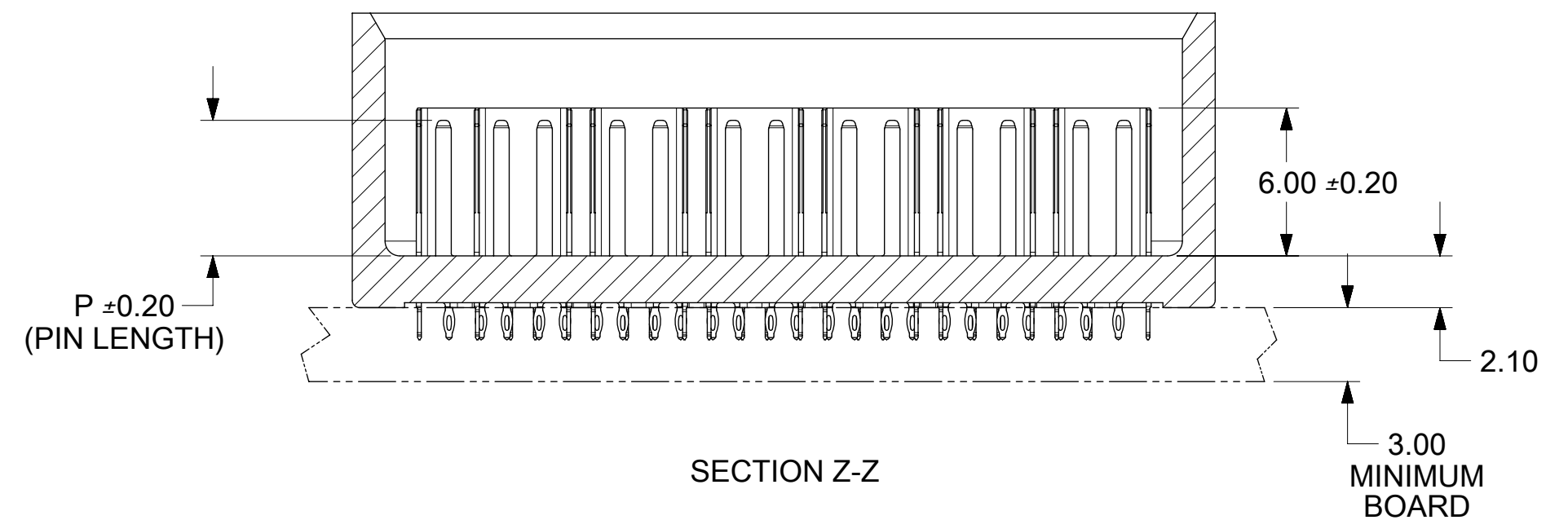
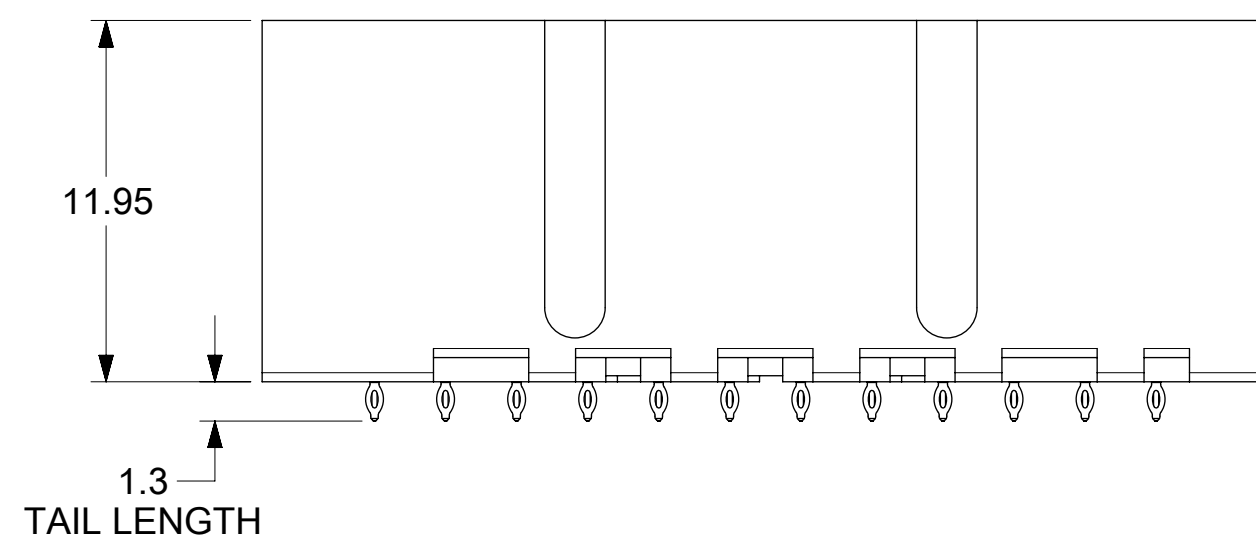


TYPE 'A' HEADER SHOWN
DIMENSIONS APPLY TO BOTH
TYPE "A" AND TYPE "B"

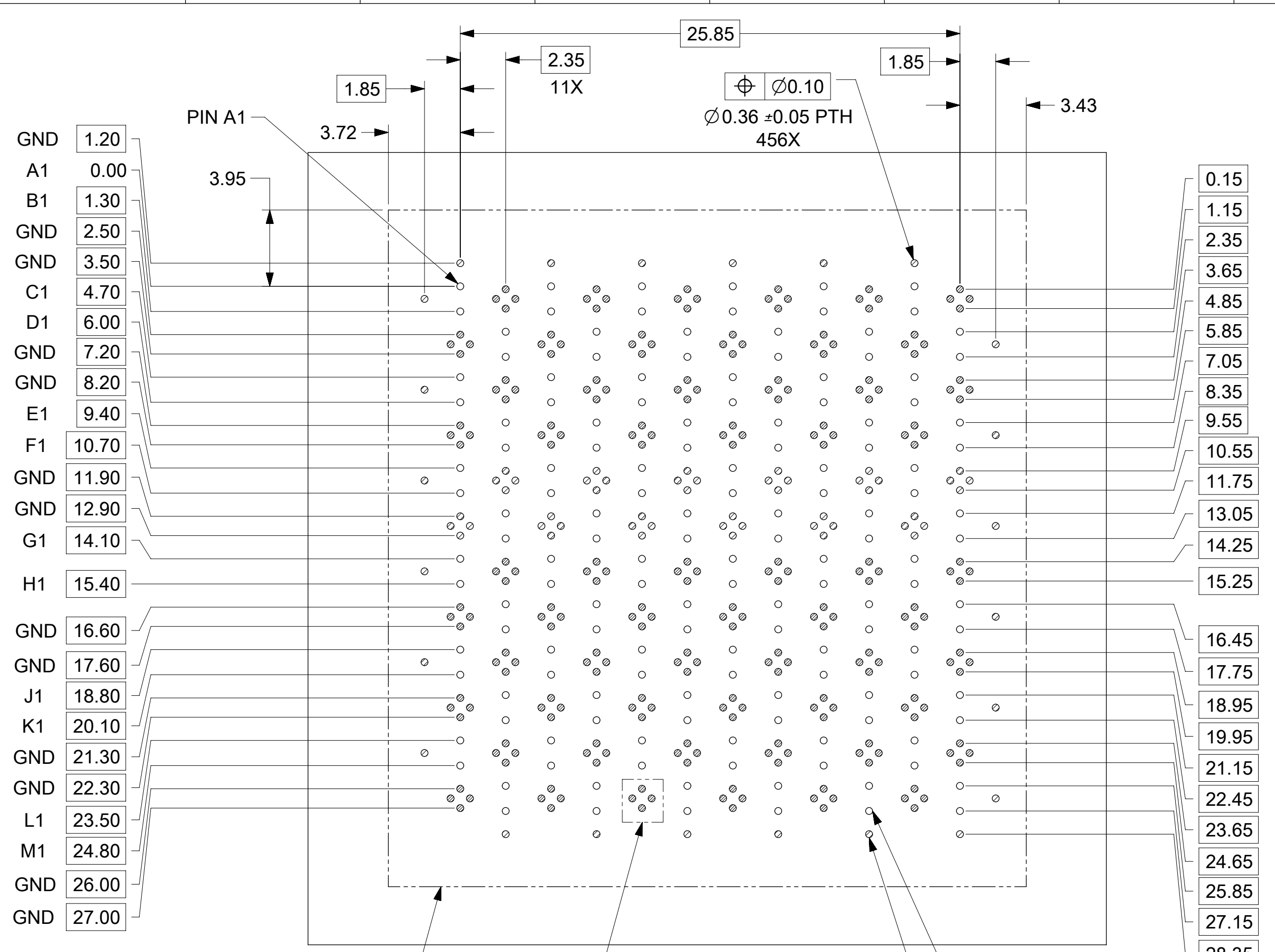
NOTES:

1. MATERIALS: HOUSING - LIQUID CRYSTAL POLYMER (LCP)
GLASS-FILLED, UL94V-0
TERMINALS - HIGH PERFORMANCE COPPER ALLOY
2. FINISH: 30uIN GOLD IN CONTACT AREA.
SELECTIVE TIN ON PCB TAILS.
NICKEL OVERALL.
3. REFER TO MOLEX PRODUCT SPECIFICATION PS-171320-999 FOR PERFORMANCE SPECIFICATIONS.
4. THIS PART CONFORMS TO CLASS B REQUIREMENTS OF MOLEX COSMETIC SPEC PS-45499-002.
5. PRODUCT WILL BE PACKAGED PER PK-78888-240.
6. SEE SHEETS 2, 3, AND 4 FOR PART NUMBERS, PCB LAYOUT, AND ORTHOGONAL PIN MAPPING. SEE SHEETS 5 AND 6 FOR HOLE PATTERNS FOR THE INDIVIDUAL HEADER TYPES.
7. MATES WITH IMPEL ORTHO DC SERIES NUMBER 171500 (UNGUIDED).
8. REFER TO IMPEL PCB ROUTING GUIDE AS-171500-990 FOR ANTIPAD, ROUTING RECOMMENDATIONS, AND ADDITIONAL PCB INFORMATION.
9. AN ORTHOGONAL NODE WILL CONSIST OF ONE TYPE "A" HEADER ON ONE SIDE OF THE MIDPLANE AND ONE TYPE "B" HEADER ON THE OTHER SIDE.

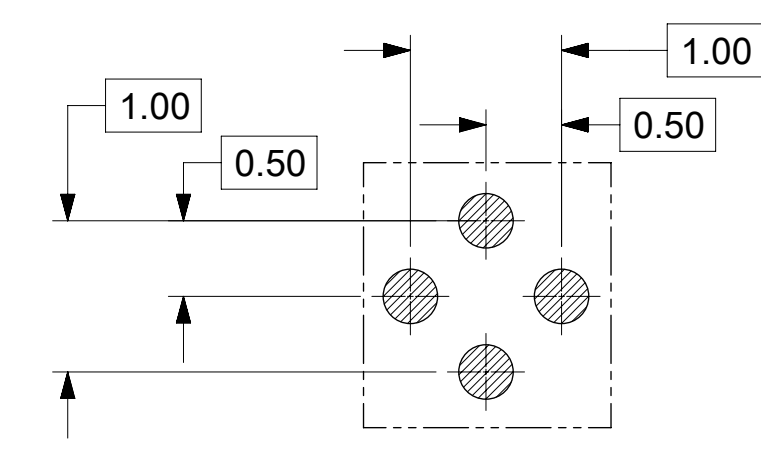


THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION											
DIMENSION UNITS		SCALE		CURRENT REV DESC: REVISE NOTE 7 MATING HALF, NOTE 8 ROUTING GUIDE NO. & CORRECT MAT'L TABLE							
mm		NTS									
GENERAL TOLERANCES (UNLESS SPECIFIED)				EC NO: 639974						IMPEL ORTHO HEADER	
ANGULAR TOL ± 0.5°				4 PLACES ±		DRWN: JLTAN06		2020/06/10		6 PAIR X 12 COL UNGUIDED	
				3 PLACES ±		CHK'D: YLLIM		2020/08/13		PRODUCT CUSTOMER DRAWING	
				2 PLACES ± 0.13		APPR: DWLEE01		2020/08/17		DOCUMENT NUMBER	
				1 PLACE ± 0.25		INITIAL REVISION:		DRWN: JLAURX		SD-171495-0001	
				0 PLACES ±		APPR: JLAURX		2012/04/15		DOC TYPE	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				THIRD ANGLE PROJECTION		DRAWING		SERIES		DOC PART	
						C-SIZE		171495		REVISION	
										A1	
								MATERIAL NUMBER		SHEET NUMBER	
								SEE TABLE		1 OF 6	
								CUSTOMER			
								GENERAL MARKET			

DOCUMENT STATUS	P1	RELEASE DATE	2020/08/17	03:52:35
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MATERIAL NUMBER	NUMBER OF COLUMNS	NUMBER OF DIFF PAIR	HEADER TYPE	DIM P
171495-0227	12	72	A	4.90
171495-0228	12	72	A	5.50
171495-1226	12	72	B	4.50
171495-1227	12	72	B	4.90
171495-1228	12	72	B	5.50



DETAIL 1
SCALE 20:1
72X

ODD COLUMN DIMENSIONS

KEEP-OUT ZONE

SEE DETAIL 1

SIGNAL VIA

GROUND VIA

EVEN COLUMN DIMENSIONS

COMBINED MIDPLANE HOLE PATTERN
TYPE "A" CONNECTOR SIDE
(TYPE "B" INSTALLS INTO REAR SIDE)

171495- * * * *

MODULE TYPE
0 = TYPE "A" - UNGUIDED
1 = TYPE "B" - UNGUIDED

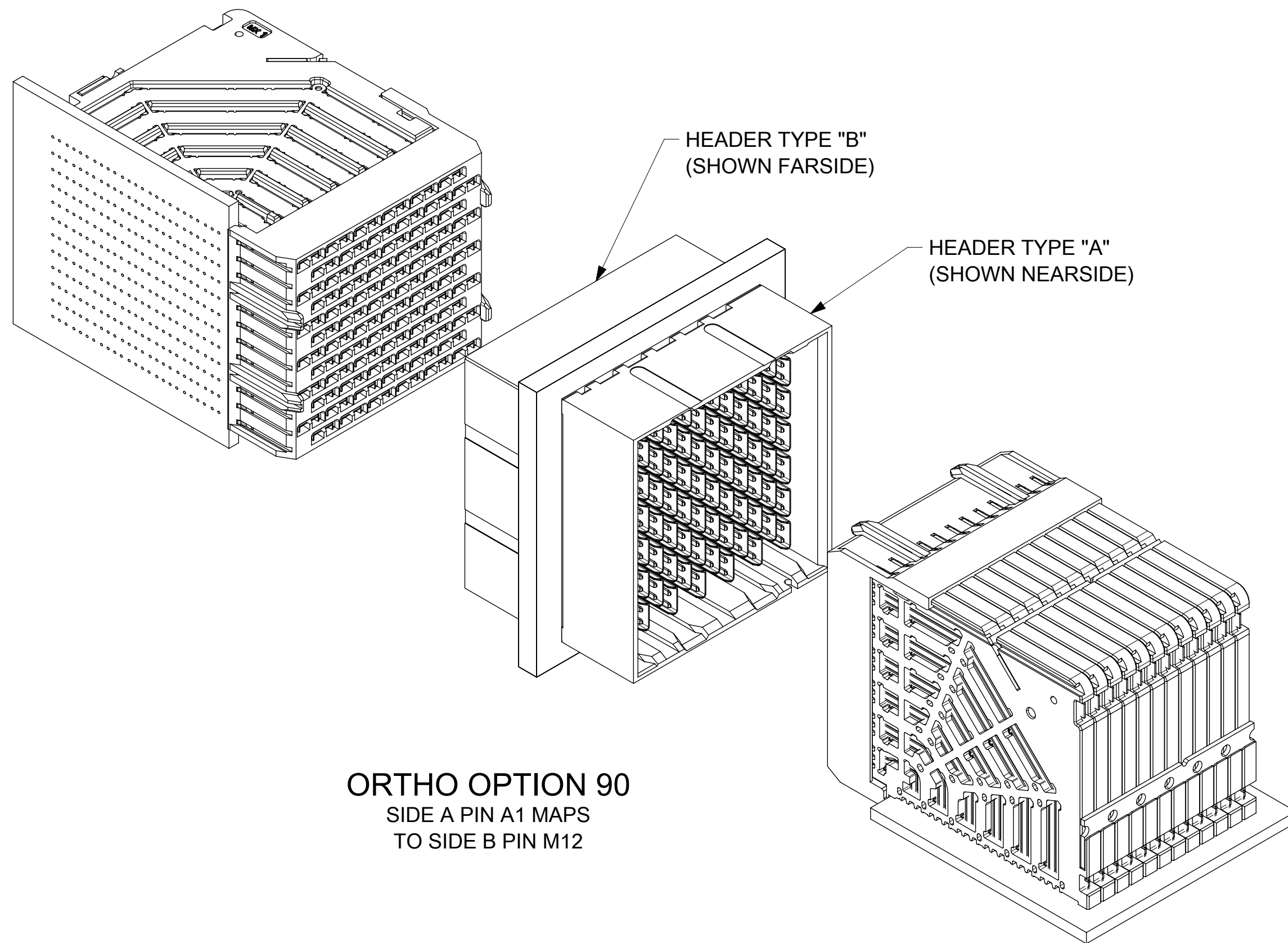
OF COLUMNS
2 = 12 COL

PIN LENGTH (P)
6 = 4.50
7 = 4.90
8 = 5.50

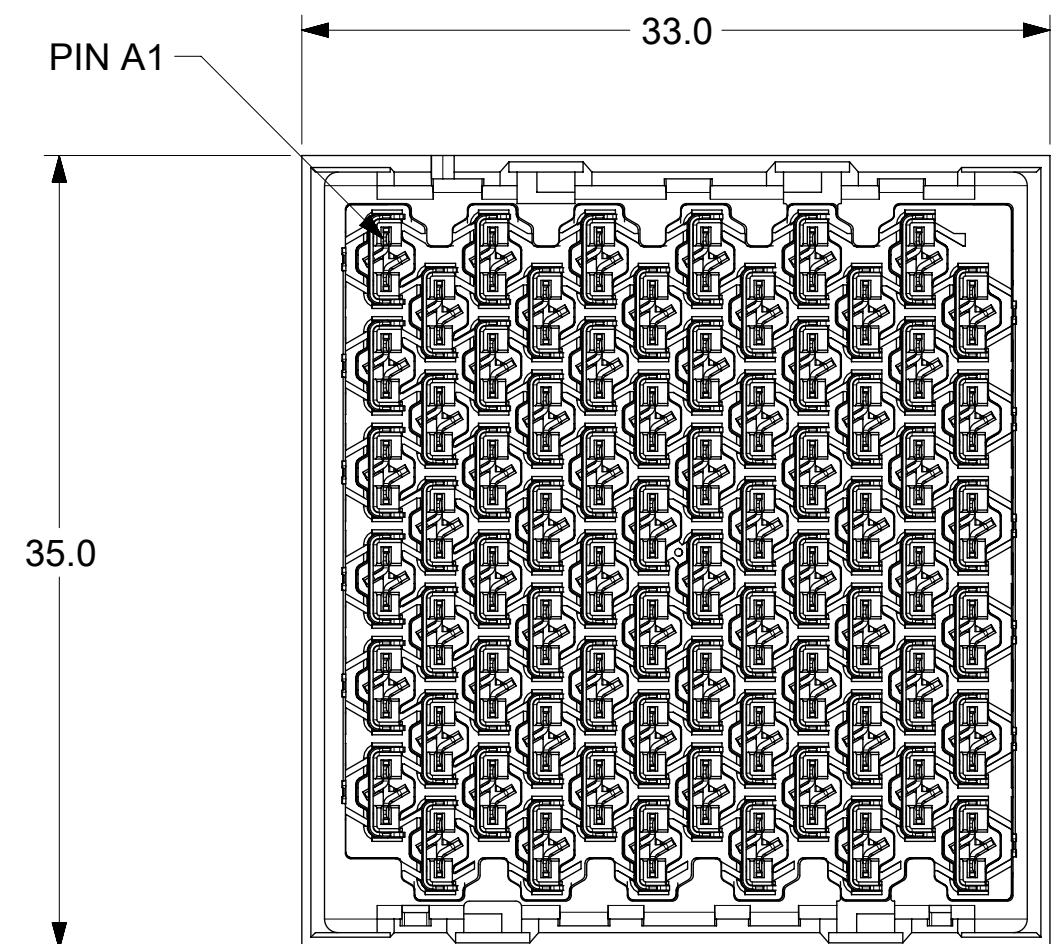
ENDWALL OPTIONS
2=DUAL ENDWALL

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DIMENSION UNITS mm		SCALE NTS		CURRENT REV DESC: REVISE NOTE 7 MATING HALF, NOTE 8 ROUTING GUIDE NO. & CORRECT MAT'L TABLE						molex	
GENERAL TOLERANCES (UNLESS SPECIFIED)				EC NO: 639974							
ANGULAR TOL ± 0.5°				4 PLACES ±		DRWN: JLTAN06		2020/06/10		IMPEL ORTHO HEADER 6 PAIR X 12 COL UNGUIDED	
3 PLACES ±				CHK'D: YLLIM		2020/08/13					
2 PLACES ± 0.13				APPR: DWLEE01		2020/08/17		PRODUCT CUSTOMER DRAWING			
1 PLACE ± 0.25				INITIAL REVISION:		DRWN: JLAURX		2012/04/15		DOCUMENT NUMBER	
0 PLACES ±				APPR: JLAURX		2012/06/21		SD-171495-0001		DOC TYPE DOC PART REVISION	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION		DRAWING		SERIES		MATERIAL NUMBER		CUSTOMER	
				C-SIZE		171495		SEE TABLE		GENERAL MARKET	
DOCUMENT STATUS		P1		RELEASE DATE		2020/08/17 03:52:35		SHEET NUMBER		2 OF 6	

ORTHO PIN MAPPING											
OPTION 90 (TYPE "A" - TYPE "B")											
A1-M12	A2-M11	A3-K12	A4-K11	A5-H12	A6-H11	A7-F12	A8-F11	A9-D12	A10-D11	A11-B12	A12-B11
B1-L12	B2-L11	B3-J12	B4-J11	B5-G12	B6-G11	B7-E12	B8-E11	B9-C12	B10-C11	B11-A12	B12-A11
C1-M10	C2-M9	C3-K10	C4-K9	C5-H10	C6-H9	C7-F10	C8-F9	C9-D10	C10-D9	C11-B10	C12-B9
D1-L10	D2-L9	D3-J10	D4-J9	D5-G10	D6-G9	D7-E10	D8-E9	D9-C10	D10-C9	D11-A10	D12-A9
E1-M8	E2-M7	E3-K8	E4-K7	E5-H8	E6-H7	E7-F8	E8-F7	E9-D8	E10-D7	E11-B8	E12-B7
F1-L8	F2-L7	F3-J8	F4-J7	F5-G8	F6-G7	F7-E8	F8-E7	F9-C8	F10-C7	F11-A8	F12-A7
G1-M6	G2-M5	G3-K6	G4-K5	G5-H6	G6-H5	G7-F6	G8-F5	G9-D6	G10-D5	G11-B6	G12-B5
H1-L6	H2-L5	H3-J6	H4-J5	H5-G6	H6-G5	H7-E6	H8-E5	H9-C6	H10-C5	H11-A6	H12-A5
J1-M4	J2-M3	J3-K4	J4-K3	J5-H4	J6-H3	J7-F4	J8-F3	J9-D4	J10-D3	J11-B4	J12-B3
K1-L4	K2-L3	K3-J4	K4-J3	K5-G4	K6-G3	K7-E4	K8-E3	K9-C4	K10-C3	K11-A4	K12-A3
L1-M2	L2-M1	L3-K2	L4-K1	L5-H2	L6-H1	L7-F2	L8-F1	L9-D2	L10-D1	L11-B2	L12-B1
M1-L2	M2-L1	M3-J2	M4-J1	M5-G2	M6-G1	M7-E2	M8-E1	M9-C2	M10-C1	M11-A2	M12-A1



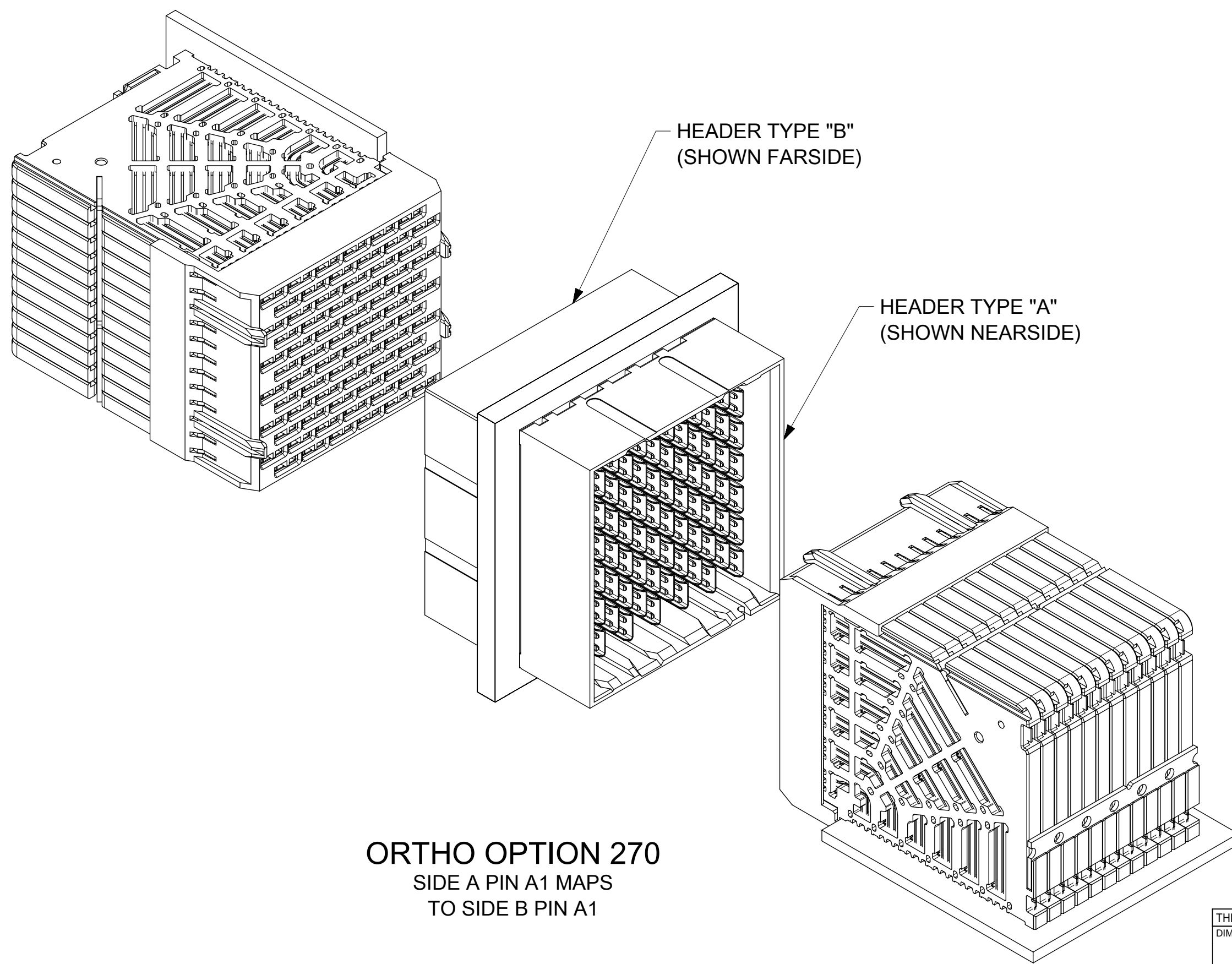
ORTHO OPTION 90
SIDE A PIN A1 MAPS
TO SIDE B PIN M12



TYPE 'B' HEADER SHOWN
DIMENSIONS APPLY TO BOTH
TYPE 'A' AND TYPE 'B'

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION											
DIMENSION UNITS		SCALE		CURRENT REV DESC: REVISE NOTE 7 MATING HALF, NOTE 8 ROUTING GUIDE NO. & CORRECT MAT'L TABLE							
mm		NTS		<p>molex</p> <p>IMPEL ORTHO HEADER 6 PAIR X 12 COL UNGUIDED</p> <p>PRODUCT CUSTOMER DRAWING</p> <p>DOCUMENT NUMBER: SD-171495-0001 DOC TYPE: PSD DOC PART: 001 REVISION: A1</p> <p>MATERIAL NUMBER: SEE TABLE CUSTOMER: GENERAL MARKET SHEET NUMBER: 3 OF 6</p>							
GENERAL TOLERANCES (UNLESS SPECIFIED)											
ANGULAR TOL ± 0.5°											
4 PLACES ±		EC NO: 639974									
3 PLACES ±		DRWN: JLTAN06 2020/06/10									
2 PLACES ± 0.13		CHK'D: YLLIM 2020/08/13									
1 PLACE ± 0.25		APPR: DWLEE01 2020/08/17									
0 PLACES ±		INITIAL REVISION:									
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION		DRAWING		SERIES		MATERIAL NUMBER			
		C-SIZE		171495		SEE TABLE		GENERAL MARKET			

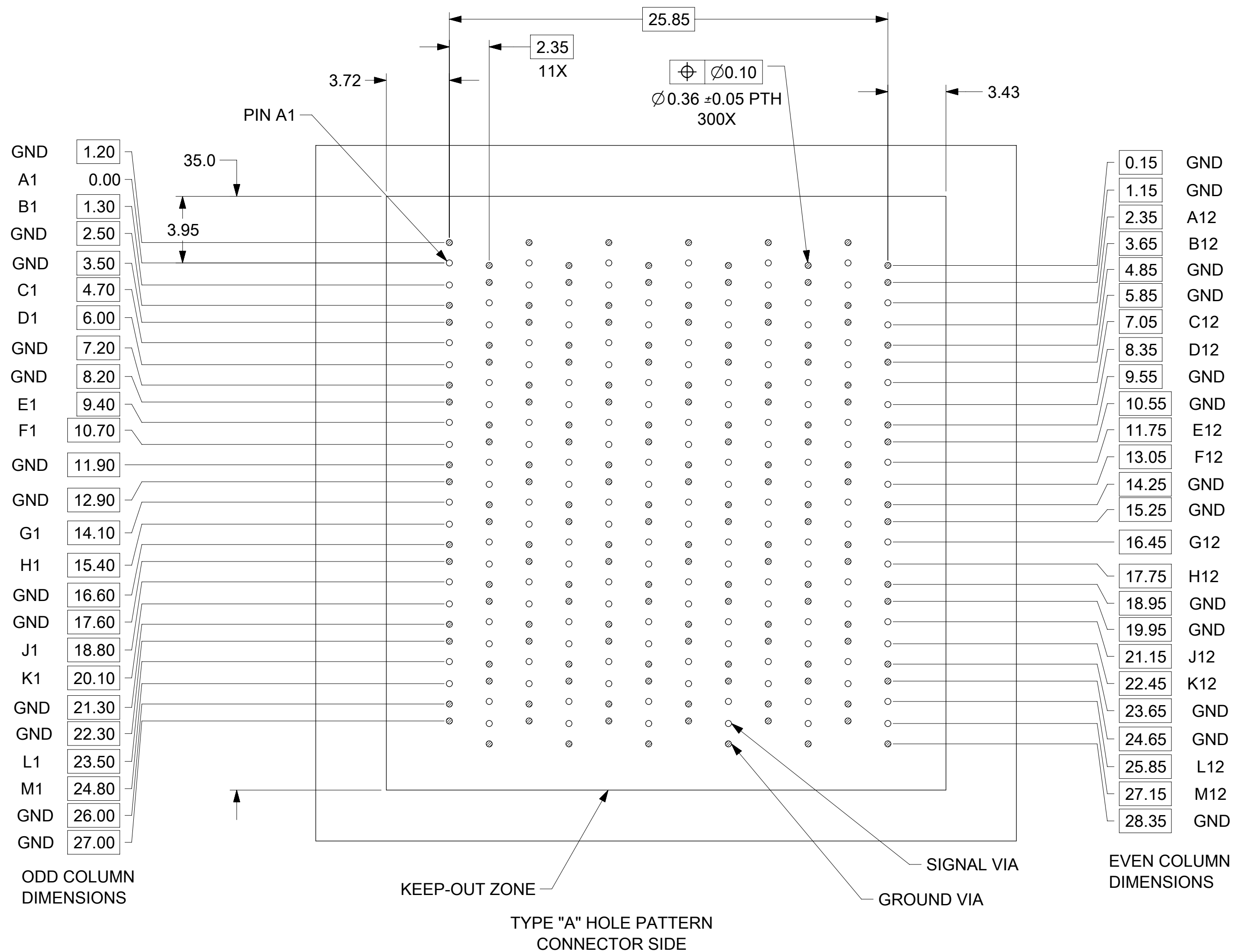
ORTHO PIN MAPPING											
OPTION 270 (TYPE "A" - TYPE "B")											
A1-A1	A2-A2	A3-C1	A4-C2	A5-E1	A6-E2	A7-G1	A8-G2	A9-J1	A10-J2	A11-L1	A12-L2
B1-B1	B2-B2	B3-D1	B4-D2	B5-F1	B6-F2	B7-H1	B8-H2	B9-K1	B10-K2	B11-M1	B12-M2
C1-A3	C2-A4	C3-C3	C4-C4	C5-E3	C6-E4	C7-G3	C8-G4	C9-J3	C10-J4	C11-L3	C12-L4
D1-B3	D2-B4	D3-D3	D4-D4	D5-F3	D6-F4	D7-H3	D8-H4	D9-K3	D10-K4	D11-M3	D12-M4
E1-A5	E2-A6	E3-C5	E4-C6	E5-E5	E6-E6	E7-G5	E8-G6	E9-J5	E10-J6	E11-L5	E12-L6
F1-B5	F2-B6	F3-D5	F4-D6	F5-F5	F6-F6	F7-H5	F8-H6	F9-K5	F10-K6	F11-M5	F12-M6
G1-A7	G2-A8	G3-C7	G4-C8	G5-E7	G6-E8	G7-G7	G8-G8	G9-J7	G10-J8	G11-L7	G12-L8
H1-B7	H2-B8	H3-D7	H4-D8	H5-F7	H6-F8	H7-H7	H8-H8	H9-K7	H10-K8	H11-M7	H12-M8
J1-A9	J2-A10	J3-C9	J4-C10	J5-E9	J6-E10	J7-G9	J8-G10	J9-J9	J10-J10	J11-L9	J12-L10
K1-B9	K2-B10	K3-D9	K4-D10	K5-F9	K6-F10	K7-H9	K8-H10	K9-K9	K10-K10	K11-M9	K12-M10
L1-A11	L2-A12	L3-C11	L4-C12	L5-E11	L6-E12	L7-G11	L8-G12	L9-J11	L10-J12	L11-L11	L12-L12
M1-B11	M2-B12	M3-D11	M4-D12	M5-F11	M6-F12	M7-H11	M8-H12	M9-K11	M10-K12	M11-M11	M12-M12



ORTHO OPTION 270
SIDE A PIN A1 MAPS
TO SIDE B PIN A1

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DIMENSION UNITS	SCALE	CURRENT REV DESC: REVISE NOTE 7 MATING HALF, NOTE 8 ROUTING GUIDE NO. & CORRECT MAT'L TABLE						
mm	NTS							
GENERAL TOLERANCES (UNLESS SPECIFIED)		EC NO: 639974		IMPEL ORTHO HEADER 6 PAIR X 12 COL UNGUIDED				
ANGULAR TOL	± 0.5°	DRWN: JLTAN06	2020/06/10	PRODUCT CUSTOMER DRAWING				
4 PLACES	±	CHK'D: YLLIM	2020/08/13	DOCUMENT NUMBER				
3 PLACES	±	APPR: DWLEE01	2020/08/17	SD-171495-0001		DOC TYPE	DOC PART	REVISION
2 PLACES	± 0.13	INITIAL REVISION:		PSD 001 A1				
1 PLACE	± 0.25	DRWN: JLAURX	2012/04/15	MATERIAL NUMBER		CUSTOMER		SHEET NUMBER
0 PLACES	±	APPR: JLAURX	2012/06/21	SEE TABLE		GENERAL MARKET		4 OF 6
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION	DRAWING	SERIES				
			C-SIZE	171495				

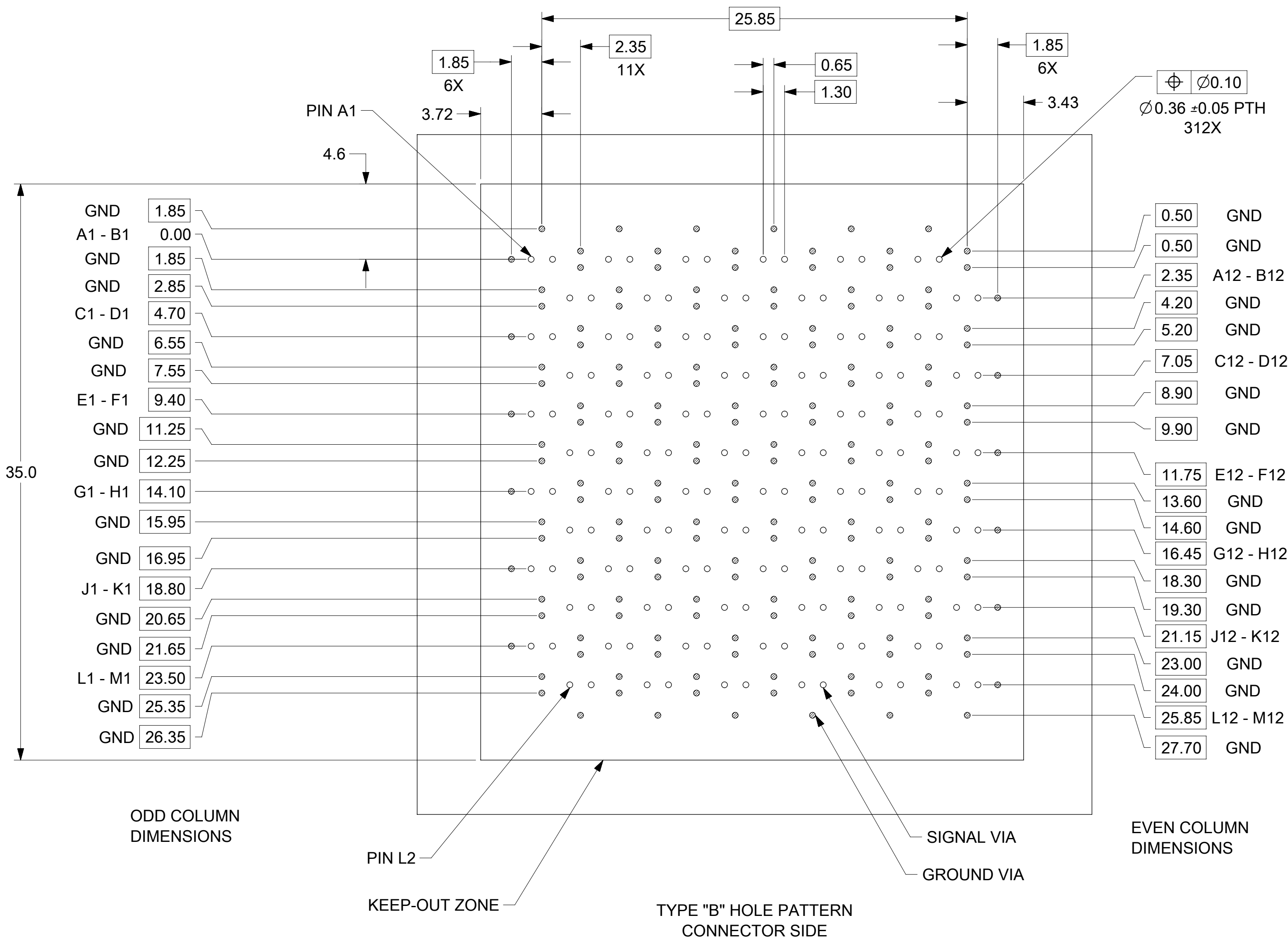


- ODD COLUMN DIMENSIONS
- GND 1.20
 - A1 0.00
 - B1 1.30
 - GND 2.50
 - GND 3.50
 - C1 4.70
 - D1 6.00
 - GND 7.20
 - GND 8.20
 - E1 9.40
 - F1 10.70
 - GND 11.90
 - GND 12.90
 - G1 14.10
 - H1 15.40
 - GND 16.60
 - GND 17.60
 - J1 18.80
 - K1 20.10
 - GND 21.30
 - GND 22.30
 - L1 23.50
 - M1 24.80
 - GND 26.00
 - GND 27.00

- EVEN COLUMN DIMENSIONS
- 0.15 GND
 - 1.15 GND
 - 2.35 A12
 - 3.65 B12
 - 4.85 GND
 - 5.85 GND
 - 7.05 C12
 - 8.35 D12
 - 9.55 GND
 - 10.55 GND
 - 11.75 E12
 - 13.05 F12
 - 14.25 GND
 - 15.25 GND
 - 16.45 G12
 - 17.75 H12
 - 18.95 GND
 - 19.95 GND
 - 21.15 J12
 - 22.45 K12
 - 23.65 GND
 - 24.65 GND
 - 25.85 L12
 - 27.15 M12
 - 28.35 GND

TYPE "A" HOLE PATTERN
CONNECTOR SIDE

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION											
DIMENSION UNITS mm		SCALE NTS		CURRENT REV DESC: REVISE NOTE 7 MATING HALF, NOTE 8 ROUTING GUIDE NO. & CORRECT MAT'L TABLE				molex		IMPEL ORTHO HEADER 6 PAIR X 12 COL UNGUIDED	
GENERAL TOLERANCES (UNLESS SPECIFIED)				EC NO: 639974							
ANGULAR TOL ± 0.5°		4 PLACES ±		DRWN: JLTAN06		2020/06/10		PRODUCT CUSTOMER DRAWING			
3 PLACES ±		2 PLACES ± 0.13		CHK'D: YLLIM		2020/08/13					
1 PLACE ± 0.25		0 PLACES ±		APPR: DWLEE01		2020/08/17		DOCUMENT NUMBER SD-171495-0001			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION		INITIAL REVISION: DRWN: JLAURX		2012/04/15					
DRAWING C-SIZE		SERIES 171495		APPR: JLAURX		2012/06/21		MATERIAL NUMBER SEE TABLE		CUSTOMER GENERAL MARKET	
SHEET NUMBER 5 OF 6											





ODD COLUMN DIMENSIONS

EVEN COLUMN DIMENSIONS

TYPE "B" HOLE PATTERN
CONNECTOR SIDE

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DIMENSION UNITS	SCALE	CURRENT REV DESC: REVISE NOTE 7 MATING HALF, NOTE 8 ROUTING GUIDE NO. & CORRECT MAT'L TABLE					
mm	NTS						
GENERAL TOLERANCES (UNLESS SPECIFIED)		EC NO: 639974		IMPEL ORTHO HEADER 6 PAIR X 12 COL UNGUIDED			
ANGULAR TOL	± 0.5°	4 PLACES	±	DRWN: JLTAN06	2020/06/10	PRODUCT CUSTOMER DRAWING	
		3 PLACES	±	CHK'D: YLLIM	2020/08/13	DOCUMENT NUMBER	
		2 PLACES	± 0.13	APPR: DWLEE01	2020/08/17	SD-171495-0001	
		1 PLACE	± 0.25	INITIAL REVISION:		DOC TYPE	DOC PART
		0 PLACES	±	DRWN: JLAURX	2012/04/15	PSD	001
				APPR: JLAURX	2012/06/21	REVISION	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION	DRAWING	SERIES	MATERIAL NUMBER	CUSTOMER	SHEET NUMBER
			C-SIZE	171495	SEE TABLE	GENERAL MARKET	6 OF 6