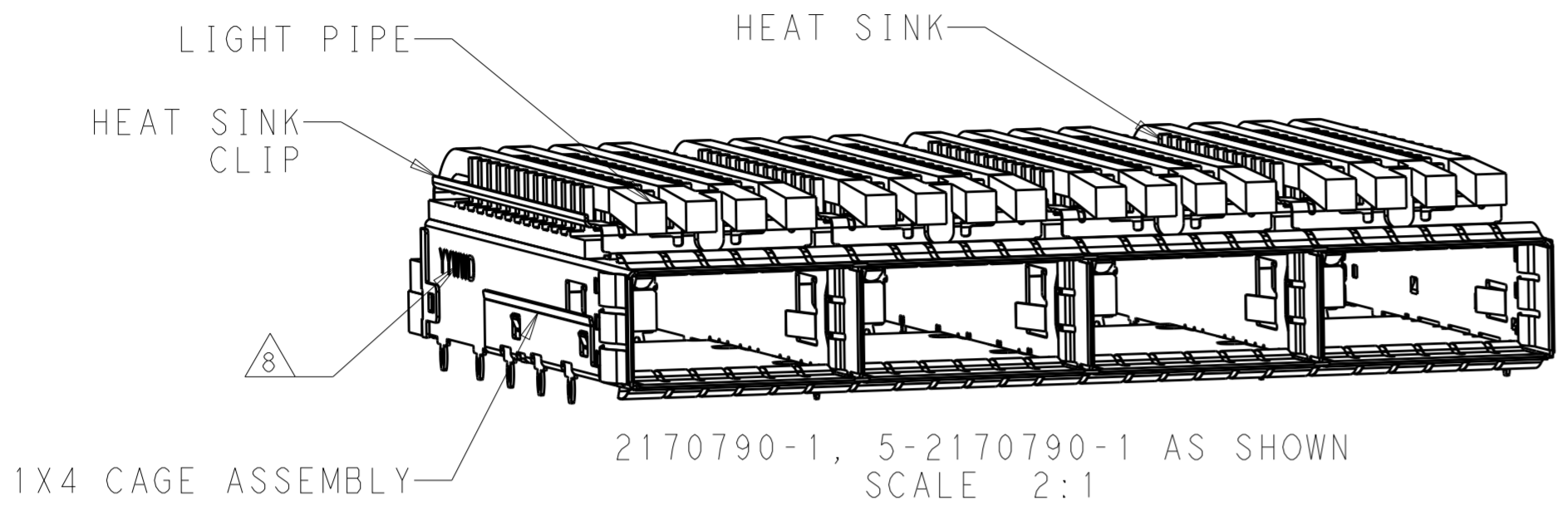
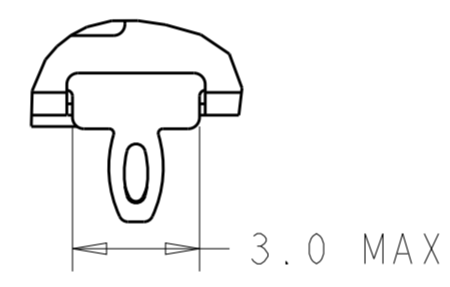


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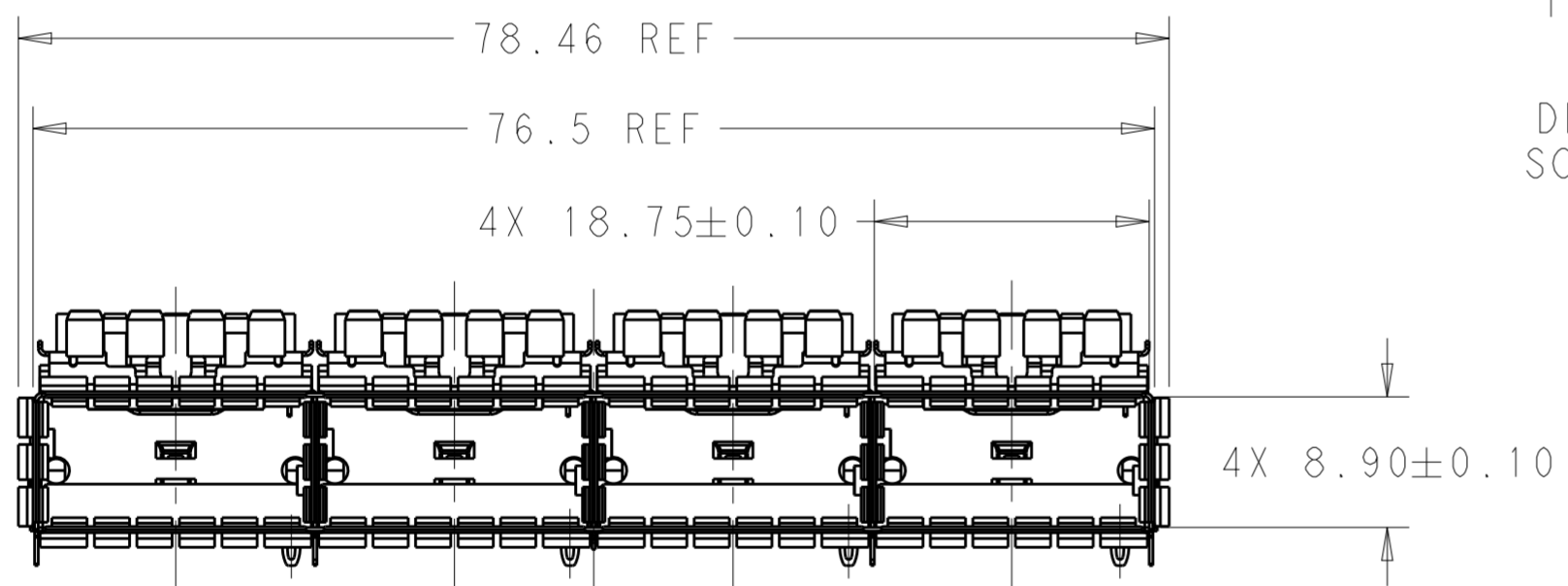
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P	LTR	DESCRIPTION	DATE	APVD
A		RELEASE	31OCT2016	JY SH
B		REVISED PER ECO-17-008540	07JUN2017	JY SH



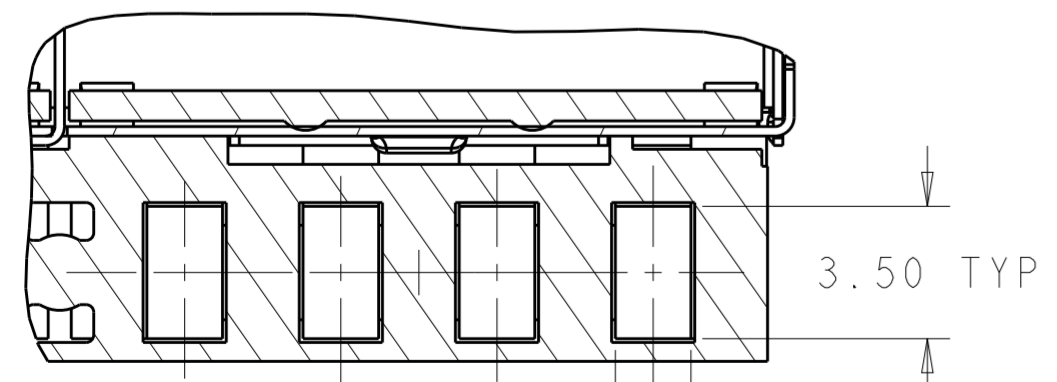
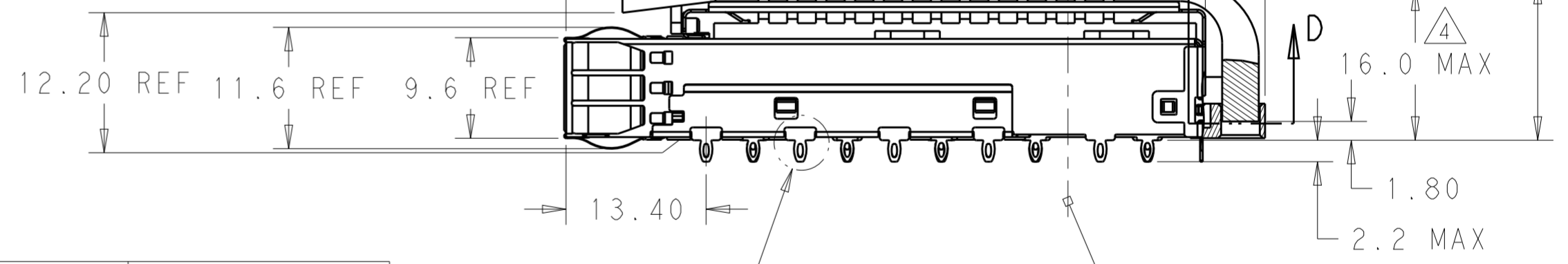
- COMPONENTS
 CAGE ASSEMBLY: NICKEL-SILVER ALLOY
 HEAT SINK: ALUMINUM/BLACK ANODIZE
 HEAT SINK CLIP: STAINLESS STEEL
 EMI SPRING: COPPER ALLOY/NICKEL PLATE
 LIGHT PIPE: CLEAR POLYCARBONATE WITH UL 94 V_0
 ORGANIZER: POLYESTER WITH UL 94 V_0
- REFERENCE APPLICATION SPECIFICATION 114-32023 FOR RECOMMENDED DRILL HOLE DIAMETER AND PLATING THICKNESS
- DATUM AND BASIC DIMENSION ESTABLISHED BY CUSTOMER
- DIMENSION APPLIES WITH MODULE INSERTED IN CAGE
- HEAT SINKS, HEAT SINK CLIPS AND LIGHT PIPES ARE SHIPPED ASSEMBLED ON CAGE
- MINIMUM PC BOARD THICKNESS: SINGLE SIDED: 1.57 MIN
 DOUBLE SIDED: 2.20 MIN
- MATES WITH QSFP28 MSA COMPATIBLE TRANSCEIVER.
- DATE CODE (YYWWD) MARKED APPROXIMATELY AS SHOWN.
- THESE SPEC ARE OPTIONAL WHEN THE LIGHT PIPES ARE REMOVED.



DETAIL C
 SCALE 6:1



SCALE 2:1



SURFACE OF LIGHT INPUT
 SECTION D-D
 SCALE 5:1

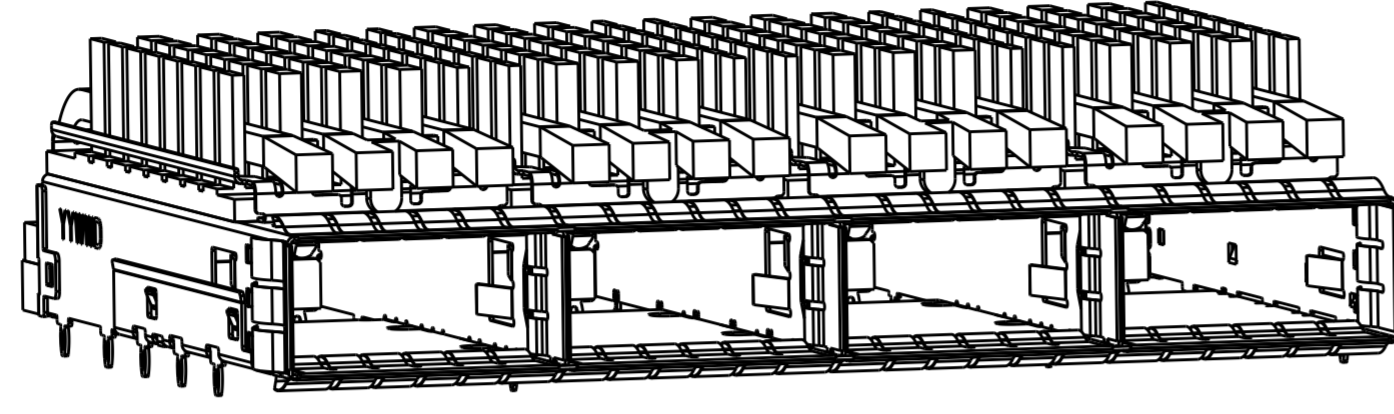
W/ COATING	CUSTOMERIZED HS	5-2170790-5
W/ COATING	CUSTOMERIZED HS	5-2170790-4
W/ COATING	CUSTOMERIZED HS	5-2170790-3
W/ COATING	CUSTOMERIZED HS	5-2170790-2
W/ COATING	SAN HS	5-2170790-1
N/A	CUSTOMERIZED HS	2170790-7
N/A	CUSTOMERIZED HS	2170790-6
W/O COATING	CUSTOMERIZED HS	2170790-5
W/O COATING	CUSTOMERIZED HS	2170790-4
W/O COATING	CUSTOMERIZED HS	2170790-3
W/O COATING	CUSTOMERIZED HS	2170790-2
W/O COATING	SAN HS	2170790-1
LP OPTION	HS OPTION	PART NUMBER

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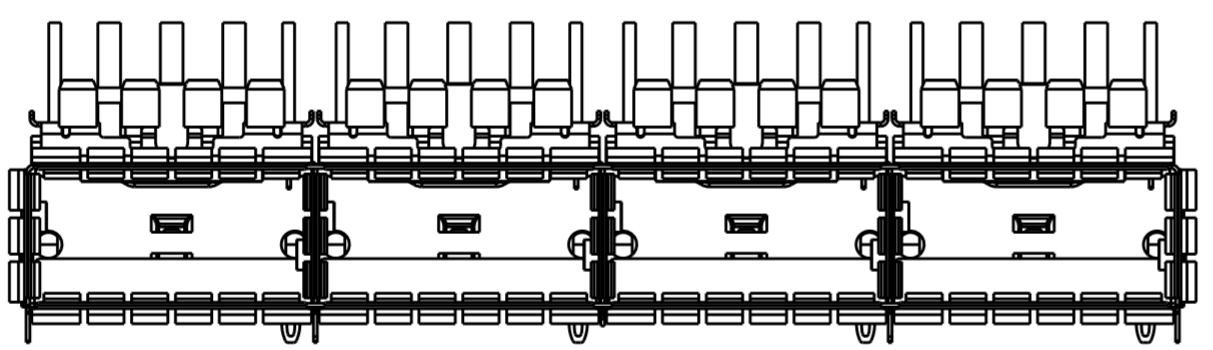
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH	DWN JASON YANG 30 JUN 2014 CHK SEAN HAN 19 FEB 2016 APVD -	TE Connectivity
MATERIAL SEE NOTES	SEE NOTES	PRODUCT SPEC 108-19428 APPLICATION SPEC 114-32023 WEIGHT - CUSTOMER DRAWING	
		NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	RESTRICTED TO
		SIZE A2 CAGE CODE 00779 DRAWING NO C-2170790	SCALE 3:1 SHEET 1 OF 11 REV B

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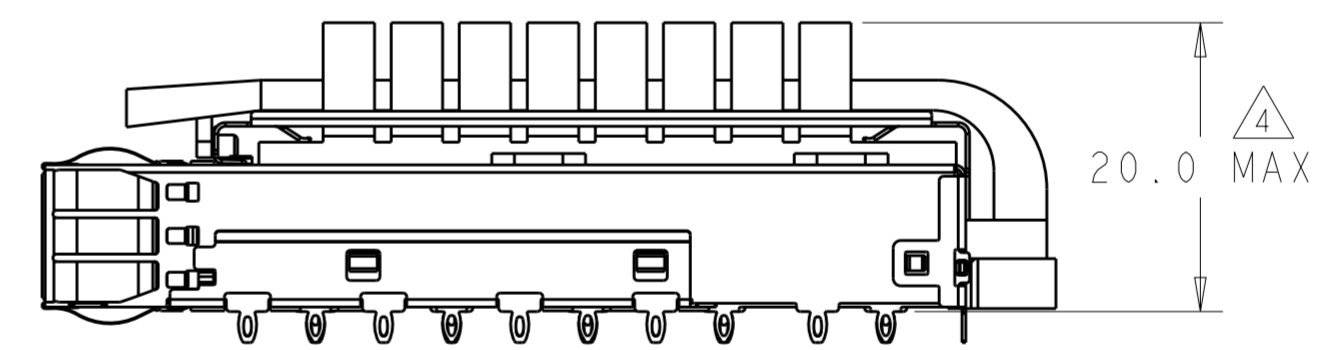
REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-		SEE SHEET 1	-	-



2170790-2, 5-2170790-2 AS SHOWN
 CUSTOMERIZED HEAT SINK
 SCALE 2:1



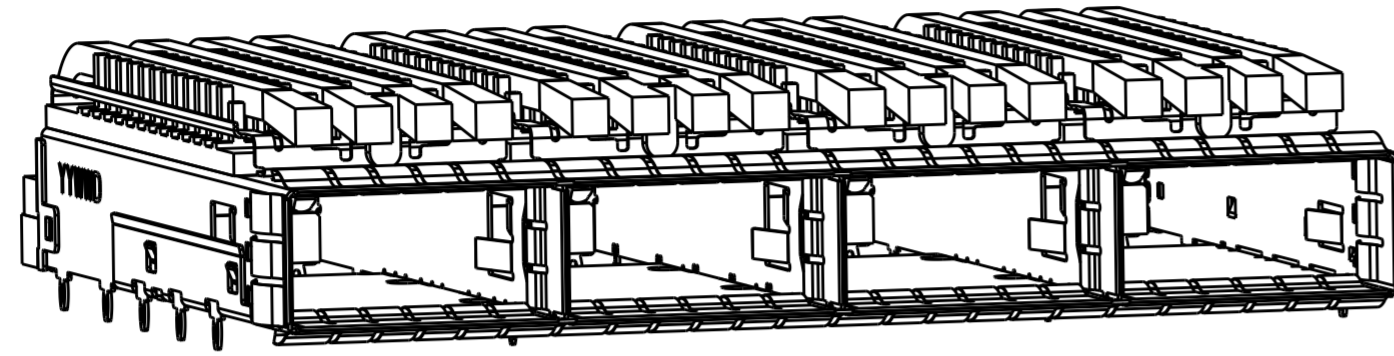
2170790-2, 5-2170790-2
 UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-1
 SCALE 2:1



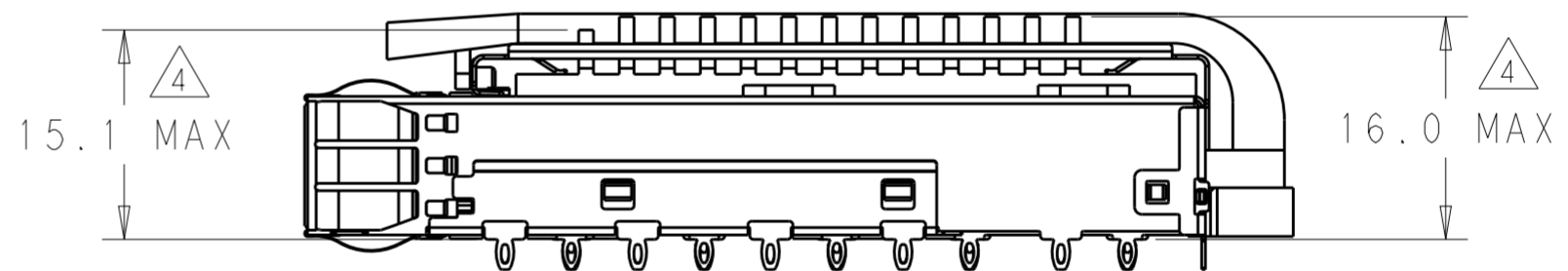
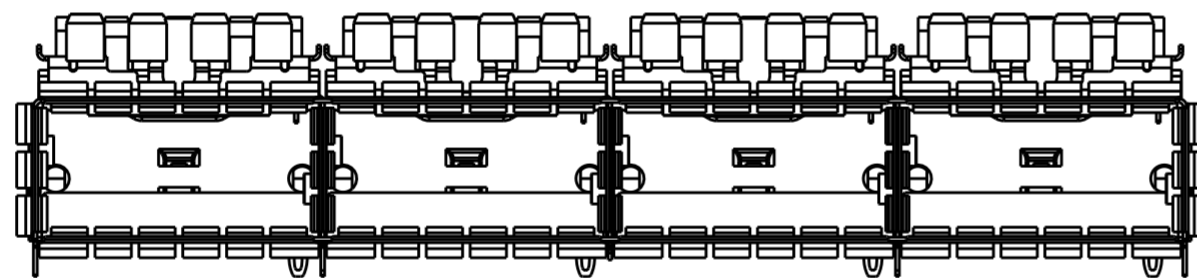
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	STE TE Connectivity	
		CHK 19 FEB 2016 SEAN HAN		
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED:	APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
	0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH	PRODUCT SPEC 108-19428	SIZE 114-32023	RESTRICTED TO -
MATERIAL SEE NOTES	SEE NOTES	APPLICATION SPEC 114-32023	WEIGHT -	SCALE 3:1 SHEET 2 OF 11 REV B
		CUSTOMER DRAWING	SIZE A200779	DRAWING NO C-2170790

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REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-		SEE SHEET 1	-	-



2170790-3, 5-2170790-3 AS SHOWN
 CUSTOMERIZED HEAT SINK
 SCALE 2:1

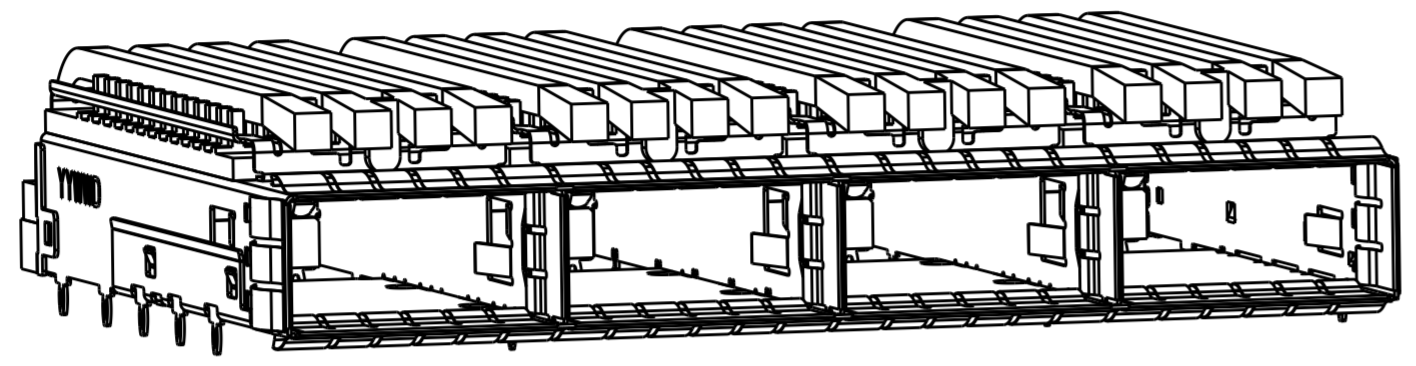


2170790-3, 5-2170790-3
 UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-1
 SCALE 2:1

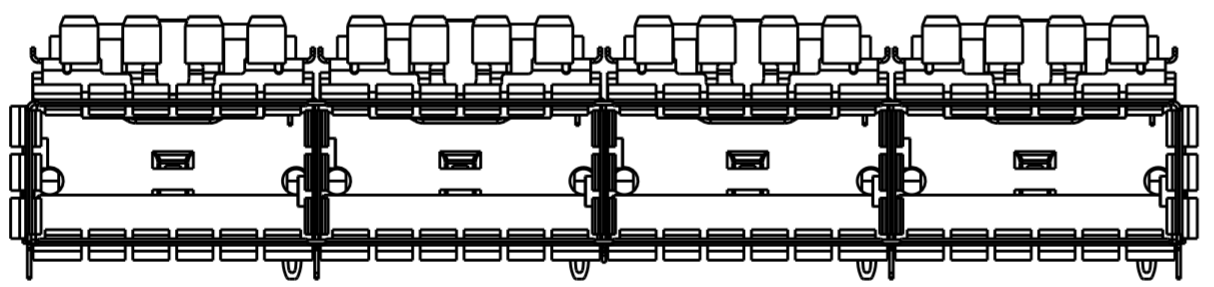
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	 TE Connectivity	
DIMENSIONS: mm		CHK 19 FEB 2016 SEAN HAN		
TOLERANCES UNLESS OTHERWISE SPECIFIED:		APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
0 PLC ±-		PRODUCT SPEC 108-19428	SIZE CAGE CODE DRAWING NO RESTRICTED TO	
1 PLC ±0.25		APPLICATION SPEC 114-32023	A200779 C-2170790	
2 PLC ±0.2		WEIGHT -	SCALE 3:1 SHEET 3 OF 11 REV B	
3 PLC ±-		CUSTOMER DRAWING		
4 PLC ±-				
ANGLES ±-				
FINISH				
MATERIAL SEE NOTES				
SEE NOTES				

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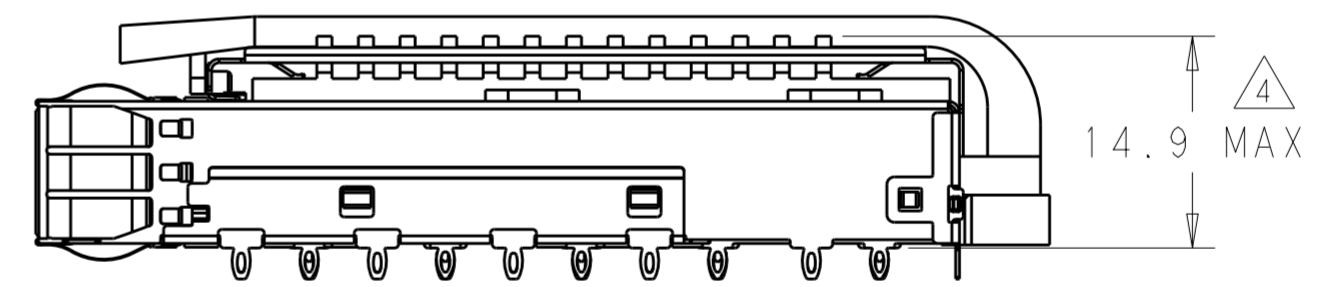
REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-		SEE SHEET 1	-	-



2170790-4, 5-2170790-4 AS SHOWN
 CUSTOMERIZED HEAT SINK
 SCALE 2:1



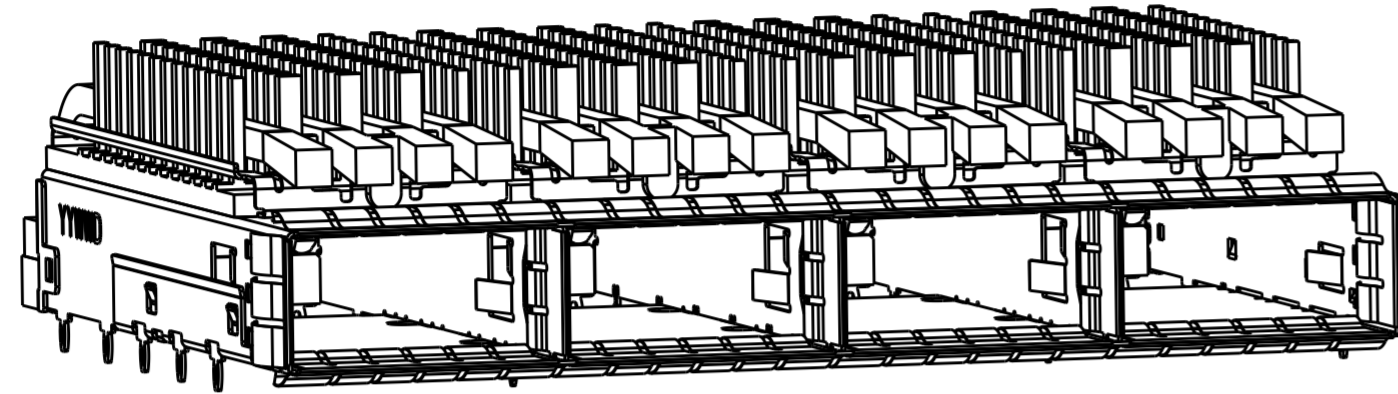
2170790-4, 5-2170790-4
 UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-1
 SCALE 2:1



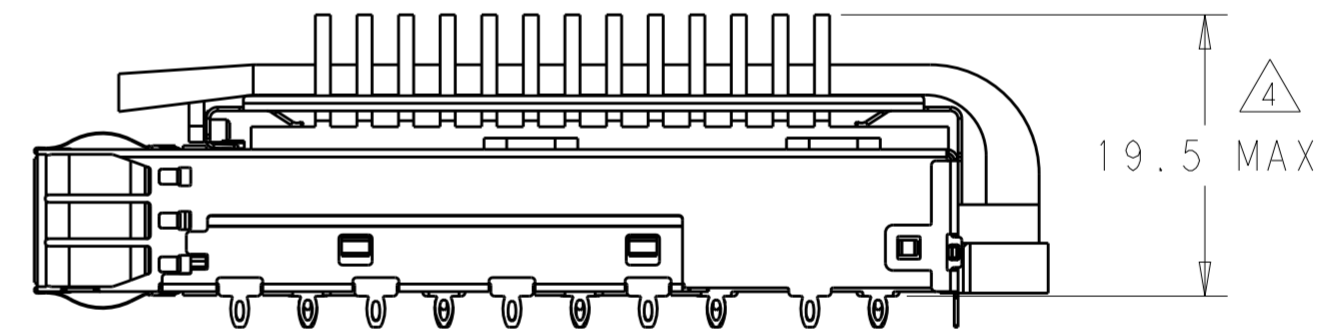
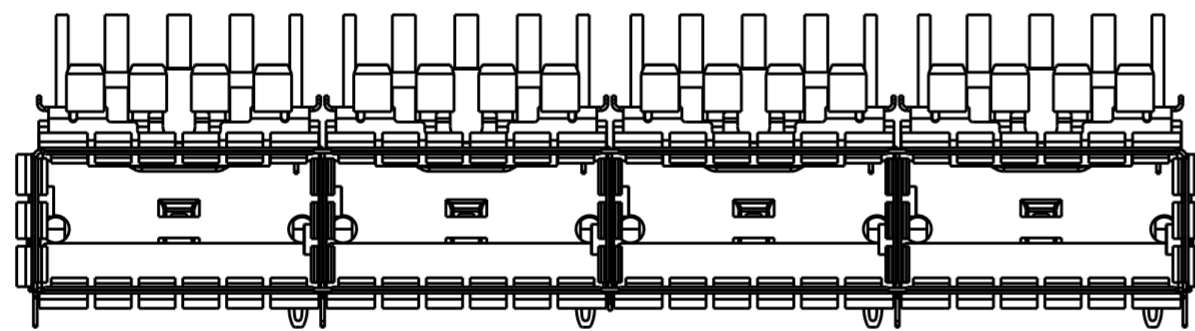
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	STE TE Connectivity	
		CHK 19 FEB 2016 SEAN HAN		
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED:	APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
	0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH	PRODUCT SPEC 108-19428	SIZE A2	CAGE CODE 00779
MATERIAL SEE NOTES	SEE NOTES	APPLICATION SPEC 114-32023	DRAWING NO C-2170790	RESTRICTED TO -
		WEIGHT -	CUSTOMER DRAWING	
			SCALE 3:1	SHEET 4 OF 11 REV B

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REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-		SEE SHEET 1	-	-



2170790-5, 5-2170790-5 AS SHOWN
 CUSTOMERIZED HEAT SINK
 SCALE 2:1

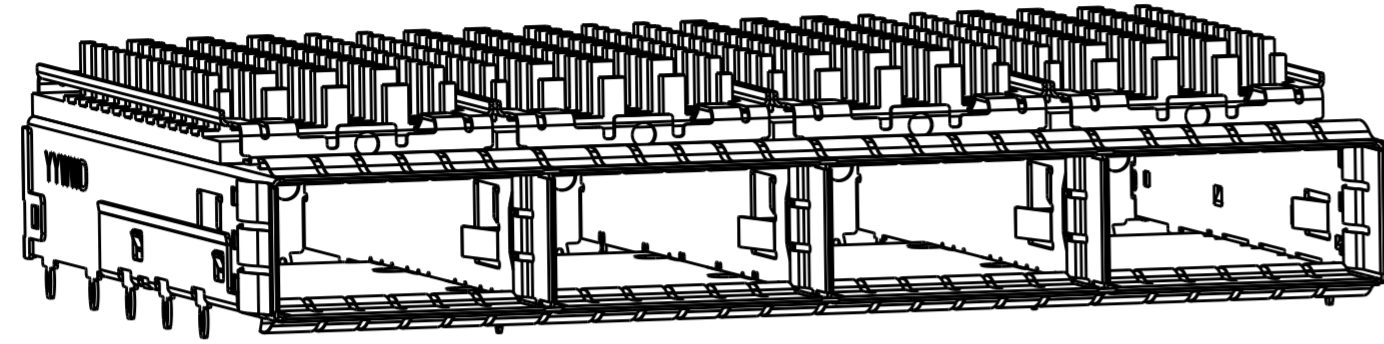


2170790-5, 5-2170790-5
 UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-1
 SCALE 2:1

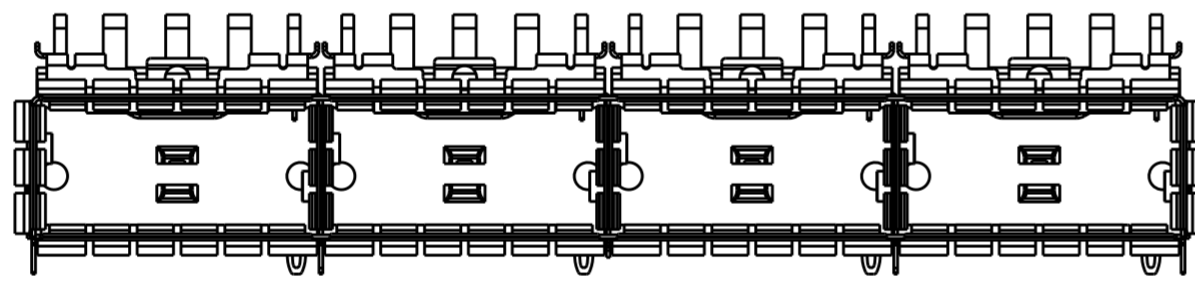
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	STE TE Connectivity	
		CHK 19 FEB 2016 SEAN HAN		
DIMENSIONS:	TOLERANCES UNLESS OTHERWISE SPECIFIED:	APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
mm	0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH	PRODUCT SPEC 108-19428	SIZE	CAGE CODE DRAWING NO
MATERIAL SEE NOTES	SEE NOTES	APPLICATION SPEC 114-32023	A200779	C-2170790
		WEIGHT -	RESTRICTED TO -	
		CUSTOMER DRAWING	SCALE 3:1	SHEET 5 OF 11 REV B

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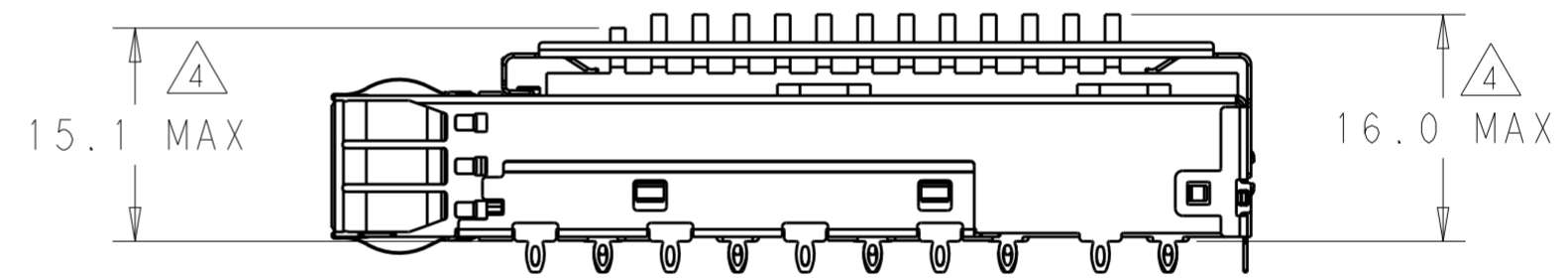
REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-		SEE SHEET 1	-	-



2170790-6 AS SHOWN
 CUSTOMERIZED HEAT SINK
 NO LIGHT PIPE AND ORGANIZER.
 SCALE 2:1



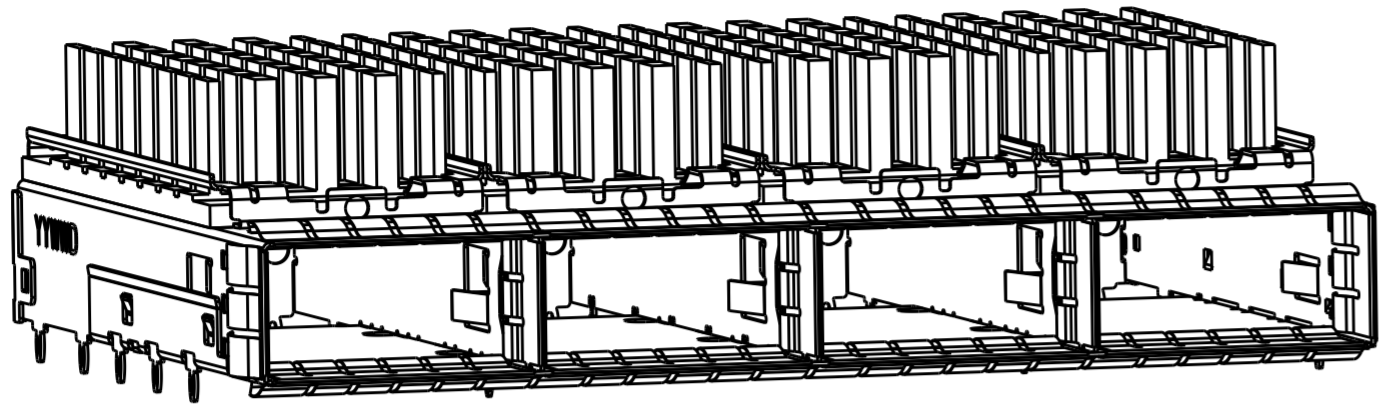
2170790-6
 UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-3
 SCALE 2:1



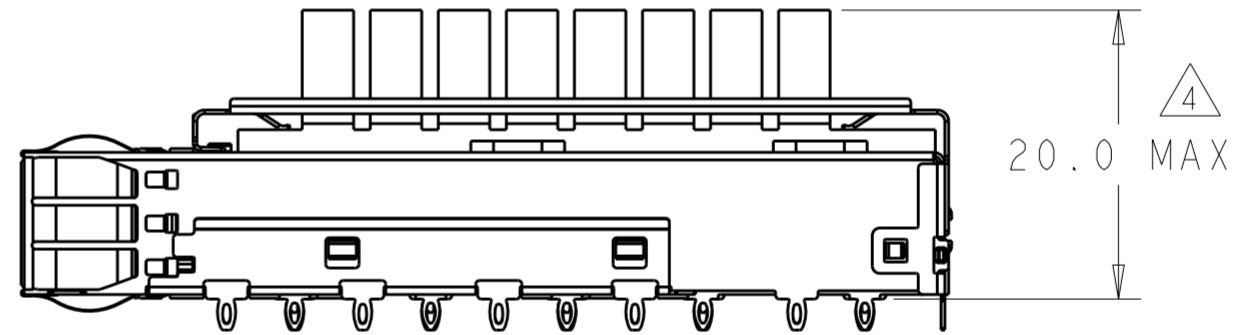
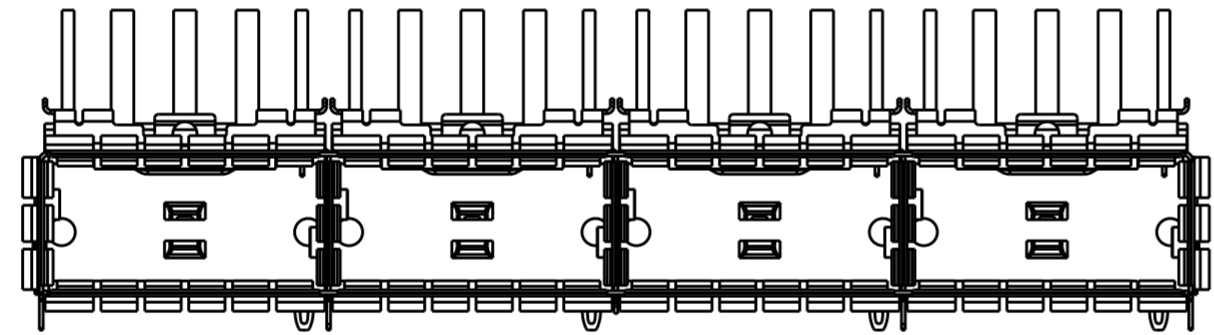
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	STE TE Connectivity	
		CHK 19 FEB 2016 SEAN HAN		
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED:	APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
	0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH	PRODUCT SPEC 108-19428	SIZE CAGE CODE DRAWING NO A200779 C-2170790	
MATERIAL SEE NOTES	SEE NOTES	APPLICATION SPEC 114-32023	RESTRICTED TO -	
		WEIGHT -	SCALE 3:1 SHEET 6 OF 11 REV B	
		CUSTOMER DRAWING		

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REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-		SEE SHEET 1	-	-



2170790-7 AS SHOWN
 CUSTOMERIZED HEAT SINK
 NO LIGHT PIPE AND ORGANIZER
 SCALE 2:1

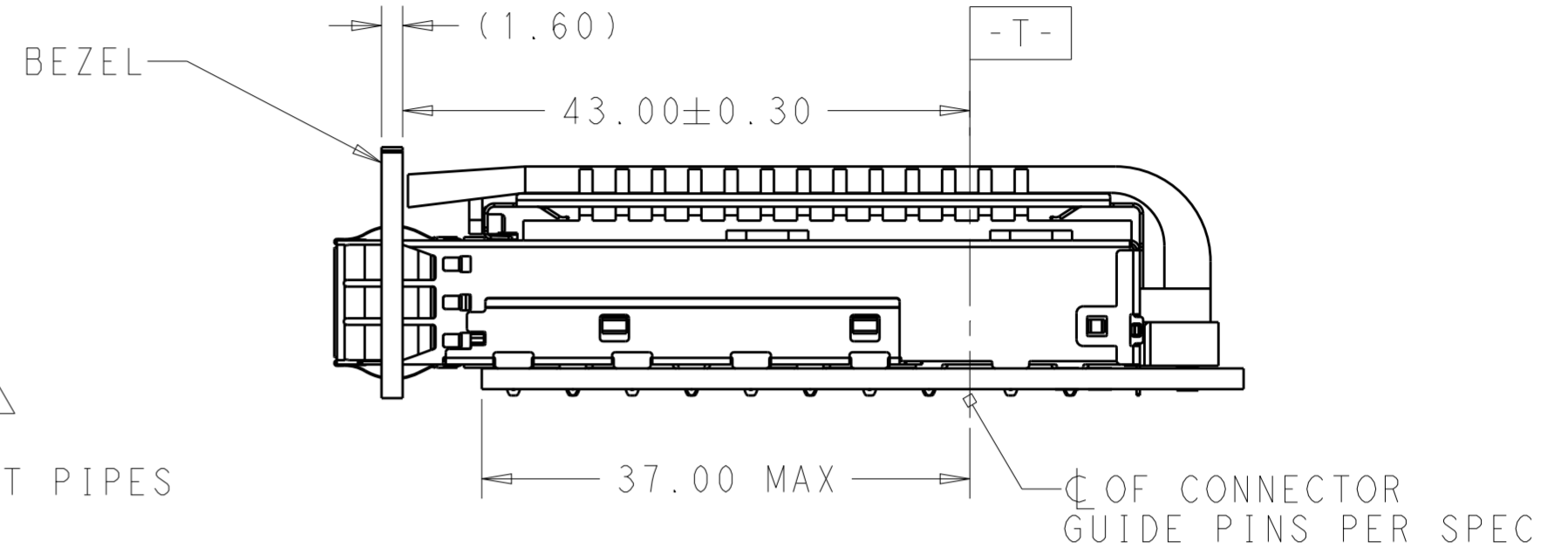
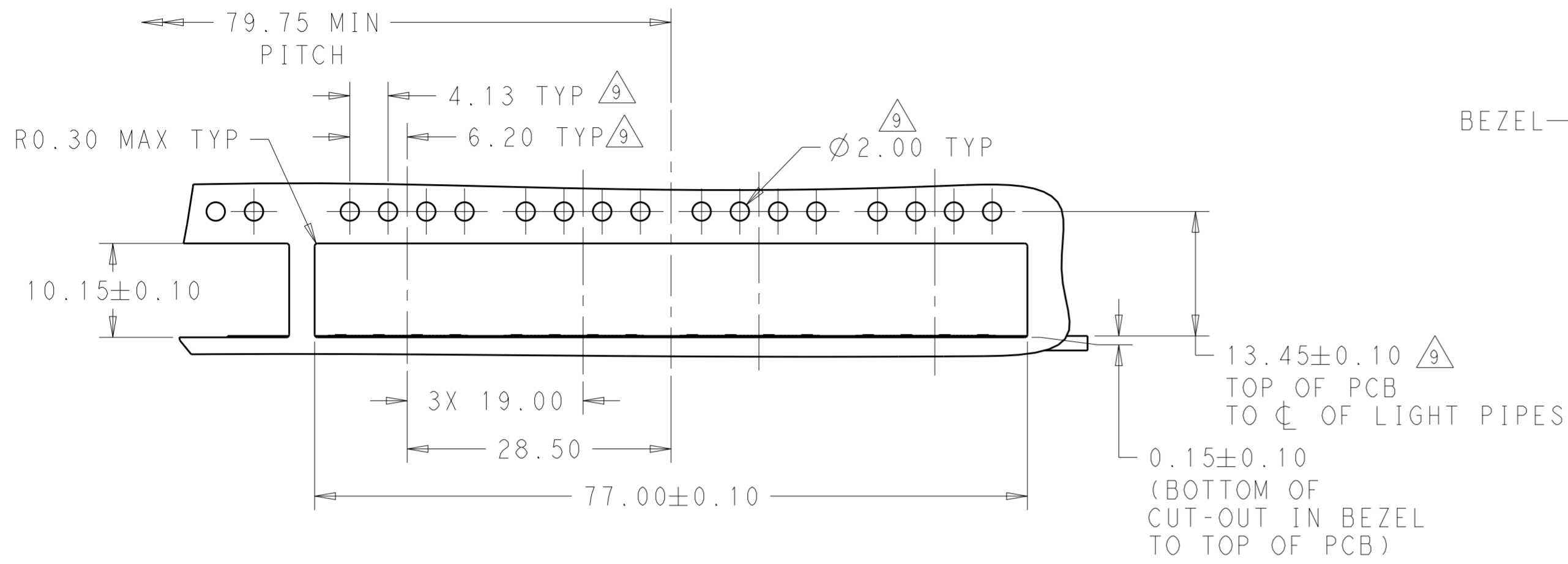


2170790-7
 UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-2
 SCALE 2:1

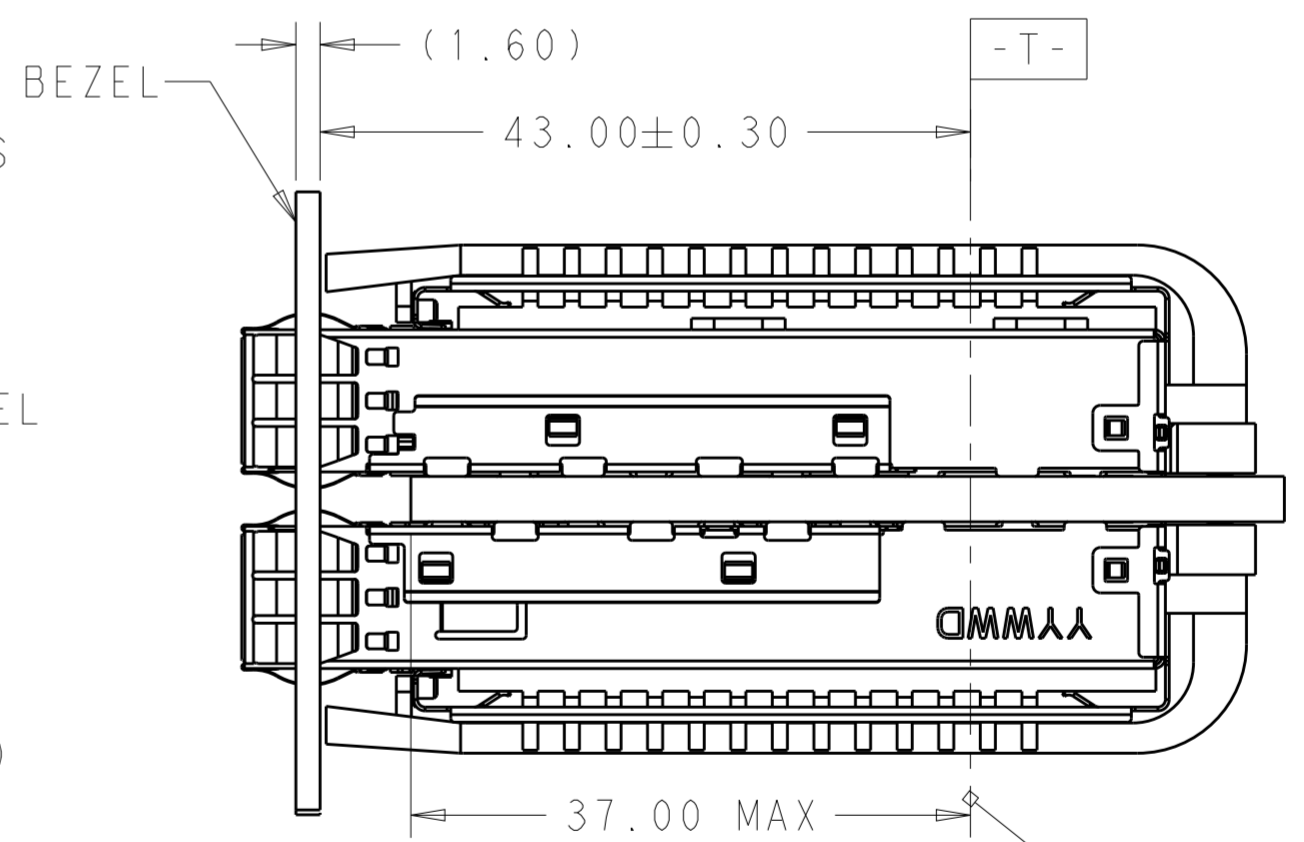
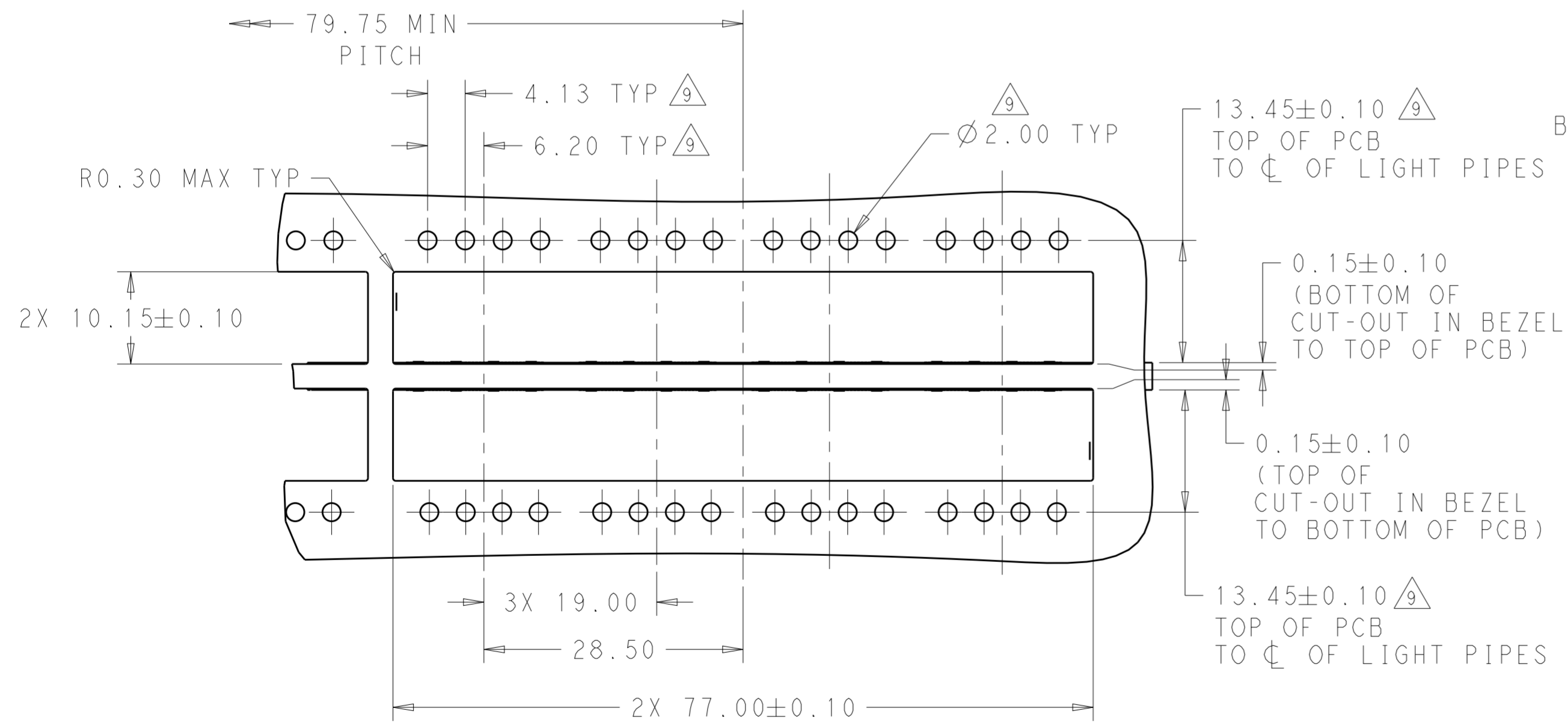
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	STE TE Connectivity	
		CHK 19 FEB 2016 SEAN HAN		
DIMENSIONS:	TOLERANCES UNLESS OTHERWISE SPECIFIED:	APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
mm	0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH	PRODUCT SPEC 108-19428	SIZE A2	CAGE CODE 00779
MATERIAL SEE NOTES	SEE NOTES	APPLICATION SPEC 114-32023	DRAWING NO C-2170790	RESTRICTED TO -
		WEIGHT -	SCALE 3:1	SHEET 7 OF 11
		CUSTOMER DRAWING		REV B

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REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-	-	SEE SHEET 1	-	-



SINGLE SIDE MOUNTING
SCALE 2:1

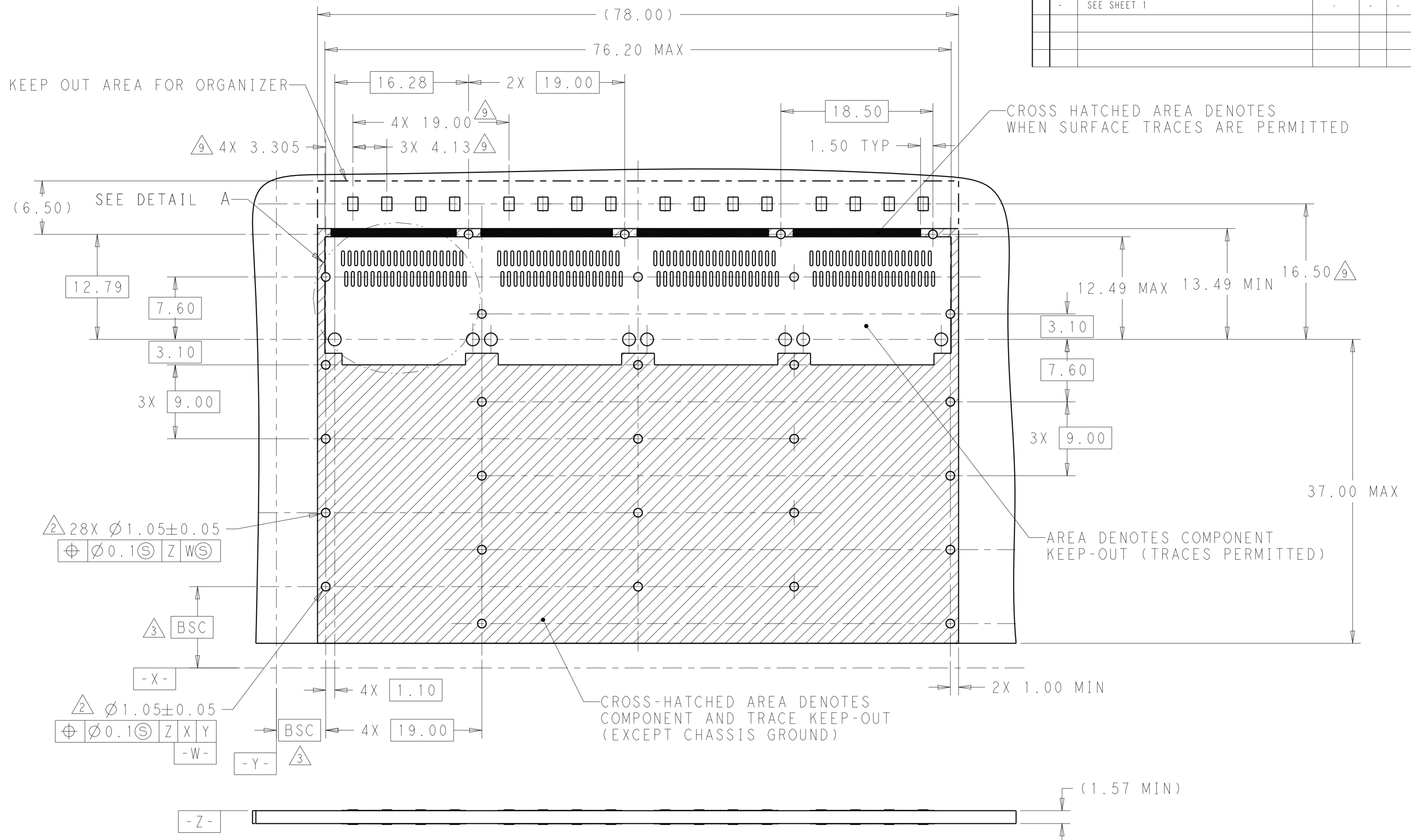


BELLY TO BELLY MOUNTING
SCALE 2:1

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN JASON YANG 30 JUN 2014	TE Connectivity	
		CHK SEAN HAN 19 FEB 2016		
DIMENSIONS:	TOLERANCES UNLESS OTHERWISE SPECIFIED:	APVD	NAME	
mm	0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ±	PRODUCT SPEC	CAGE ASSEMBLY, QSFP28, 1X4	
	ANGLES ±	APPLICATION SPEC	WITH HEAT SINKS AND LIGHT PIPES,	
MATERIAL	FINISH	WEIGHT	SIZE	RESTRICTED TO
SEE NOTES	SEE NOTES	CUSTOMER DRAWING	A200779	-
			C-2170790	
			SCALE 3:1	SHEET 8 OF 11
				REV B

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-	-	SEE SHEET 1	-	-



RECOMMENDED PCB LAYOUT
 SINGLE SIDE MOUNTED CONFIGURATION
 PCB TOLERANCE: ±0.05
 SCALE 3:1

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN JASON YANG 30 JUN 2014	TE Connectivity	
		CHK SEAN HAN 19 FEB 2016		
DIMENSIONS: mm		TOLERANCES UNLESS OTHERWISE SPECIFIED:		NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING
		0 PLC ±	1 PLC ±0.25	PRODUCT SPEC 108-19428
MATERIAL SEE NOTES		2 PLC ±0.2	3 PLC ±	APPLICATION SPEC 114-32023
		4 PLC ±	ANGLES ±	WEIGHT -
		FINISH -		CUSTOMER DRAWING
				SCALE 1:1 SHEET 9 OF 11 REV B

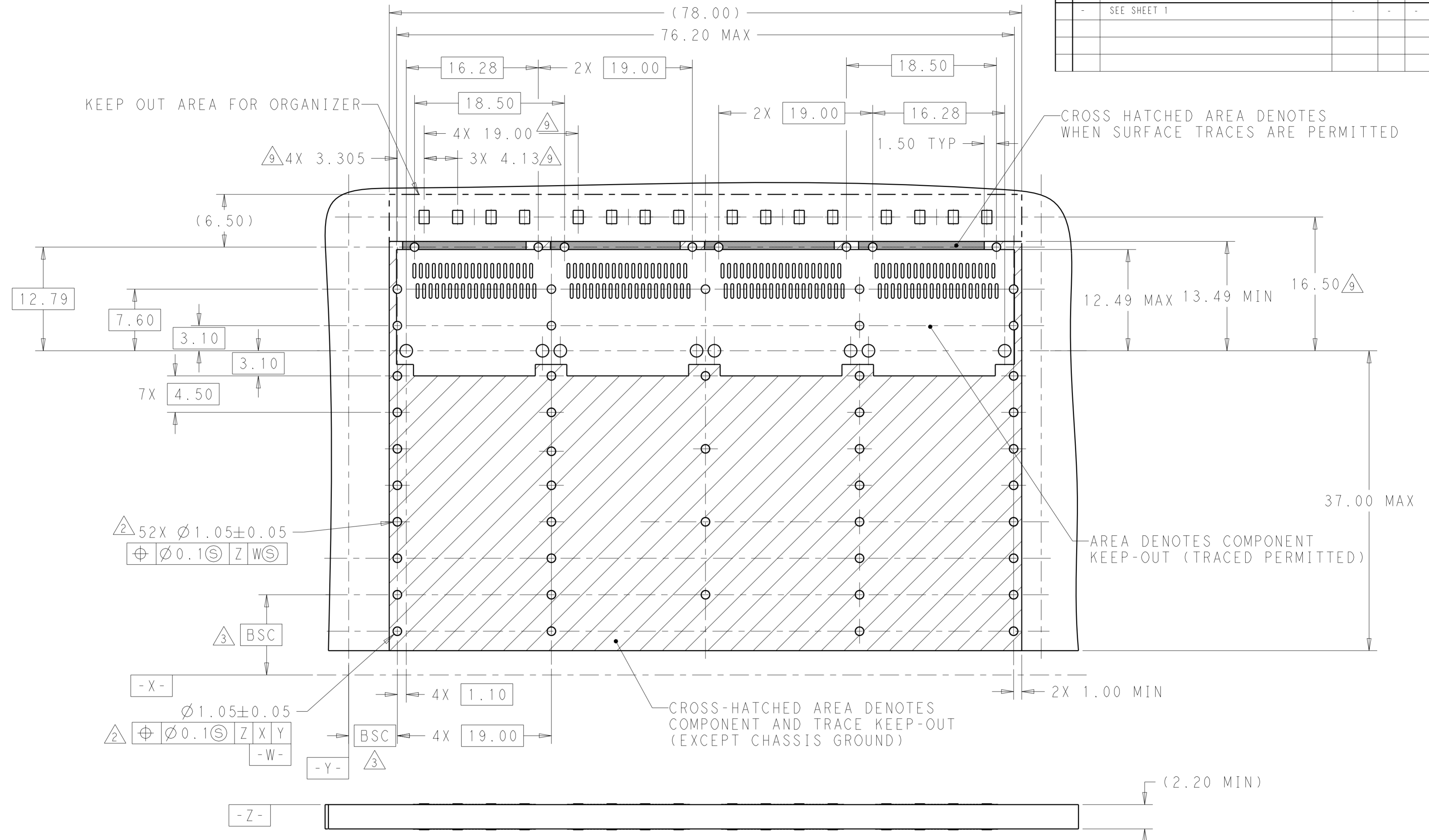
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3


2

1

REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-	-	SEE SHEET 1	-	-

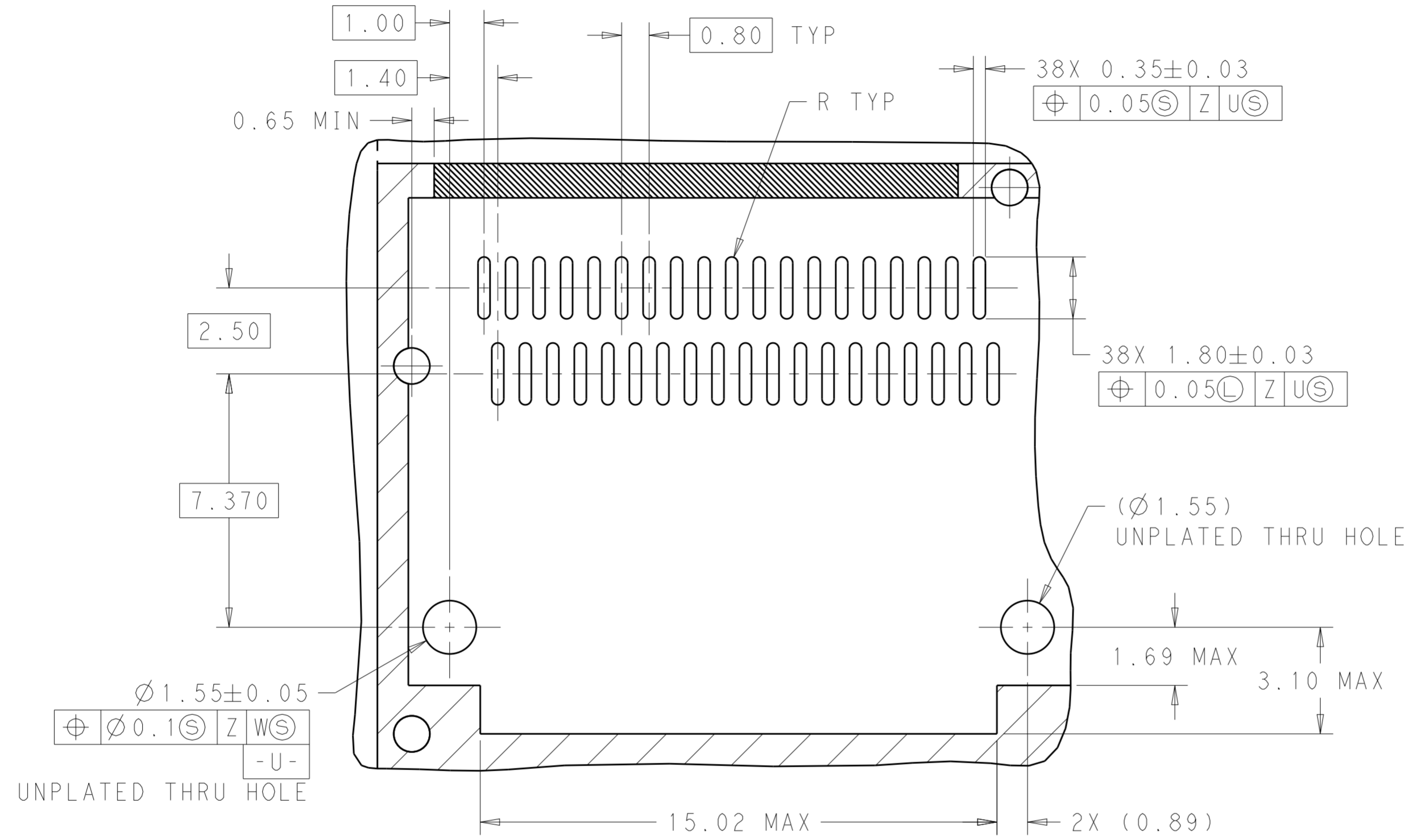


RECOMMENDED PCB LAYOUT
 BELLY TO BELLY MOUNTED CONFIGURATION
 PCB TOLERANCE: ±0.05
 SCALE 3:1

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN JASON YANG 30 JUN 2014	 TE Connectivity	
		CHK SEAN HAN 19 FEB 2016		
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH	PRODUCT SPEC 108-19428	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
MATERIAL SEE NOTES	SEE NOTES	APPLICATION SPEC 114-32023	SIZE A2	CAGE CODE 00779
		WEIGHT -	DRAWING NO C-2170790	RESTRICTED TO -
CUSTOMER DRAWING			SCALE 1:1	SHEET 10 OF 11 REV B

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-	-	SEE SHEET 1	-	-



DETAIL A
 RECOMMENDED CONNECTOR LAYOUT
 (APPLIES TO ALL PCB LAYOUTS)
 4X INDIVIDUALLY
 SCALE 8:1

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	STE TE Connectivity															
		CHK 19 FEB 2016 SEAN HAN																
DIMENSIONS: mm		TOLERANCES UNLESS OTHERWISE SPECIFIED:		NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING														
<table border="0"> <tr><td>0 PLC</td><td>±</td></tr> <tr><td>1 PLC</td><td>±0.25</td></tr> <tr><td>2 PLC</td><td>±0.2</td></tr> <tr><td>3 PLC</td><td>±</td></tr> <tr><td>4 PLC</td><td>±</td></tr> <tr><td>ANGLES</td><td>±</td></tr> <tr><td>FINISH</td><td>±</td></tr> </table>		0 PLC	±	1 PLC	±0.25	2 PLC	±0.2	3 PLC	±	4 PLC	±	ANGLES	±	FINISH	±	PRODUCT SPEC 108-19428	SIZE 114-32023	RESTRICTED TO -
0 PLC	±																	
1 PLC	±0.25																	
2 PLC	±0.2																	
3 PLC	±																	
4 PLC	±																	
ANGLES	±																	
FINISH	±																	
MATERIAL SEE NOTES		APPLICATION SPEC 114-32023	WEIGHT -	SCALE 1:1 SHEET 11 OF 11 REV B														
		CUSTOMER DRAWING	A200779 C-2170790															