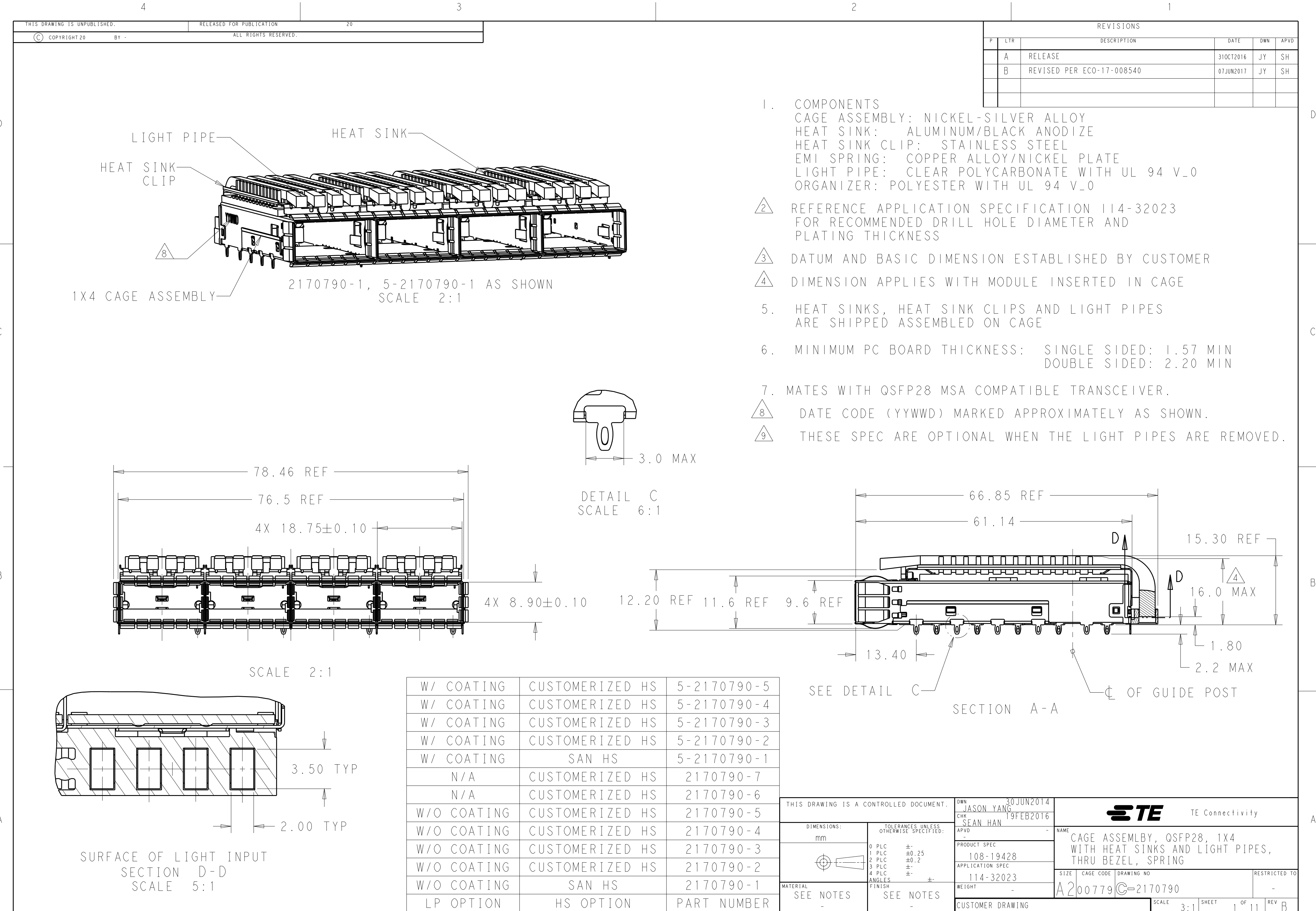




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REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
	A	RELEASE	31OCT2016	JY	SH
	B	REVISED PER ECO-17-008540	07JUN2017	JY	SH

1. 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

2. REFERENCE APPLICATION SPECIFICATION 114-32023
FOR RECOMMENDED DRILL HOLE DIAMETER AND
PLATING THICKNESS

3. DATUM AND BASIC DIMENSION ESTABLISHED BY CUSTOMER

4. DIMENSION APPLIES WITH MODULE INSERTED IN CAGE

5. HEAT SINKS, HEAT SINK CLIPS AND LIGHT PIPES
ARE SHIPPED ASSEMBLED ON CAGE

6. MINIMUM PC BOARD THICKNESS: SINGLE SIDED: 1.57 MIN
DOUBLE SIDED: 2.20 MIN

7. MATES WITH QSFP28 MSA COMPATIBLE TRANSCEIVER.

8. DATE CODE (YYWWD) MARKED APPROXIMATELY AS SHOWN.

9. THESE SPEC ARE OPTIONAL WHEN THE LIGHT PIPES ARE REMOVED.

2170790-1, 5-2170790-1 AS SHOWN
SCALE 2:1

DETAIL C
SCALE 6:1

SECTION A-A

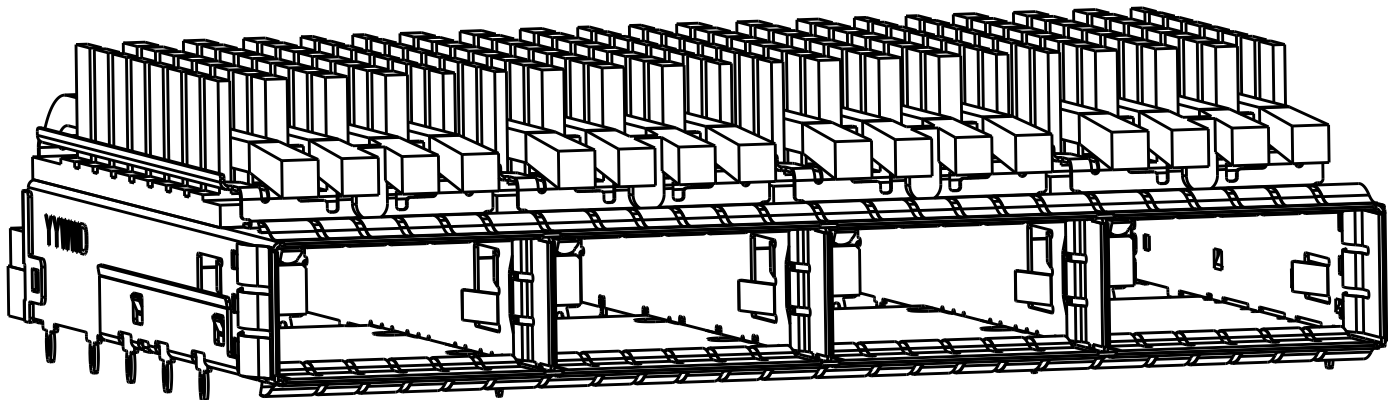
SECTION D-D
SCALE 5:1

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

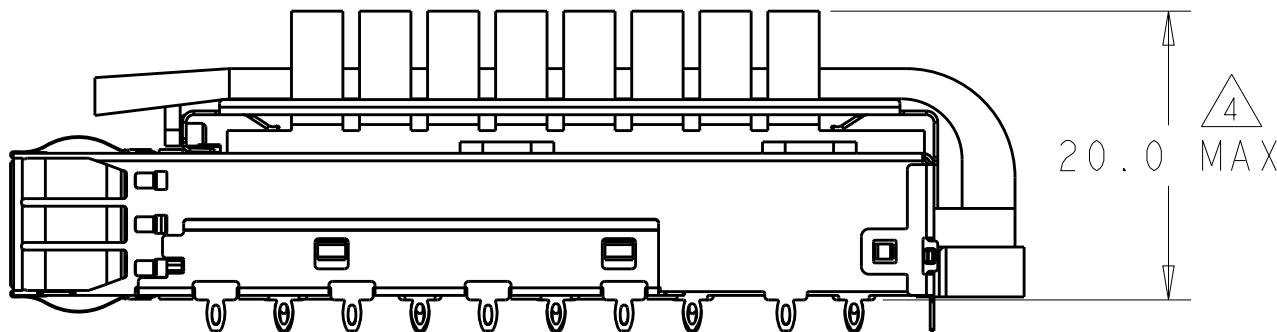
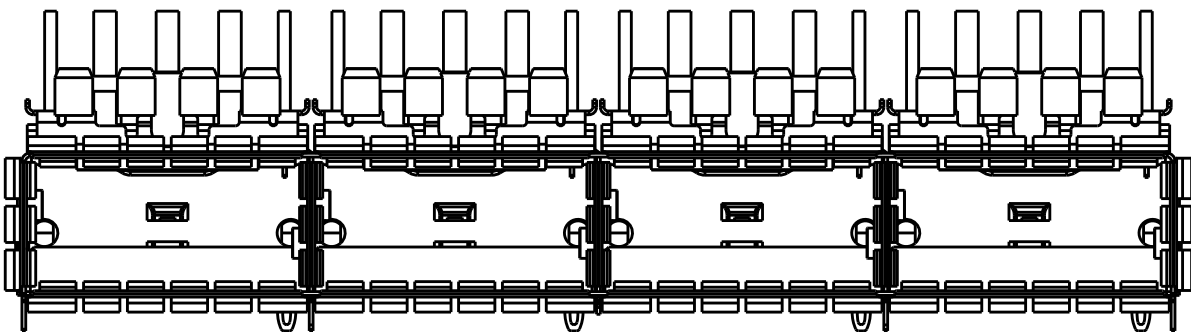
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30JUN2014 JASON YANG	TE Connectivity	
		CHK 19FEB2016 SEAN HAN		
DIMENSIONS: mm		TOLERANCES UNLESS OTHERWISE SPECIFIED:	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH		PRODUCT SPEC 108-19428		SIZE A200779
MATERIAL SEE NOTES		APPLICATION SPEC 114-32023		
		WEIGHT -		DRAWING NO C-2170790
		CUSTOMER DRAWING		
		SCALE 3:1		SHEET 1 OF 11
				REV B

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



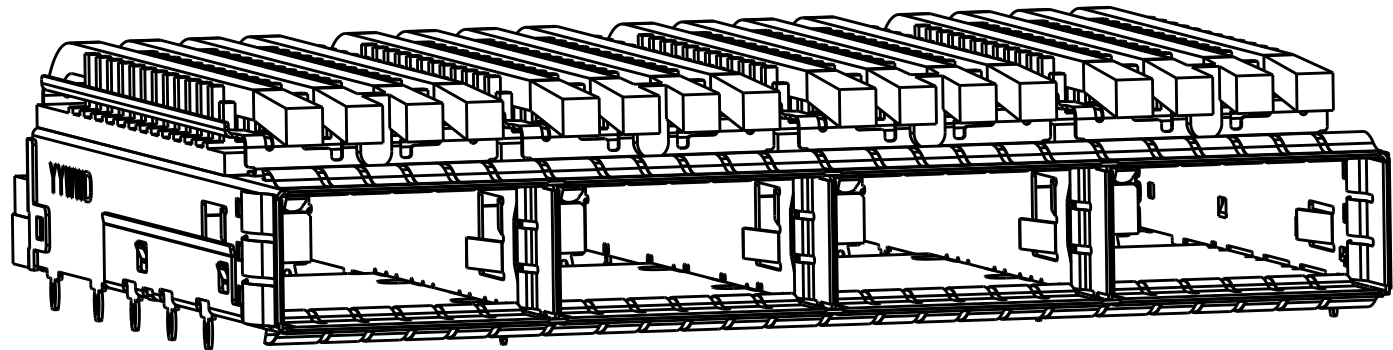
2170790-2, 5-2170790-2 AS SHOWN
CUSTOMERIZED HEAT SINK
SCALE 2:1



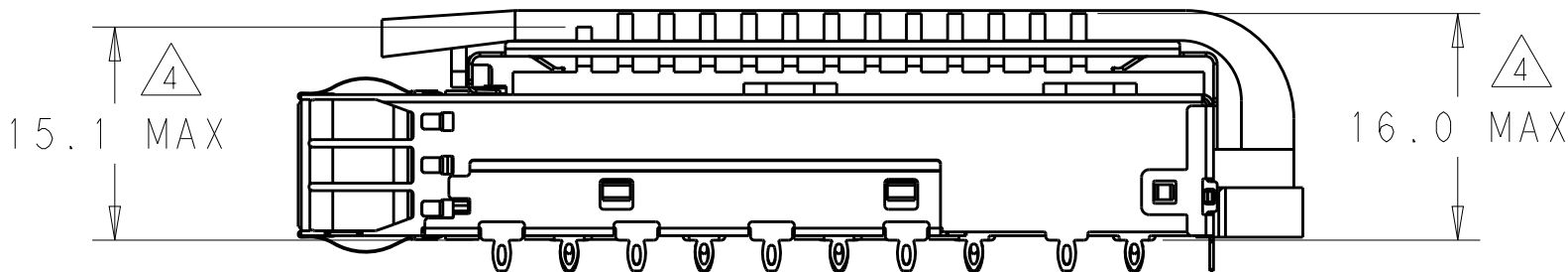
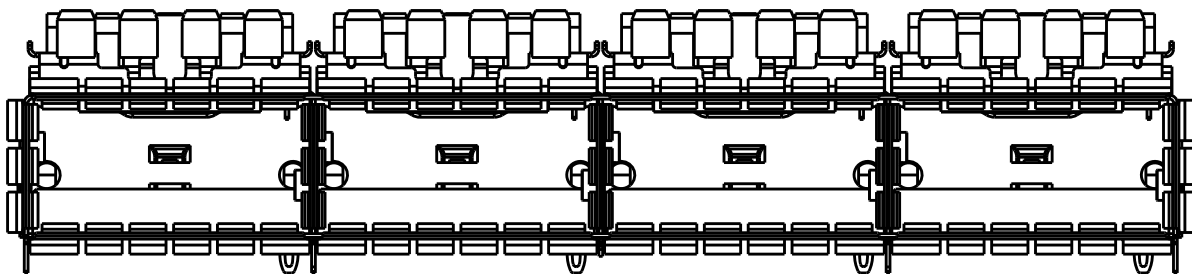
2170790-2, 5-2170790-2
UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-1
SCALE 2:1

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30JUN2014 JASON YANG	TE Connectivity		
		CHK 19FEB2016 SEAN HAN			
DIMENSIONS:		APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING		
mm		PRODUCT SPEC			
		108-19428	SIZE CAGE CODE DRAWING NO RESTRICTED TO		
		APPLICATION SPEC			
		114-32023	A200779C-2170790		
		WEIGHT -			
MATERIAL	FINISH	CUSTOMER DRAWING	SCALE 3:1	SHEET 2 OF 11	REV B
SEE NOTES	SEE NOTES				

REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	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

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DWN30JUN2014
JASON YANG

CHK19FEB2016
SEAN HAN

APVD-

TE Connectivity

CAGE ASSEMBLY, QSFP28, 1X4
WITH HEAT SINKS AND LIGHT PIPES,
THRU BEZEL, SPRING

DIMENSIONS:
mm

TOLERANCES UNLESS OTHERWISE SPECIFIED:

0 PLC ±-
1 PLC ±0.25
2 PLC ±0.2
3 PLC ±-
4 PLC ±-
ANGLES ±-
FINISH

MATERIAL
SEE NOTES
-

SEE NOTES
-

PRODUCT SPEC
108-19428

APPLICATION SPEC
114-32023

WEIGHT
-

CUSTOMER DRAWING

SIZE
A2

CAGE CODE
00779

DRAWING NO
C-2170790

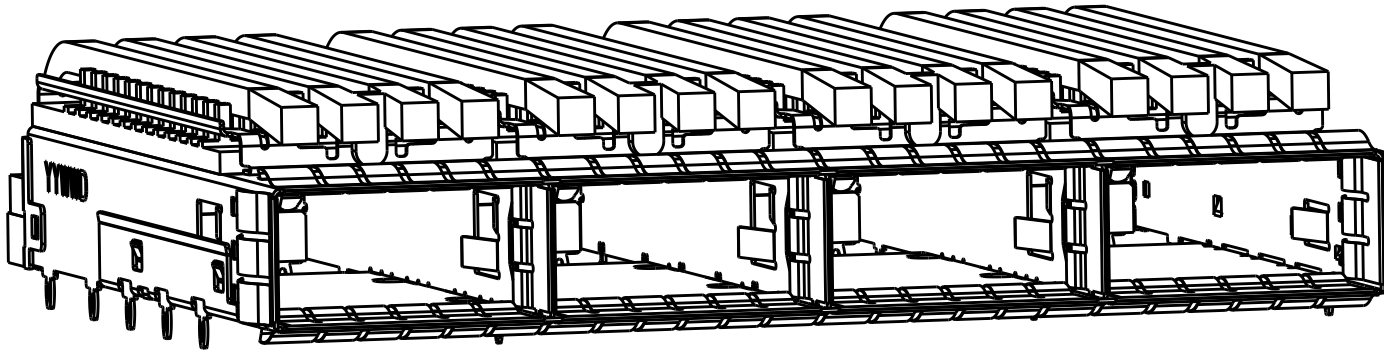
RESTRICTED TO
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SCALE3:1

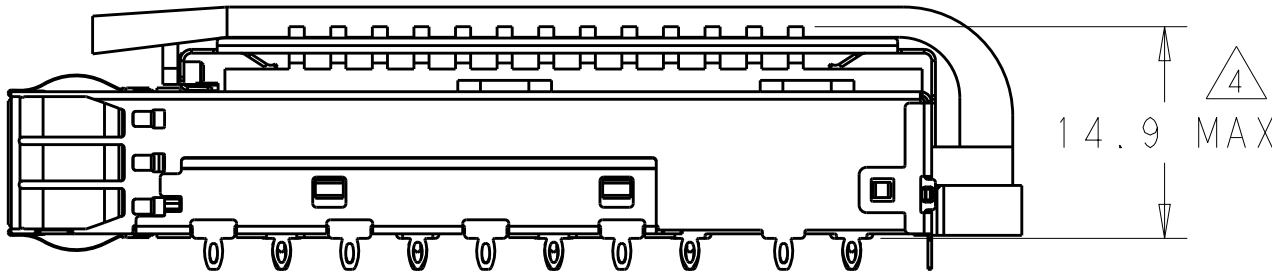
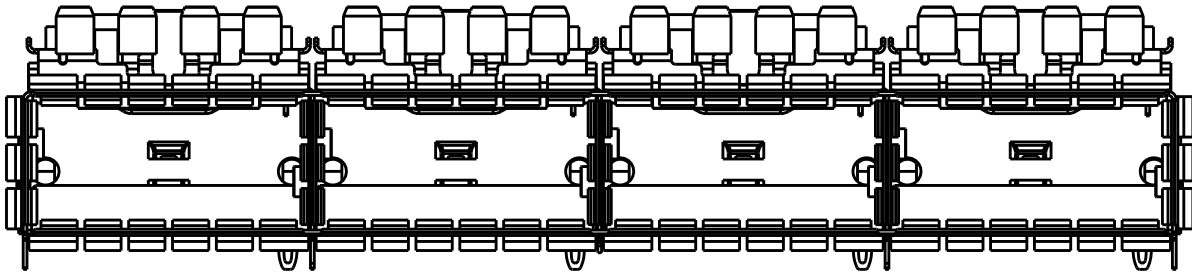
SHEET3 OF 11

REV B

REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	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

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DWN30JUN2014
JASON YANG

CHK19FEB2016
SEAN HAN

APVD-

TE Connectivity

CAGE ASSEMBLY, QSFP28, 1X4
WITH HEAT SINKS AND LIGHT PIPES,
THRU BEZEL, SPRING

DIMENSIONS:
mm

TOLERANCES UNLESS OTHERWISE SPECIFIED:

0 PLC ±-
1 PLC ±0.25
2 PLC ±0.2
3 PLC ±-
4 PLC ±-
ANGLES ±-
FINISH

MATERIAL
SEE NOTES
-

SEE NOTES
-

PRODUCT SPEC
108-19428

APPLICATION SPEC
114-32023

WEIGHT
-

CUSTOMER DRAWING

SIZE
A2

CAGE CODE
00779

DRAWING NO
C-2170790

RESTRICTED TO
-

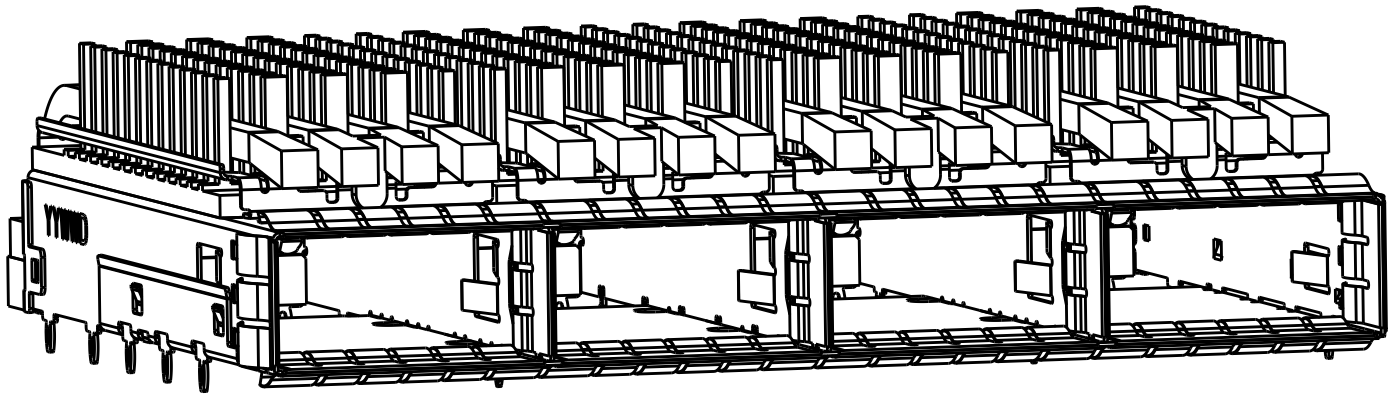
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SHEET4 OF 11

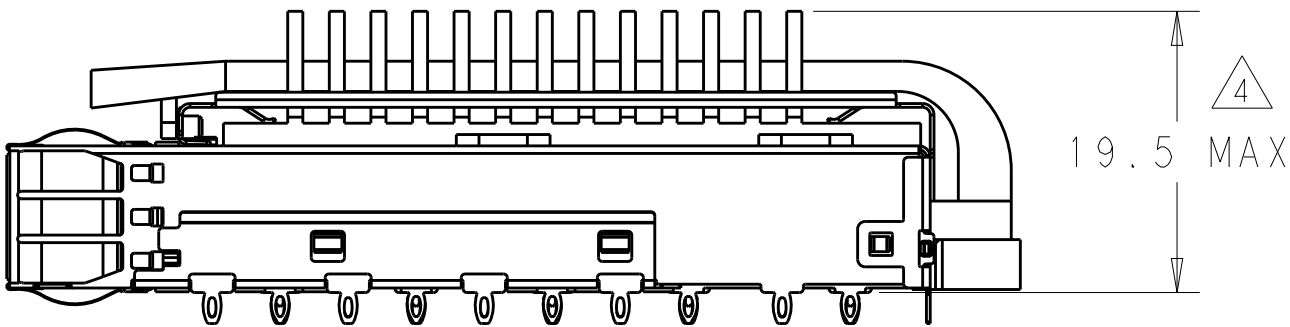
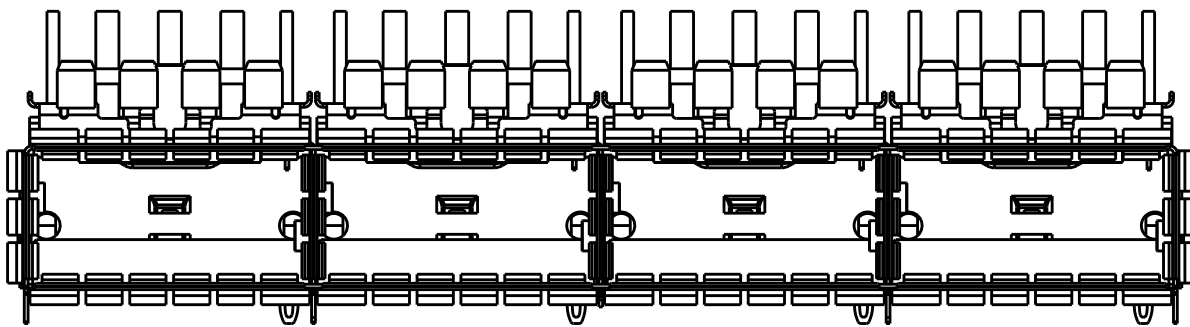
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REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
	-	SEE SHEET 1	-	-	-



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

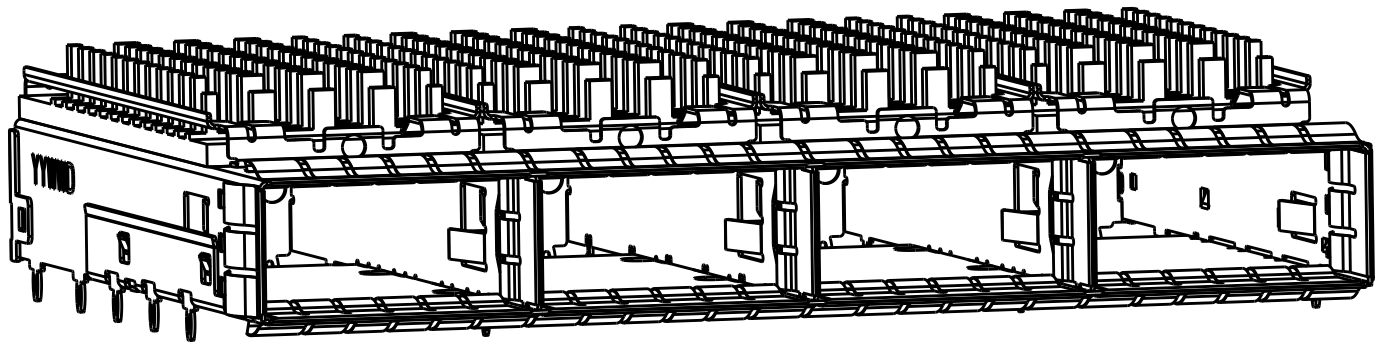


2170790-5, 5-2170790-5
UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-1
SCALE 2:1

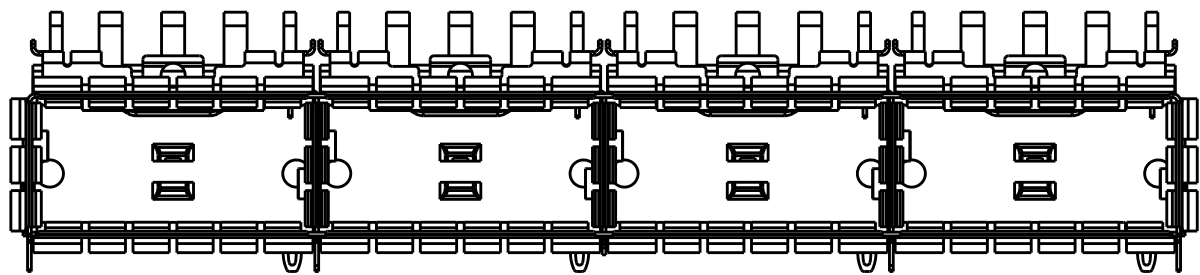
THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	TE Connectivity		
		CHK 19 FEB 2016 SEAN HAN			
DIMENSIONS:		APVD -	NAME		
mm		PRODUCT SPEC	CAGE ASSEMBLY, QSFP28, 1X4		
		APPLICATION SPEC	WITH HEAT SINKS AND LIGHT PIPES,		
		114-32023	THRU BEZEL, SPRING		
		WEIGHT -	SIZE	CAGE CODE	DRAWING NO
MATERIAL		CUSTOMER DRAWING	A2	00779	C-2170790
SEE NOTES			SCALE 3:1	SHEET 5 OF 11	REV B

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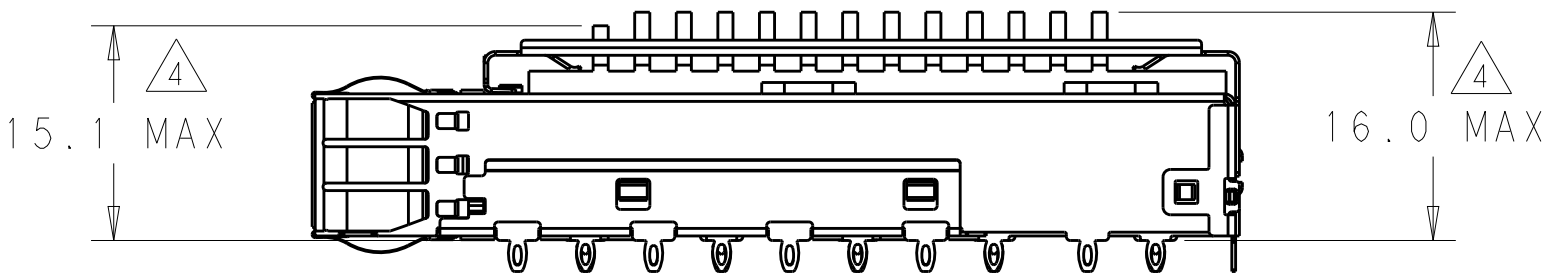
REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
	-	SEE SHEET 1	-	-	-



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

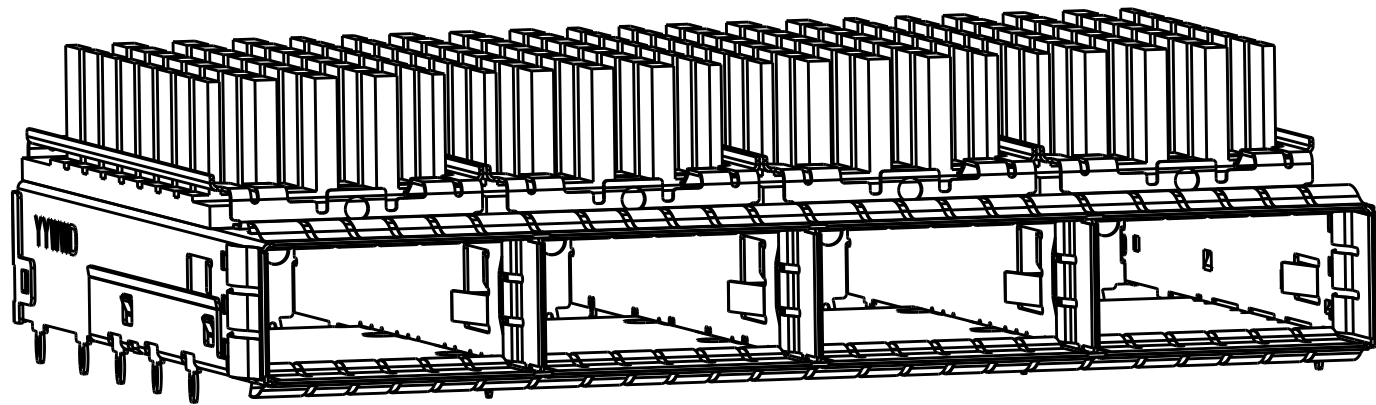


2170790-6
UNSPECIFIED DIMENSIONS ARE SAME AS 2170790-3
SCALE 2:1

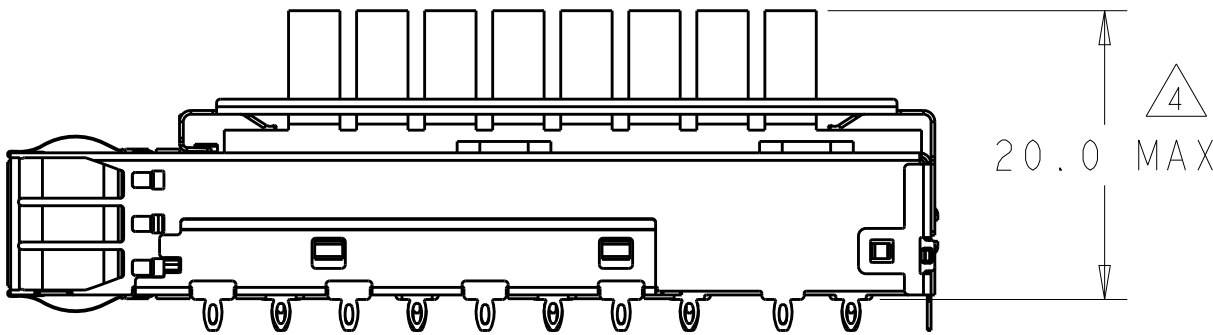
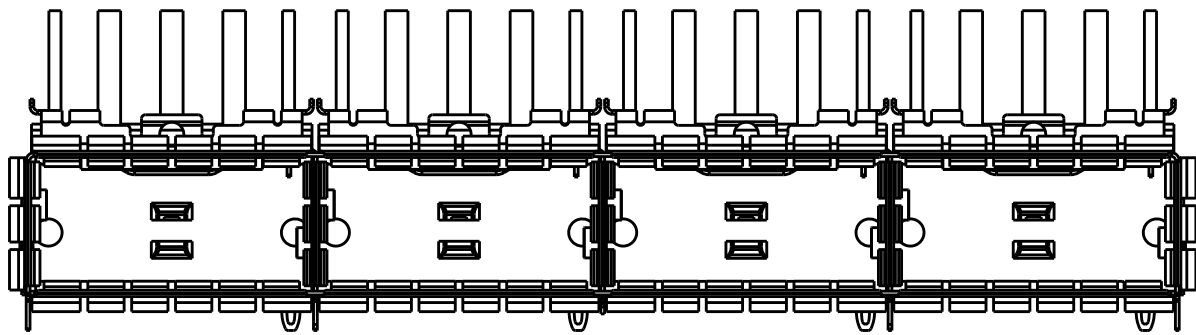


THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30 JUN 2014 JASON YANG	 TE Connectivity	
		CHK 19 FEB 2016 SEAN HAN		
DIMENSIONS:		APVD -	NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
mm		PRODUCT SPEC 108-19428		
		APPLICATION SPEC 114-32023	SIZE A2	CAGE CODE 00779
MATERIAL SEE NOTES		WEIGHT -	DRAWING NO C-2170790	RESTRICTED TO -
		CUSTOMER DRAWING	SCALE 3:1	SHEET 6 OF 11
			REV B	

P	LTR	DESCRIPTION	DATE	DWN	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.

DIMENSIONS:

mm

MATERIAL

SEE NOTES

TOLERANCES UNLESS OTHERWISE SPECIFIED:

0 PLC ±-

1 PLC ±0.25

2 PLC ±0.2

3 PLC ±-

4 PLC ±-

ANGLES ±-

FINISH

SEE NOTES

DWN 30 JUN 2014

CHK JASON YANG

SEAN HAN

APVD -

PRODUCT SPEC 108-19428

APPLICATION SPEC 114-32023

WEIGHT -

CUSTOMER DRAWING

TE Connectivity

NAME

CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING

SIZE

CAGE CODE

DRAWING NO

RESTRICTED TO

A200779

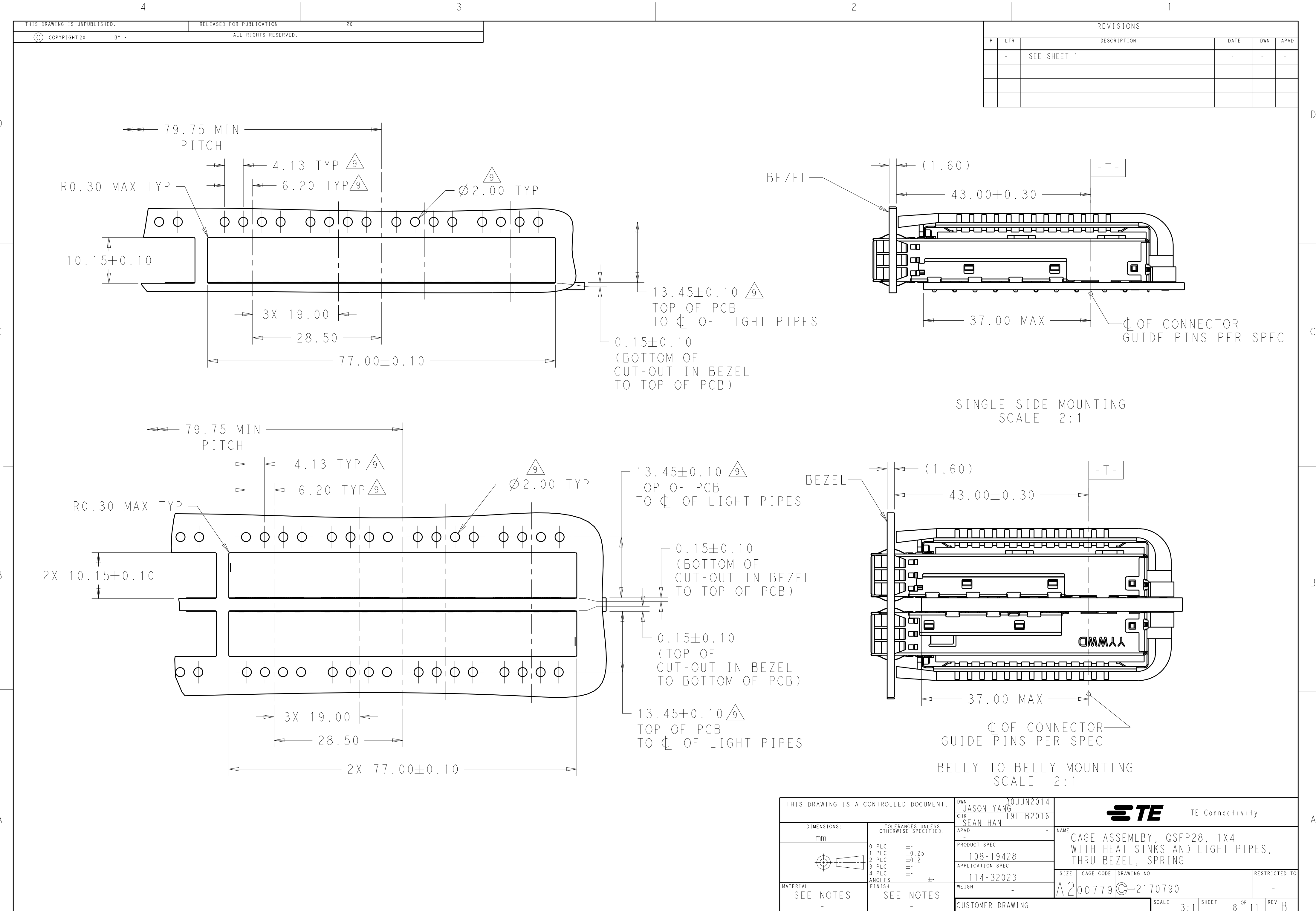
C-2170790

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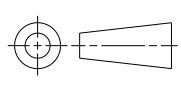
SCALE 3:1

SHEET 7 OF 11

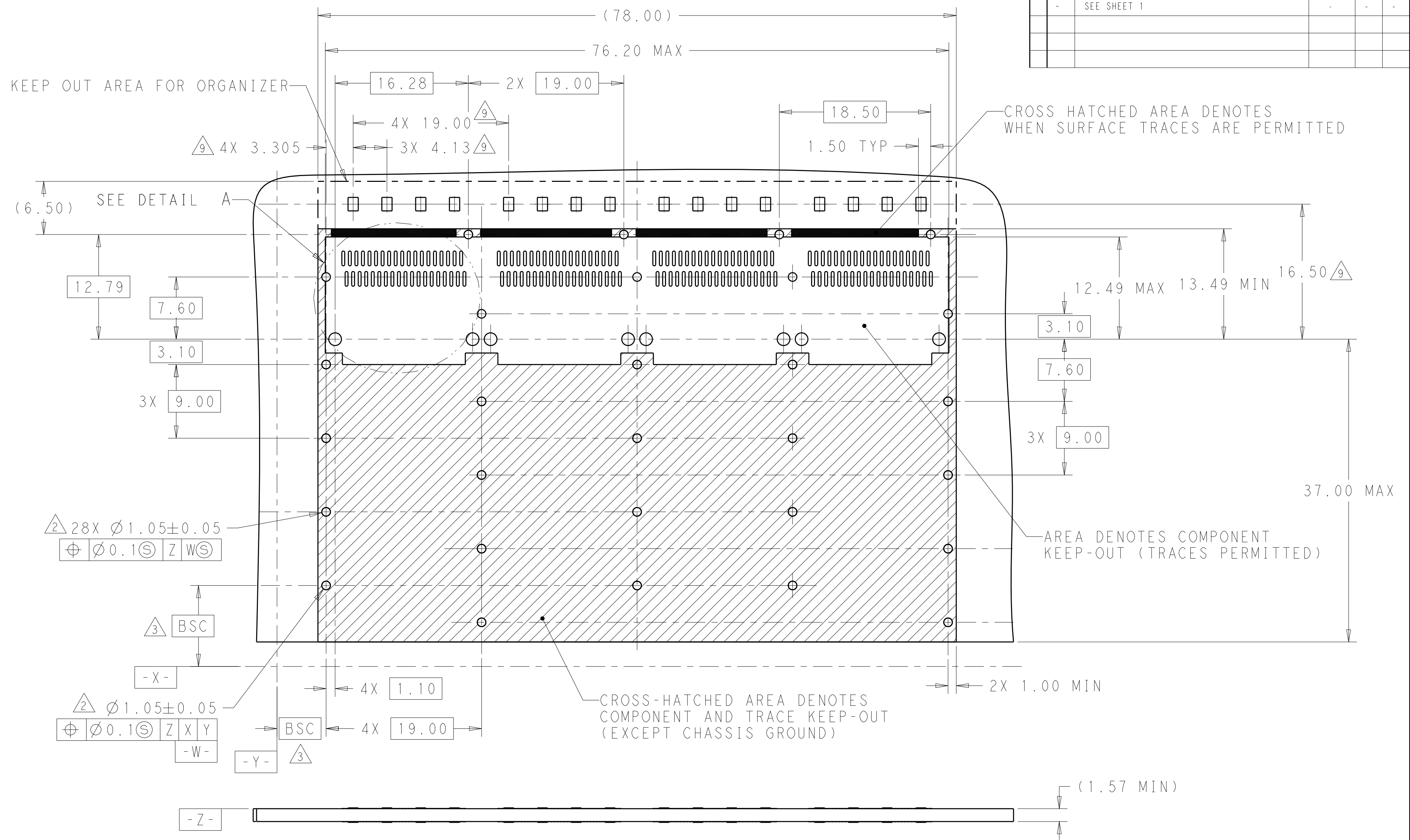
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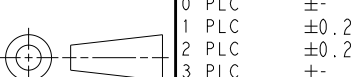
REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
-	-	SEE SHEET 1	-	-	-

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN 30JUN2014 JASON YANG	 TE Connectivity		
DIMENSIONS:		CHK 19FEB2016 SEAN HAN			
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 APPLICATION SPEC 114-32023 WEIGHT -	SIZE	CAGE CODE A200779	DRAWING NO C-2170790
MATERIAL SEE NOTES	SEE NOTES	CUSTOMER DRAWING	RESTRICTED TO	-	
SCALE 3:1			SHEET 8 OF 11	REV B	

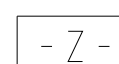
P	LTR	DESCRIPTION	DATE	DWN	APVD
	-	SEE SHEET 1	-	-	-



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

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DIMENSIONS: mm		TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC $\pm$ 1 PLC ± 0.25 2 PLC ± 0.2 3 PLC $\pm$ 4 PLC $\pm$ ANGLES $\pm$		NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
		PRODUCT SPEC 108-19428		SIZE A2	
MATERIAL SEE NOTES		APPLICATION SPEC 114-32023		CAGE CODE 00779	
FINISH SEE NOTES		WEIGHT -		DRAWING NO C-2170790	
		CUSTOMER DRAWING		RESTRICTED TO -	
				SCALE 1:1 SHEET 9 of 11 REV B	

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



— (2.20 MIN)

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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 ± ±		NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING	
		PRODUCT SPEC 108-19428		SIZE A2	
MATERIAL SEE NOTES -		APPLICATION SPEC 114-32023		CAGE CODE 00779	
FINISH SEE NOTES -		WEIGHT -		DRAWING NO C-2170790	
		CUSTOMER DRAWING		RESTRICTED TO -	
				SCALE 1:1 SHEET 10 OF 11 REV B	

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

D

D

C

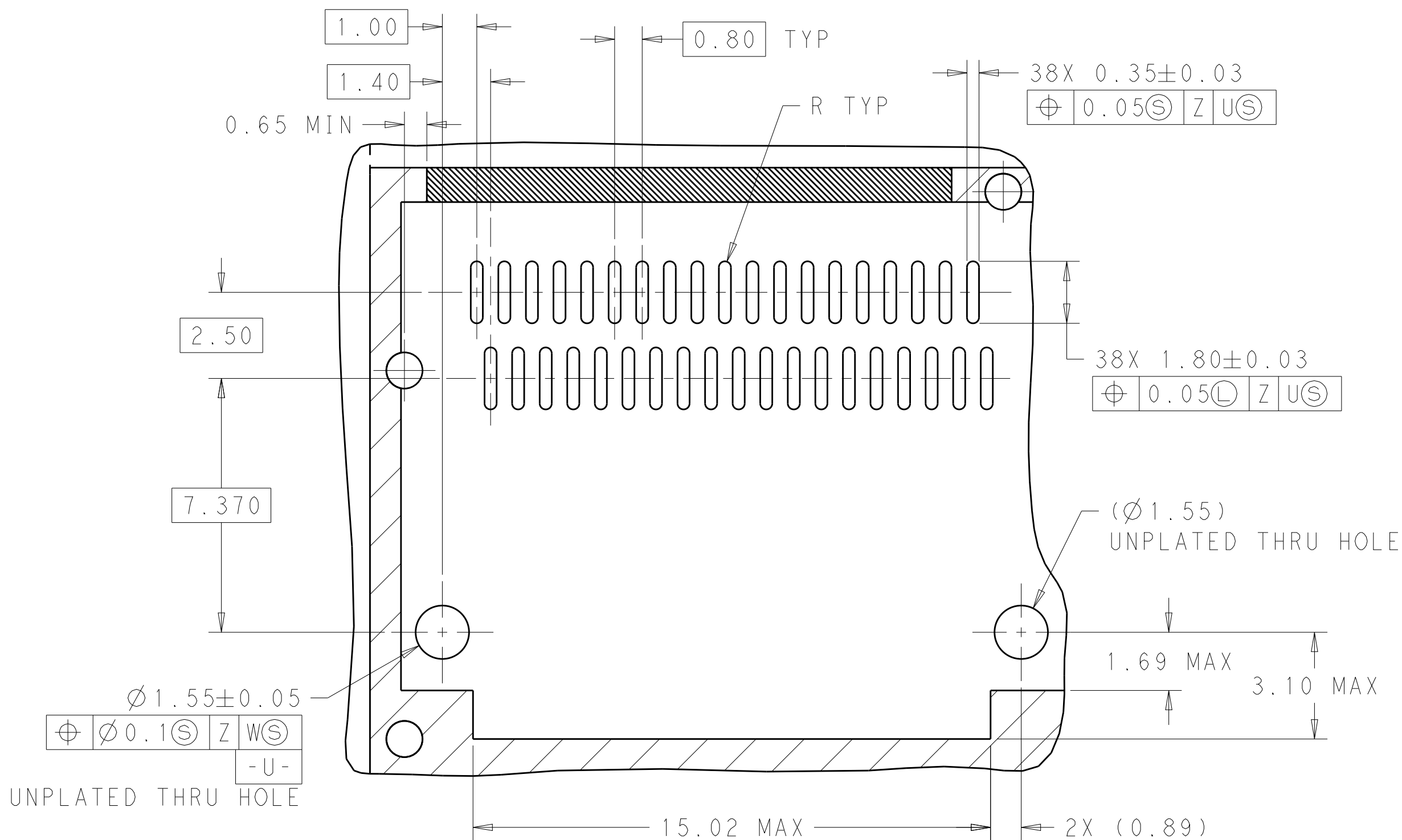
C

B

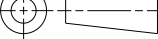
B

A

A



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

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: 		APVD -		NAME CAGE ASSEMBLY, QSFP28, 1X4 WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, SPRING			
		PRODUCT SPEC 108-19428		SIZE A200779		DRAWING NO C-2170790		RESTRICTED TO -	
		APPLICATION SPEC 114-32023							
MATERIAL SEE NOTES		WEIGHT -							
TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ±0.25 2 PLC ±0.2 3 PLC ± 4 PLC ± ANGLES ± FINISH		CUSTOMER DRAWING		SCALE 1:1		SHEET 11 OF 11		REV B	
SEE NOTES									