

4

3

2

1

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| LOC | DIST | REVISIONS |     |             |           |     |      |
|-----|------|-----------|-----|-------------|-----------|-----|------|
| GP  | 00   | P         | LTR | DESCRIPTION | DATE      | DWN | APVD |
|     |      | A         |     | RELEASE     | 01NOV2016 | JY  | SH   |

HEAT SINK CLIP

HEAT SINK

LIGHT PIPE

CAGE ASSEMBLY

2170740-2 AS SHOWN  
SCALE 2:1

- 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  
 ORGANIZER: POLYESTER WITH UL 94V-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
- DATUM **-A-** IS TOP SURFACE OF THE HOST BOARD.
- THESE HOLES ARE OPTIONAL WHEN THE REAR PINS ARE REMOVED.
- MATES WITH QSFP28 MSA COMPATIBLE TRANSCEIVER.
- DATE CODE (YYWWD) MARKED APPROXIMATELY AS SHOWN.
- NOTED DIMENSIONS ONLY APPLY TO CAGE ASSEMBLY WITH LIGHT PIPE.

3.0 MAX

DETAIL E  
SCALE 4:1

57.50

3X 18.75±0.10

19.00

2X

3X 8.90±0.10

7.88

19.00

18.50

REAR PIN OPTIONAL

SCALE 2:1

67.75 REF

15.11 REF

9.50 REF

13.40

2.05 TYP

OF GUIDE POST

SEE DETAIL E

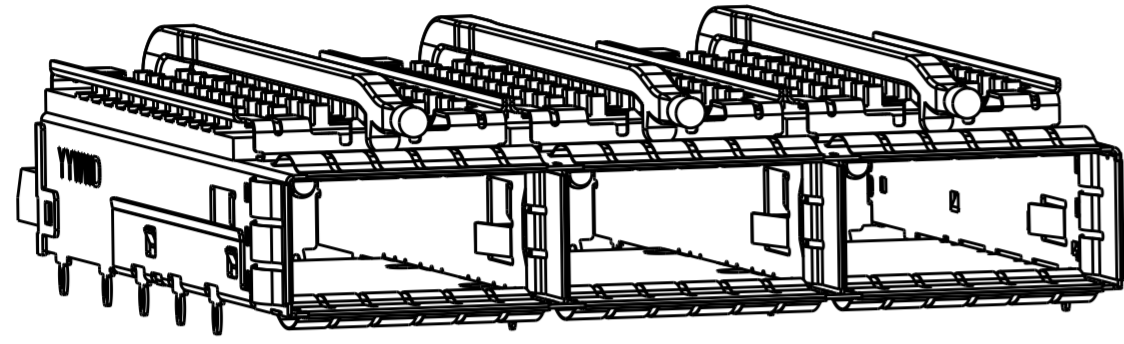
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|--|--|--------------------------------|---|--|
| THIS DRAWING IS A CONTROLLED DOCUMENT. |  | DWN<br>BING LIU<br>22APR2014   | <b>STE</b> TE Connectivity  |  |
|  |  | CHK<br>JASON YANG<br>22APR2014 |   |  |
| DIMENSIONS:<br>mm                      |  | APVD<br>SEAN HAN<br>22FEB2016  | NAME<br>RECEPTACLE CAGE ASSEMBLY<br>WITH HEAT SINKS AND LIGHT PIPES,<br>THRU BEZEL, 1X3, QSFP28 |  |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: |  | PRODUCT SPEC<br>108-19428      | SIZE<br>A200779   |  |
| 0 PLC ±                                |  | APPLICATION SPEC<br>114-32023  | DRAWING NO<br>C-2170740   |  |
| 1 PLC ±0.25                            |  | WEIGHT<br>-                    | RESTRICTED TO<br>-  |  |
| 2 PLC ±0.2                             |  | SCALE 1:1 SHEET 1 OF 9 REV A   |   |  |
| 3 PLC ±                                |  | CUSTOMER DRAWING               |   |  |
| 4 PLC ±                                |  |                                |   |  |
| ANGLES ±                               |  |                                |   |  |
| FINISH ±                               |  |                                |   |  |
| SEE NOTES                              |  | SEE NOTES                      |   |  |

1471-9 (3/11)

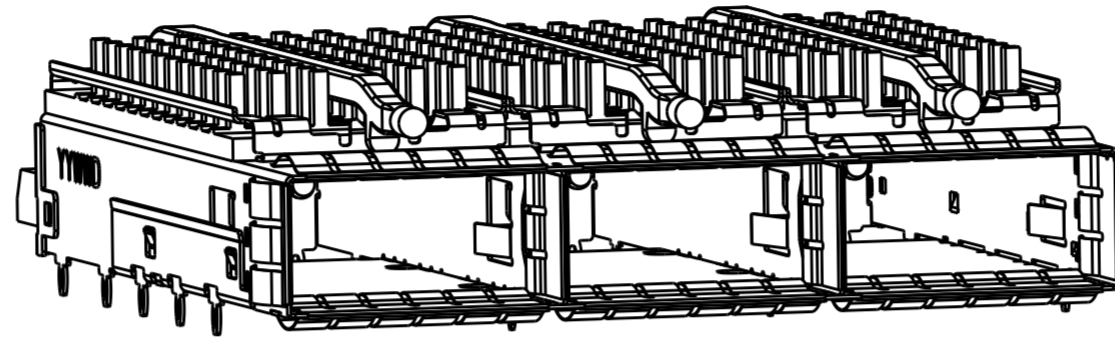
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| -   | -   | SEE SHEET 1 |  | -         | -   | -    |  |
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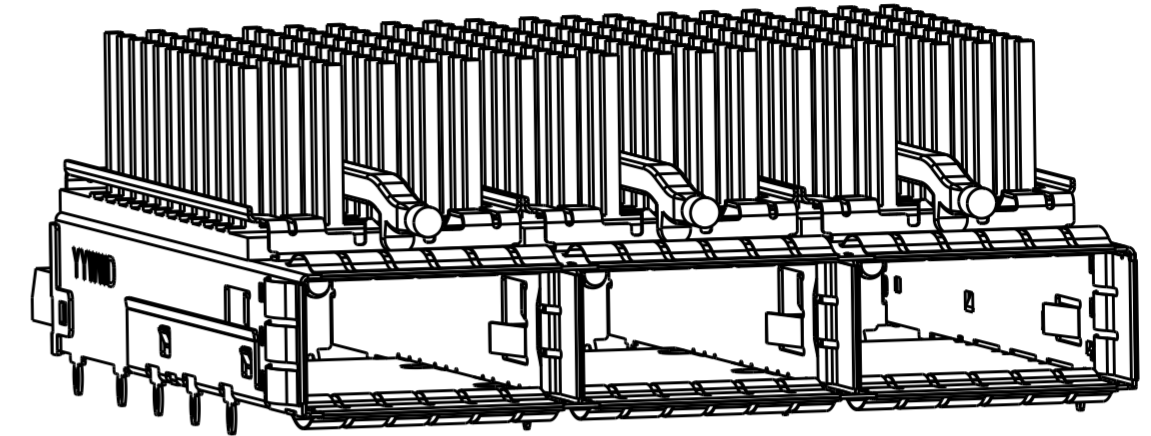
### HEAT SINK OPTION



PCI HEAT SINK  
SCALE 2:1

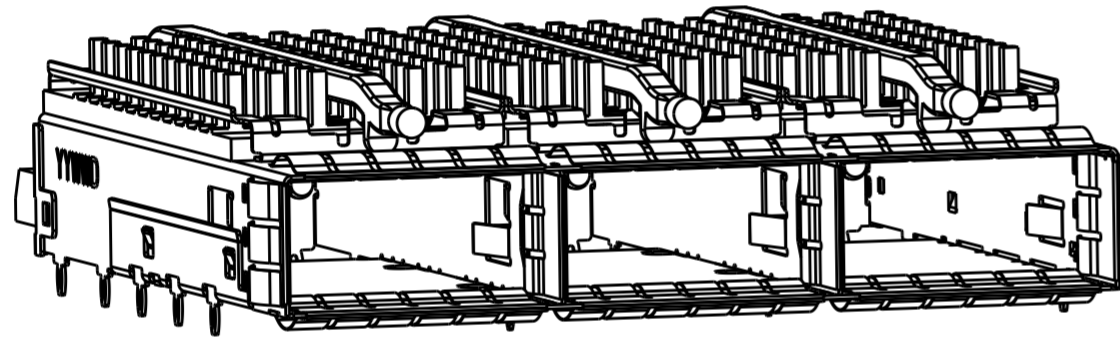


SAN HEAT SINK  
SCALE 2:1

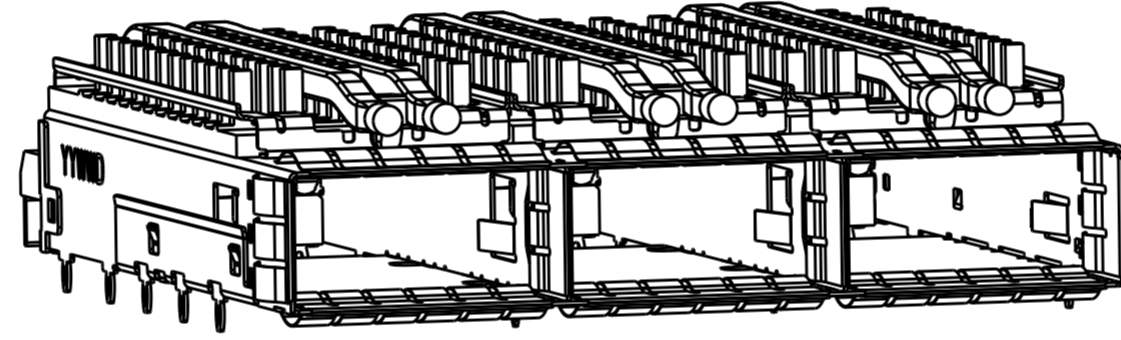


NETWORKING  
SCALE 2:1

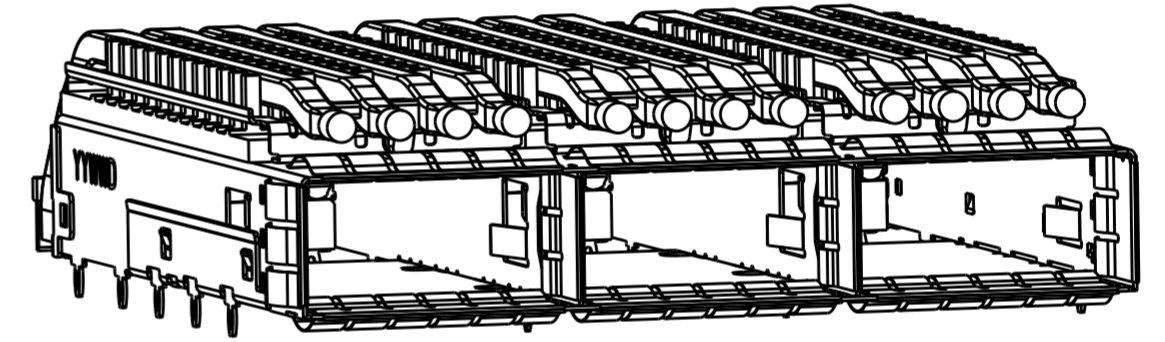
### LIGHT PIPE OPTION



SINGLE LIGHT PIPE  
SCALE 2:1

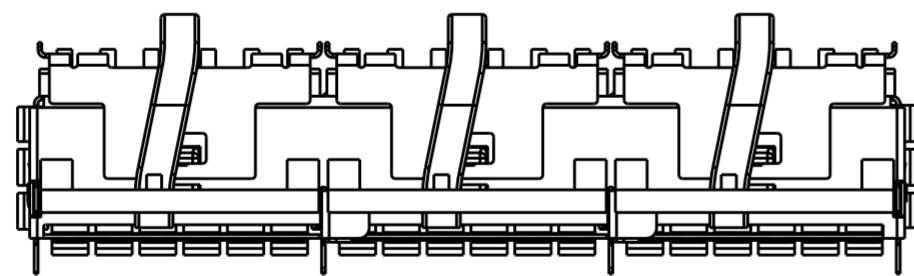


DUAL LIGHT PIPE  
SCALE 2:1

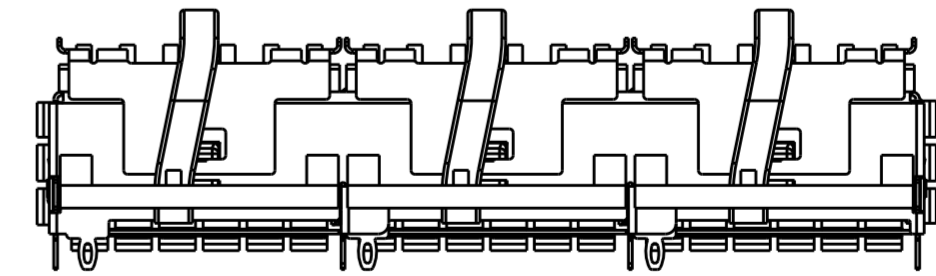


QUAD LIGHT PIPE  
SCALE 2:1


### # OF REAR LEGS OPTIONS



0 REAR PIN  
SCALE 2:1




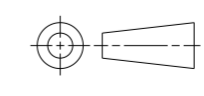
1 REAR PIN  
SCALE 2:1

|  |  |                                |   |   |
|--|--|--------------------------------|---|---|
| THIS DRAWING IS A CONTROLLED DOCUMENT.   |  | DWN<br>BING LIU<br>22APR2014   |  TE Connectivity | NAME<br>RECEPTACLE CAGE ASSEMBLY<br>WITH HEAT SINKS AND LIGHT PIPES,<br>THRU BEZEL, 1X3, QSFP28 |
| DIMENSIONS:<br>mm  |  | CHK<br>JASON YANG<br>22APR2014 |   |   |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:   |  | APVD<br>SEAN HAN<br>22FEB2016  | PRODUCT SPEC  | RESTRICTED TO   |
| 0 PLC ±<br>1 PLC ±0.25<br>2 PLC ±0.2<br>3 PLC ±<br>4 PLC ±<br>ANGLES ±<br>FINISH ± |  | APPLICATION SPEC               | 108-19428   | SIZE  |
| MATERIAL<br>SEE NOTES<br>material_2  |  | WEIGHT                         | 114-32023   | CAGE CODE   |
| FINISH<br>SEE NOTES<br>finish_spec_2   |  | CUSTOMER DRAWING               | -   | DRAWING NO  |
|  |  | SCALE                          | 1:1   | SHEET   |
|  |  |                                | 2   | OF 9  |
|  |  |                                |   | REV   |
|  |  |                                |   | A   |

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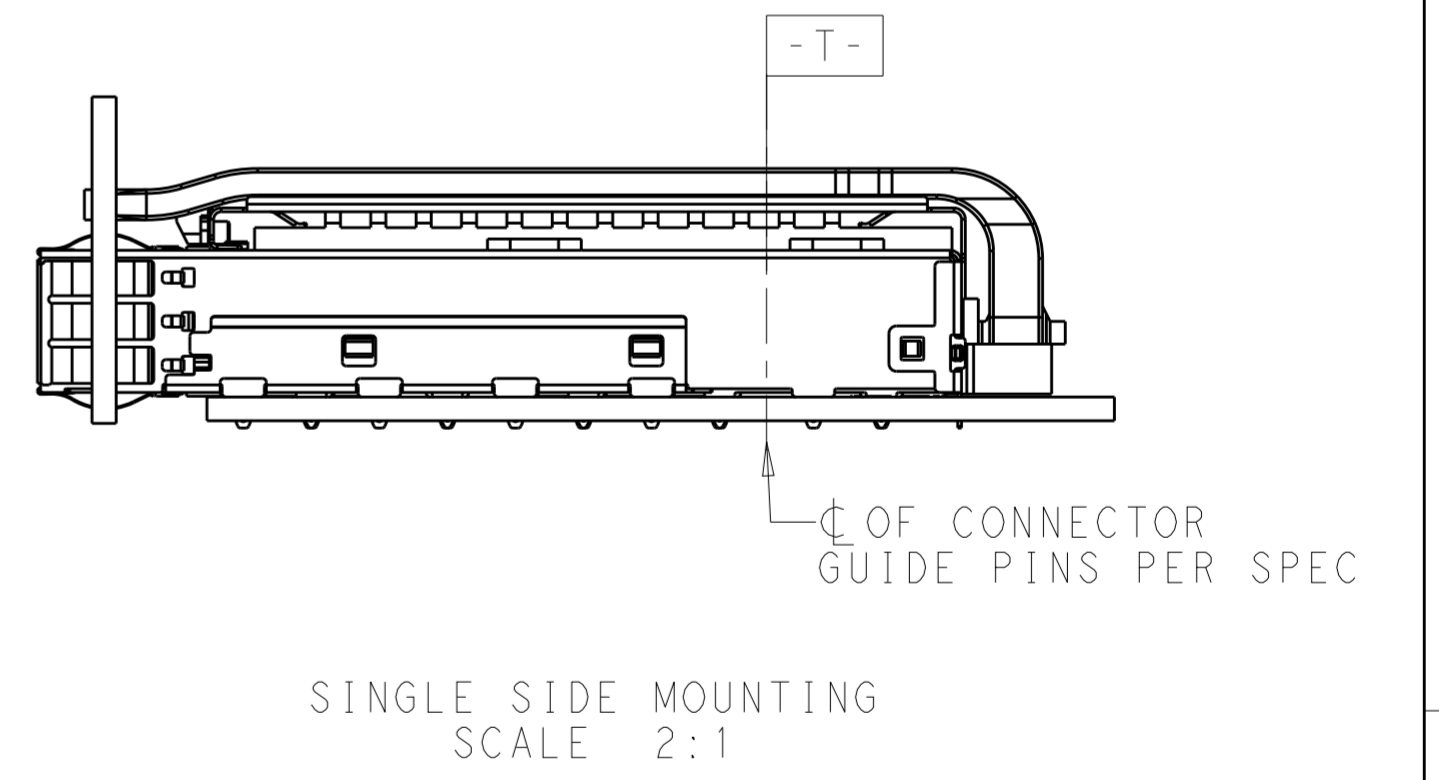
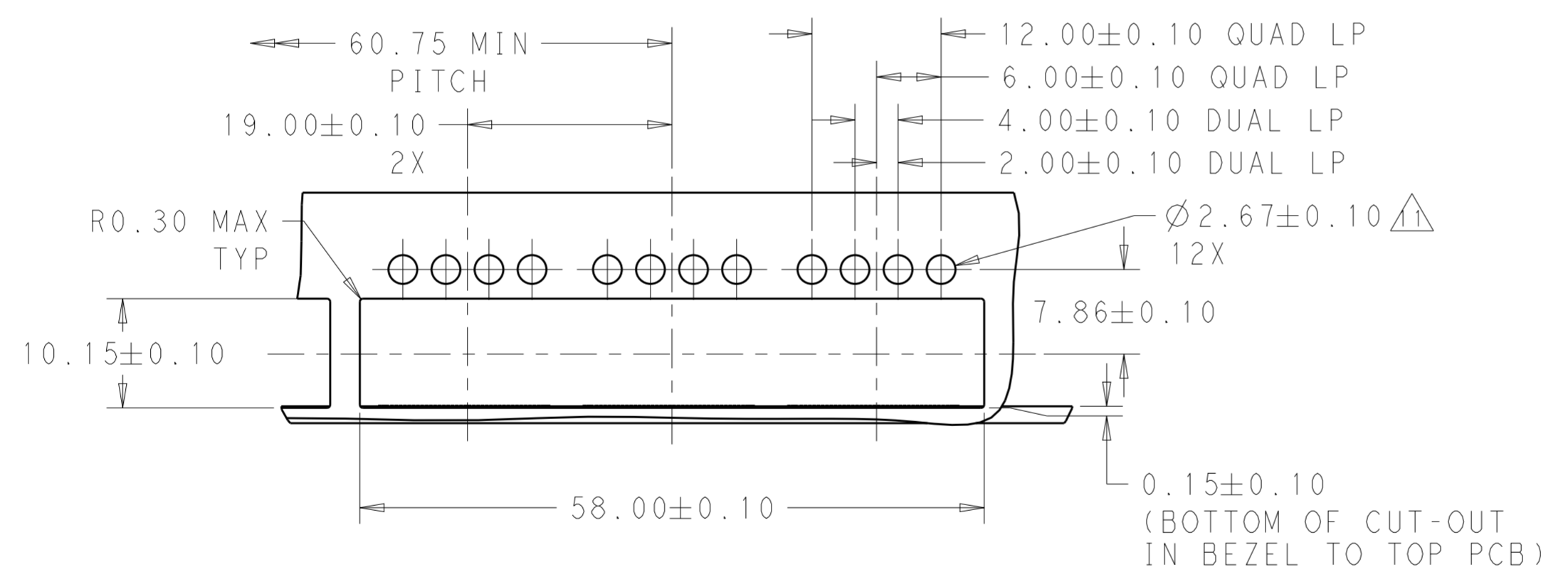
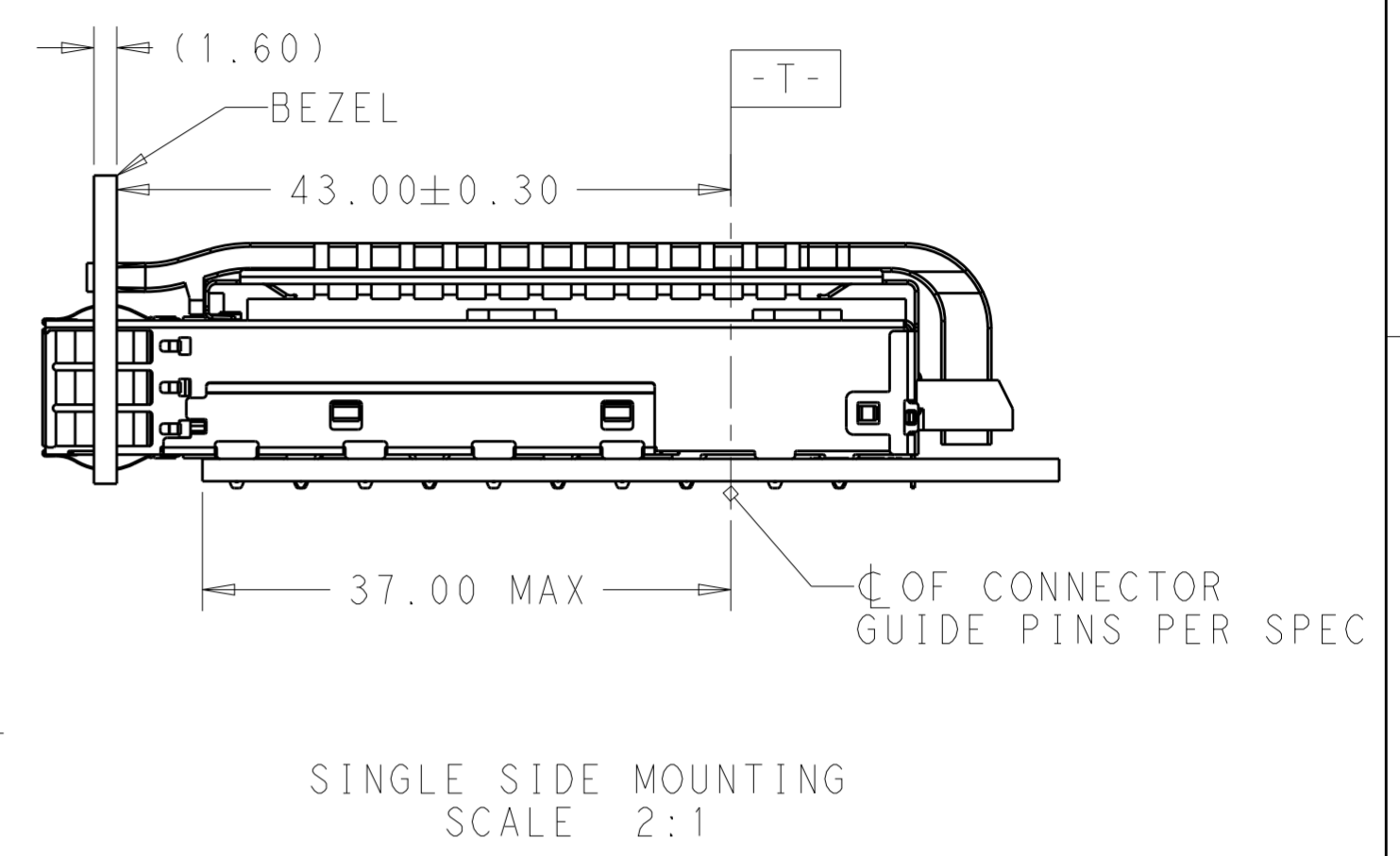
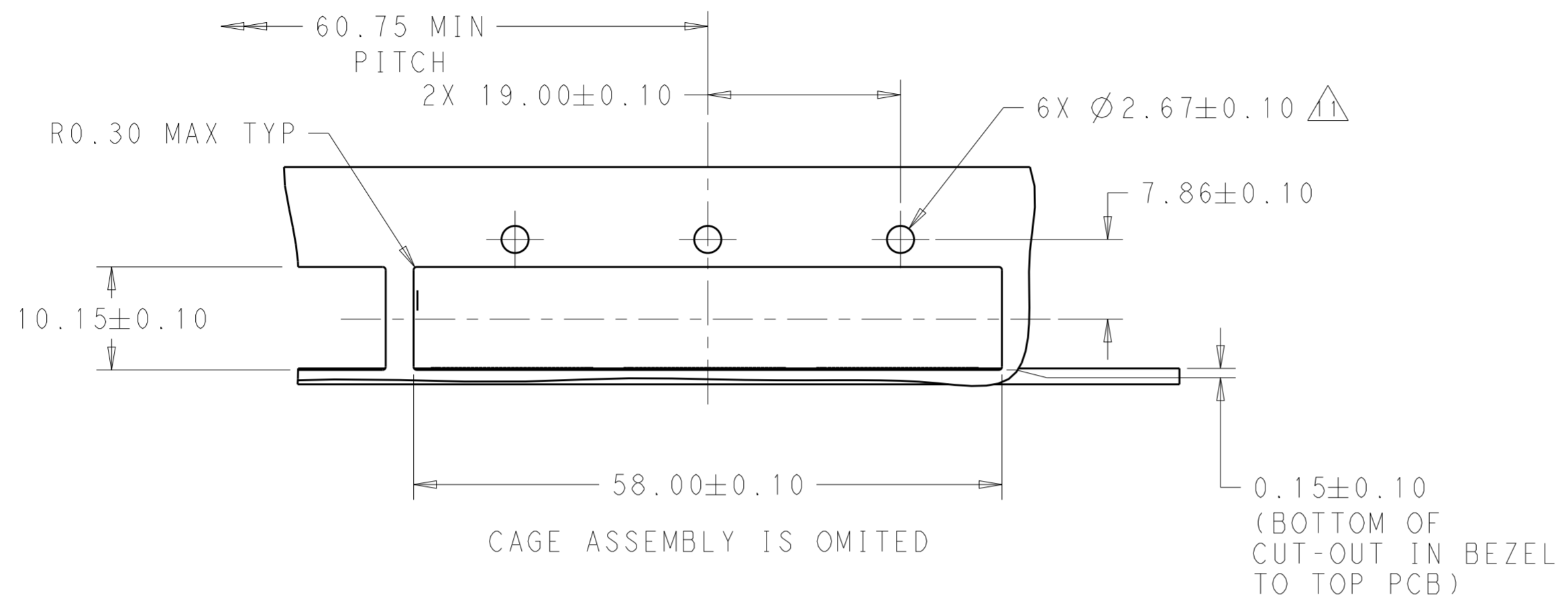
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| -   |     | SEE SHEET 1 | -    | -         | -    |  |  |
|     |     |             |      |           |      |  |  |
|     |     |             |      |           |      |  |  |

|       |               |             |                   |             |
|-------|---------------|-------------|-------------------|-------------|
| 16.0  | 1             | SAN         | COATED QUAD LP    | 5-2170740-2 |
| 13.7  | 1             | PCI         | COATED QUAD LP    | 5-2170740-1 |
| 14.9  | 1             | CUSTOMIZED  | QUAD LP           | 4-2170740-7 |
| 23.0  | 0             | NETWORKING  | QUAD LP           | 4-2170740-6 |
| 16.0  | 0             | SAN         | QUAD LP           | 4-2170740-5 |
| 13.7  | 0             | PCI         | QUAD LP           | 4-2170740-4 |
| 23.0  | 1             | NETWORKING  | QUAD LP           | 4-2170740-3 |
| 16.0  | 1             | SAN         | QUAD LP           | 4-2170740-2 |
| 13.7  | 1             | PCI         | QUAD LP           | 4-2170740-1 |
| 23.0  | 0             | NETWORKING  | DUAL LP           | 2-2170740-6 |
| 16.0  | 0             | SAN         | DUAL LP           | 2-2170740-5 |
| 13.7  | 0             | PCI         | DUAL LP           | 2-2170740-4 |
| 23.0  | 1             | NETWORKING  | DUAL LP           | 2-2170740-3 |
| 16.0  | 1             | SAN         | DUAL LP           | 2-2170740-2 |
| 13.7  | 1             | PCI         | DUAL LP           | 2-2170740-1 |
| 16.0  | 1             | SAN         | N/A               | 1-2170740-2 |
| 14.9  | 1             | CUSTOMIZED  | SINGLE LP         | 1-2170740-1 |
| 23.0  | 0             | NETWORKING  | SINGLE LP         | 2170740-6   |
| 16.0  | 0             | SAN         | SINGLE LP         | 2170740-5   |
| 13.7  | 0             | PCI         | SINGLE LP         | 2170740-4   |
| 23.0  | 1             | NETWORKING  | SINGLE LP         | 2170740-3   |
| 16.0  | 1             | SAN         | SINGLE LP         | 2170740-2   |
| 13.7  | 1             | PCI         | SINGLE LP         | 2170740-1   |
| DIM A | # OF REAR PIN | APPLICATION | LIGHT PIPE OPTION | PART NUMBER |

|   |                                   |                             |   |               |
|---|-----------------------------------|-----------------------------|---|---------------|
| THIS DRAWING IS A CONTROLLED DOCUMENT.  |                                   | DWN<br>BING LIU 22APR2014   |  TE Connectivity |               |
| DIMENSIONS: mm  |                                   | CHK<br>JASON YANG 22APR2014 |   |               |
|  |                                   | APVD<br>SEAN HAN 22FEB2016  |   |               |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:  |                                   | PRODUCT SPEC                | NAME<br>RECEPTACLE CAGE ASSEMBLY WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, 1X3, QSFP28             |               |
| 0 PLC ±   | 1 PLC ±0.25                       | 108-19428                   | SIZE  | CAGE CODE     |
| 2 PLC ±0.2  | 3 PLC ±                           | 114-32023                   | A200779   | DRAWING NO    |
| 4 PLC ±   | ANGLES ±                          | WEIGHT                      | C-2170740   | RESTRICTED TO |
| MATERIAL<br>SEE NOTES material_2  | FINISH<br>SEE NOTES finish_spec_2 | CUSTOMER DRAWING            | SCALE 1:1   | SHEET 3 OF 9  |
|   |                                   |                             | REV A   |               |

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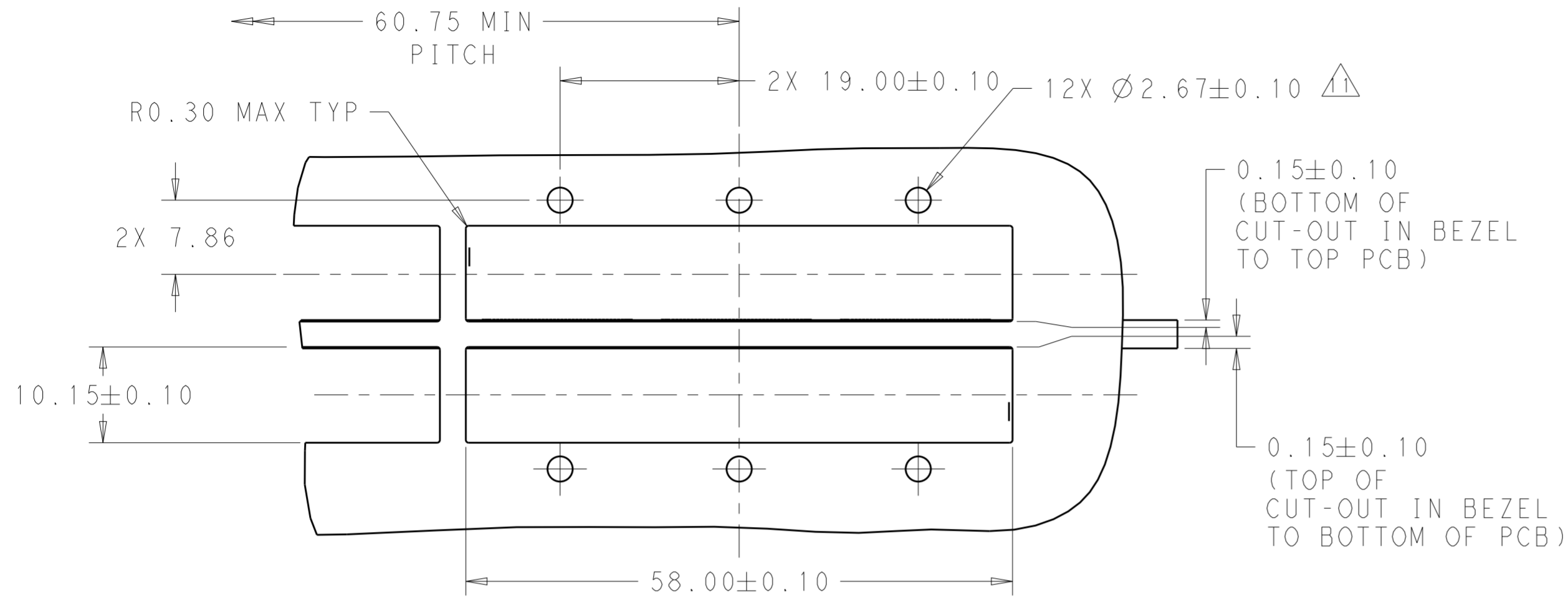
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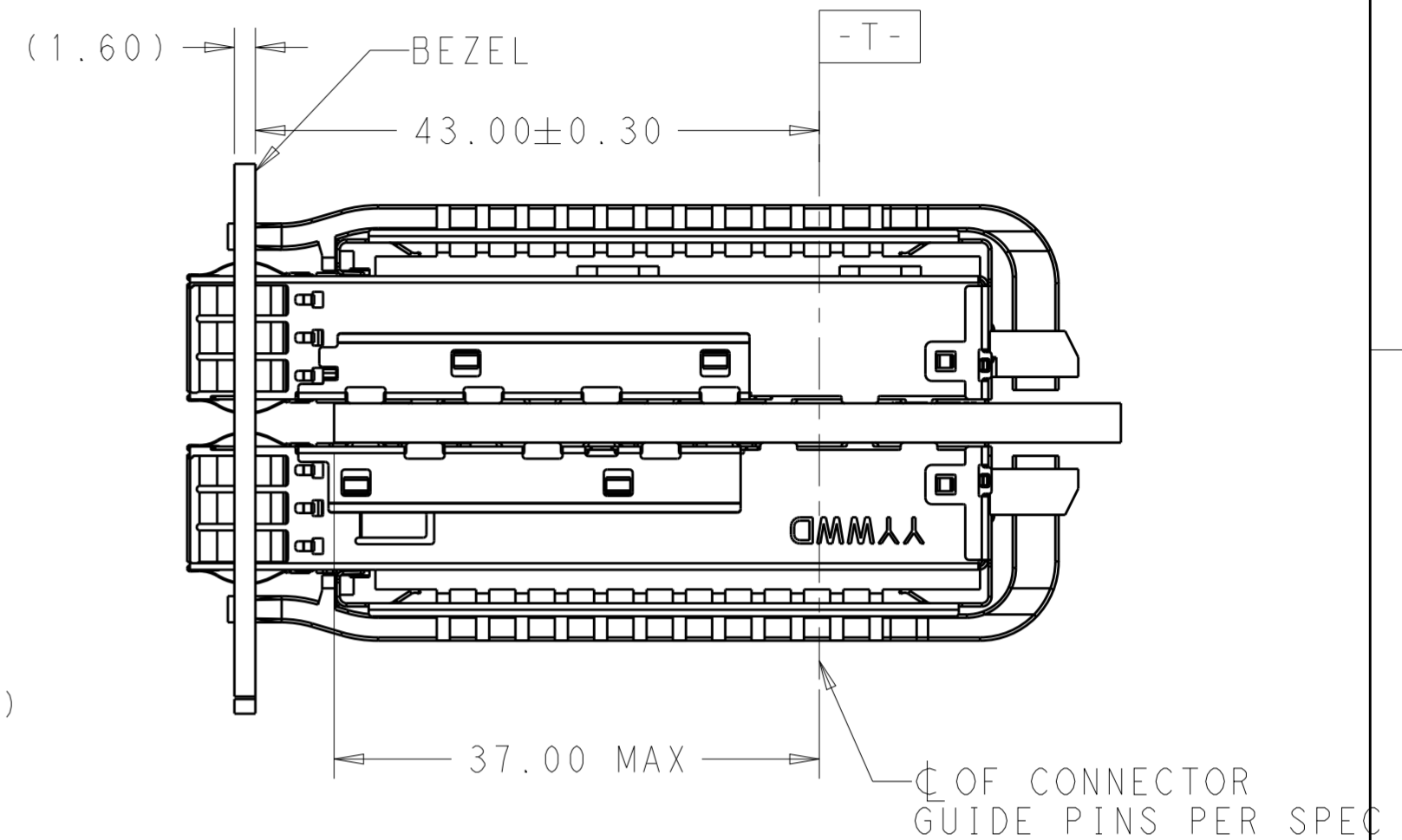
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| THIS DRAWING IS A CONTROLLED DOCUMENT.   |       | DWN BING LIU 22APR2014     | TE Connectivity  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| DIMENSIONS: mm   |       | CHK JASON YANG 22APR2014   |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:   |       | APVD SEAN HAN 22FEB2016    | NAME RECEPTACLE CAGE ASSEMBLY WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, 1X3, QSFP28 |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| <table border="1"> <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 CAGE CODE DRAWING NO |  |
| 0 PLC  | ±     |                            |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| 1 PLC  | ±0.25 |                            |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| 2 PLC  | ±0.2  |                            |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| 3 PLC  | ±     |                            |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| 4 PLC  | ±     |                            |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| ANGLES   | ±     |                            |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| FINISH   | ±     |                            |  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| MATERIAL SEE NOTES material_2  |       | APPLICATION SPEC 114-32023 | RESTRICTED TO  |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| FINISH SEE NOTES finish_spec_2   |       | WEIGHT -                   | A200779C-2170740   |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |
| CUSTOMER DRAWING   |       | SCALE 1:1                  | SHEET 4 OF 9 REV A   |       |       |       |      |       |   |       |   |        |   |        |   |                        |                           |  |

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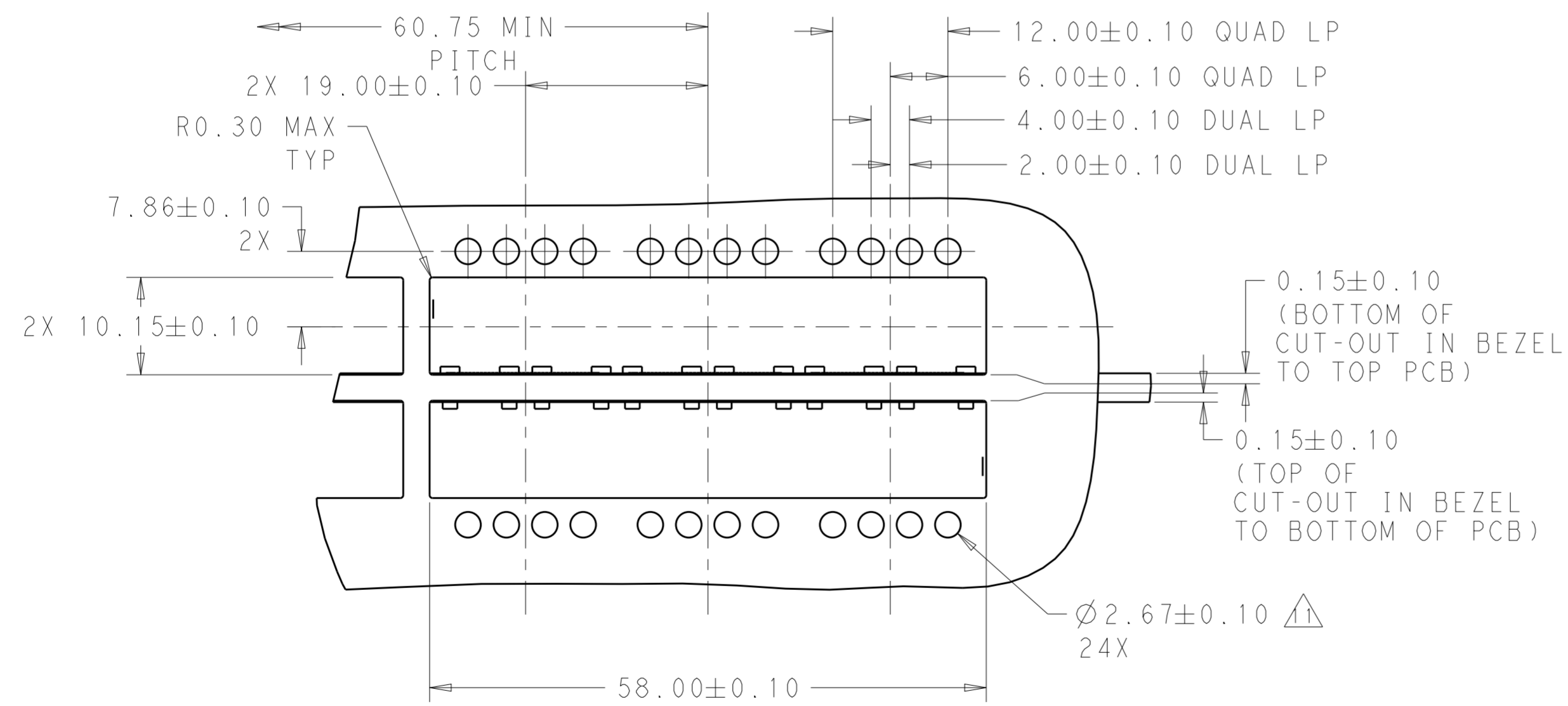
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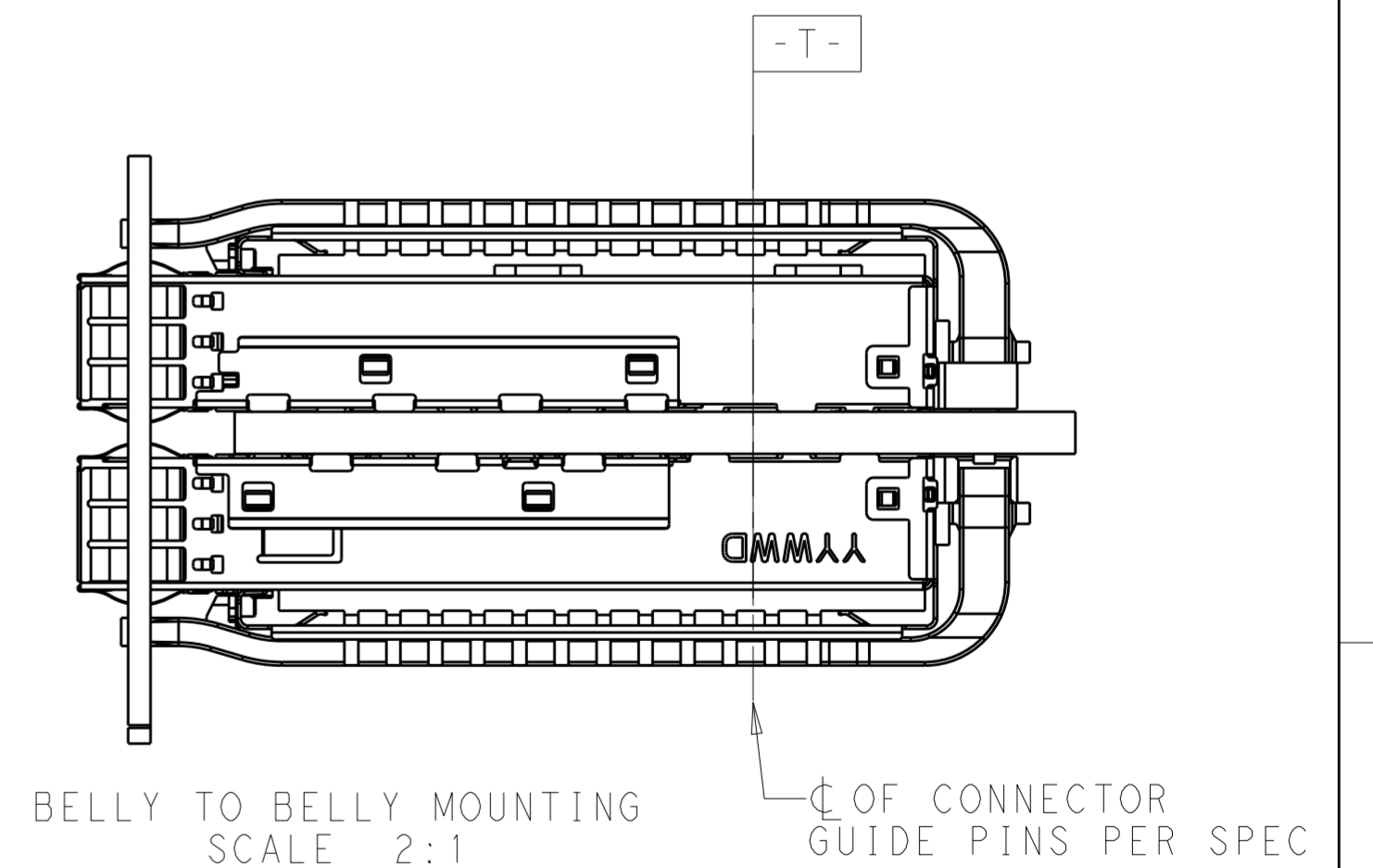
CAGE ASSEMBLY IS OMITED



BELLY TO BELLY MOUNTING  
 SCALE 2:1



CAGE ASSEMBLY IS OMITED

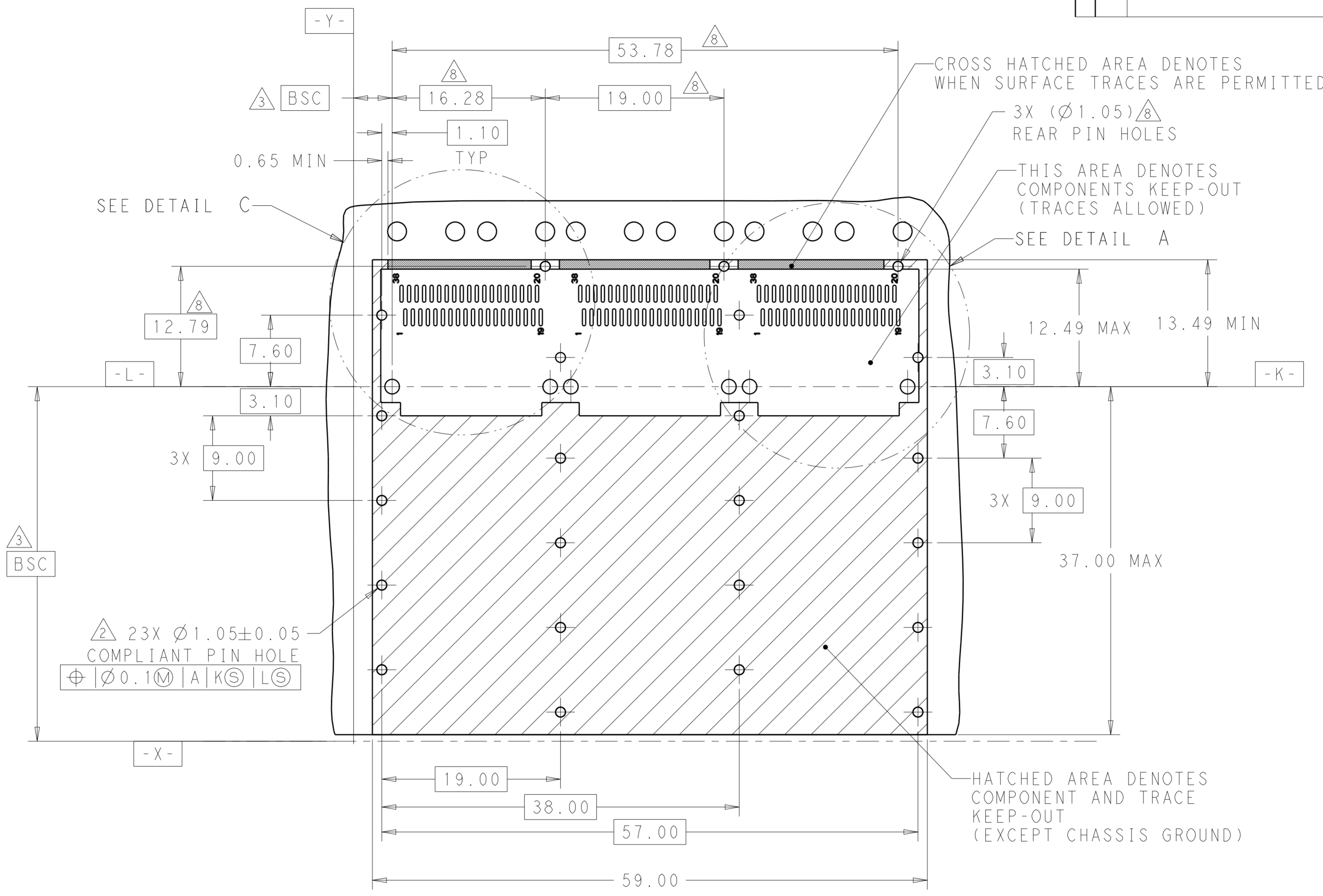


BELLY TO BELLY MOUNTING  
 SCALE 2:1

|  |  |                                |  |                      |
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|  |  | CHK JASON YANG 22APR2014       |  |                      |
|  |  | APVD SEAN HAN 22FEB2016        | NAME RECEPTACLE CAGE ASSEMBLY WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, 1X3, QSFP28 |                      |
| DIMENSIONS: mm                         |  | PRODUCT SPEC 108-19428         | SIZE A200779   | DRAWING NO C-2170740 |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: |  | APPLICATION SPEC 114-32023     | SCALE 1:1  | SHEET 5 OF 9         |
| MATERIAL SEE NOTES material_2          |  | FINISH SEE NOTES finish_spec_2 | WEIGHT -   | REV A                |
|  |  | CUSTOMER DRAWING               |  |                      |

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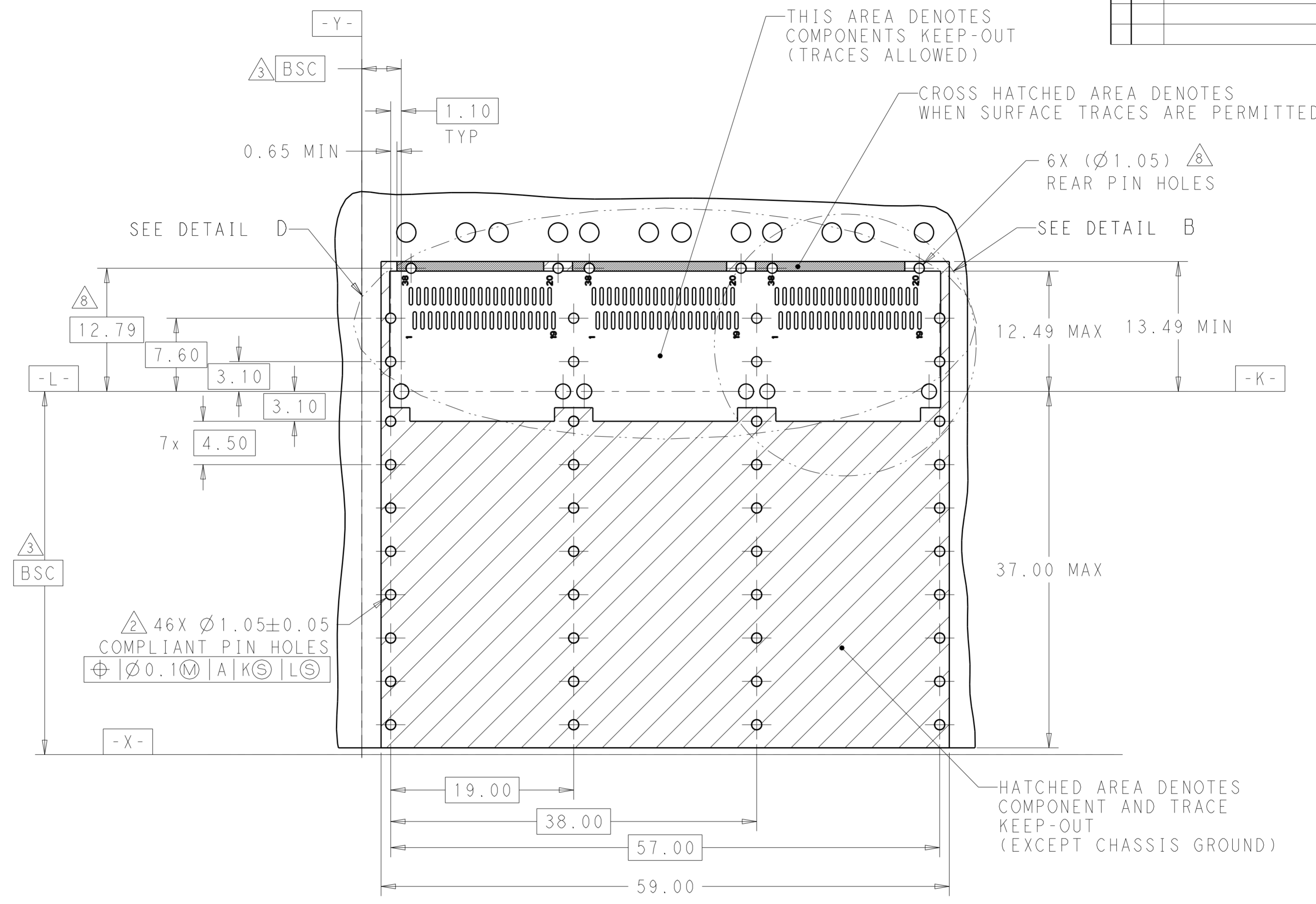
2 23X  $\phi 1.05 \pm 0.05$   
 COMPLIANT PIN HOLE  
 $\phi 0.1$  M A K S L S

RECOMMENDED PCB LAYOUT  
 SINGLE TYPE  
 PCB TOLERANCE:  $\pm 0.05$   
 SCALE 3:1

|  |                                |  |   |
|--|--------------------------------|--|---|
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| DIMENSIONS: mm   |                                | CHK JASON YANG 22APR2014   |   |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:   |                                | APVD SEAN HAN 22FEB2016  |   |
| 0 PLC $\pm$<br>1 PLC $\pm 0.25$<br>2 PLC $\pm 0.2$<br>3 PLC $\pm$<br>4 PLC $\pm$<br>ANGLES $\pm$ |                                | NAME RECEPTACLE CAGE ASSEMBLY WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, 1X3, QSFP28<br>PRODUCT SPEC 108-19428<br>APPLICATION SPEC 114-32023 |   |
| MATERIAL SEE NOTES material_2  | FINISH SEE NOTES finish_spec_2 | WEIGHT -   | SIZE A2<br>CAGE CODE 00779<br>DRAWING NO C-2170740<br>RESTRICTED TO - |
| CUSTOMER DRAWING   |                                | SCALE 1:1  | SHEET 6 OF 9 REV A  |

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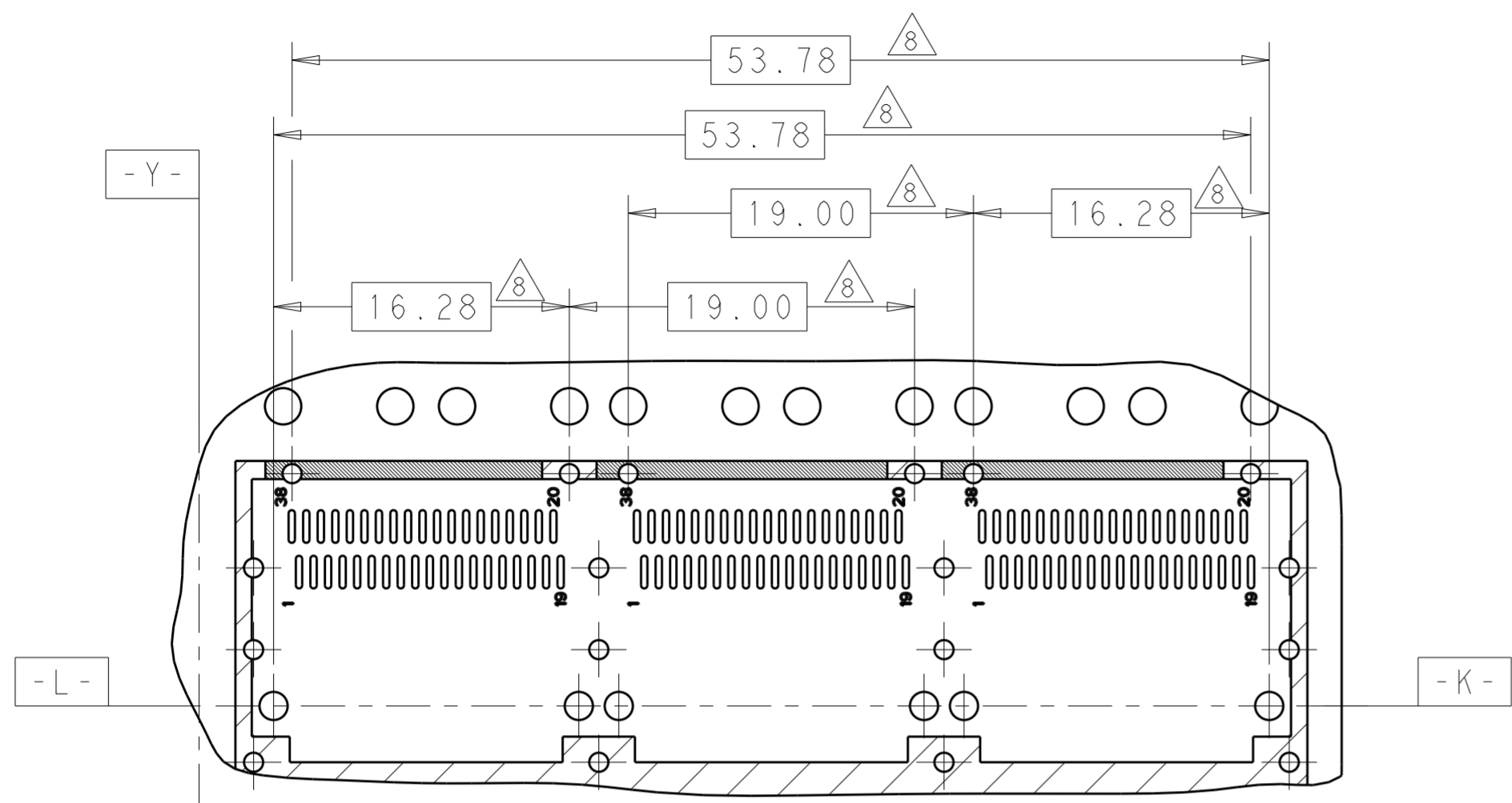


RECOMMENDED PCB LAYOUT  
 BELLY TO BELLY TYPE  
 PCB TOLERANCE: ±0.05  
 SCALE 3:1

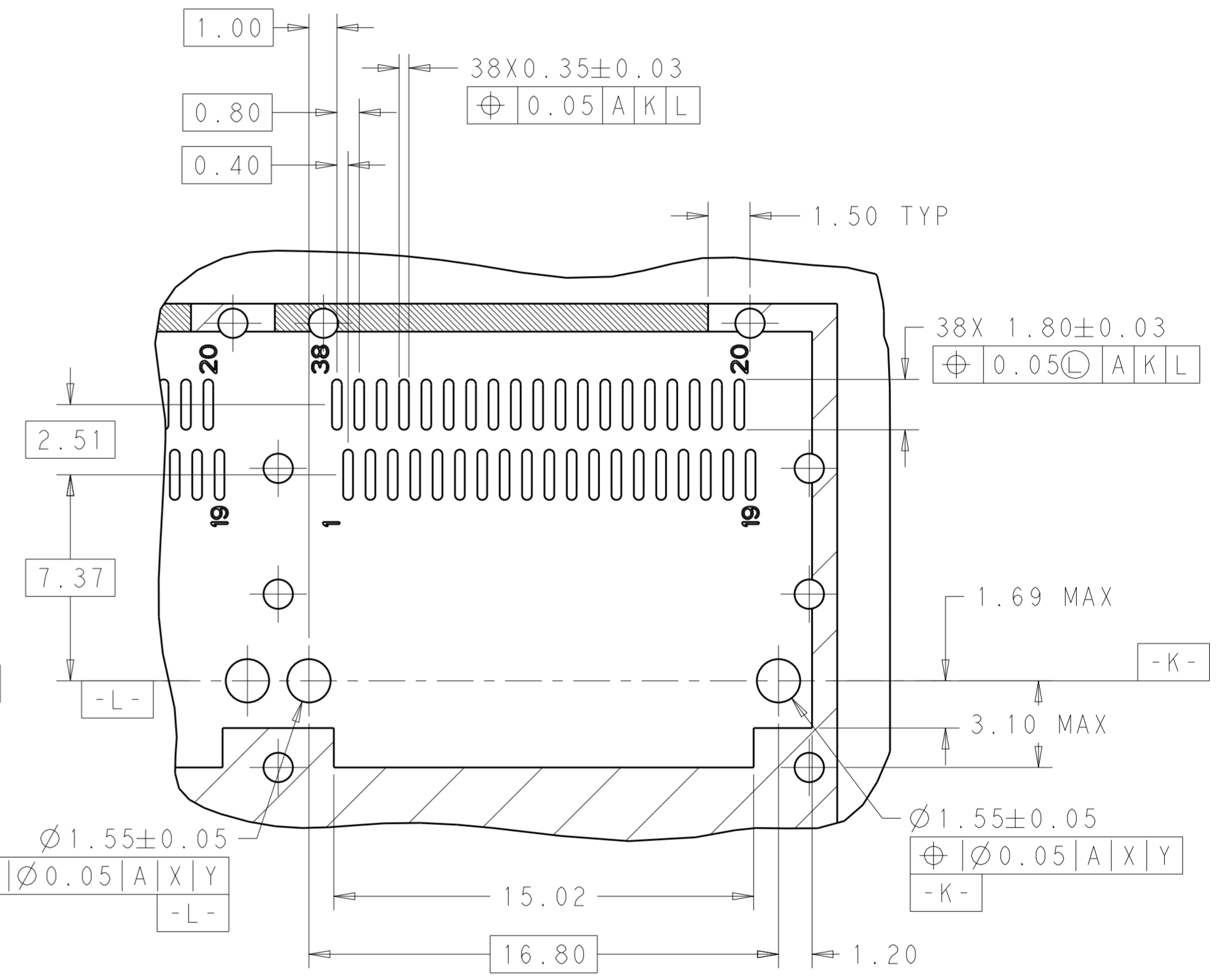
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| DIMENSIONS:<br>mm  |  | CHK<br>JASON YANG<br>22APR2014 |   |                    |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:   |  | APVD<br>SEAN HAN<br>22FEB2016  | NAME<br>RECEPTACLE CAGE ASSEMBLY<br>WITH HEAT SINKS AND LIGHT PIPES,<br>THRU BEZEL, 1X3, QSFP28 |                    |
| 0 PLC ±<br>1 PLC ±0.25<br>2 PLC ±0.2<br>3 PLC ±<br>4 PLC ±<br>ANGLES ±<br>FINISH SEE NOTES |  | PRODUCT SPEC<br>108-19428      | SIZE<br>A2  | CAGE CODE<br>00779 |
| MATERIAL<br>SEE NOTES<br>material_2  |  | APPLICATION SPEC<br>114-32023  | DRAWING NO<br>C-2170740   | RESTRICTED TO<br>- |
| CUSTOMER DRAWING   |  | WEIGHT<br>-                    | SCALE<br>1:1  | SHEET<br>7 OF 9    |
|  |  |                                |   | REV<br>A           |

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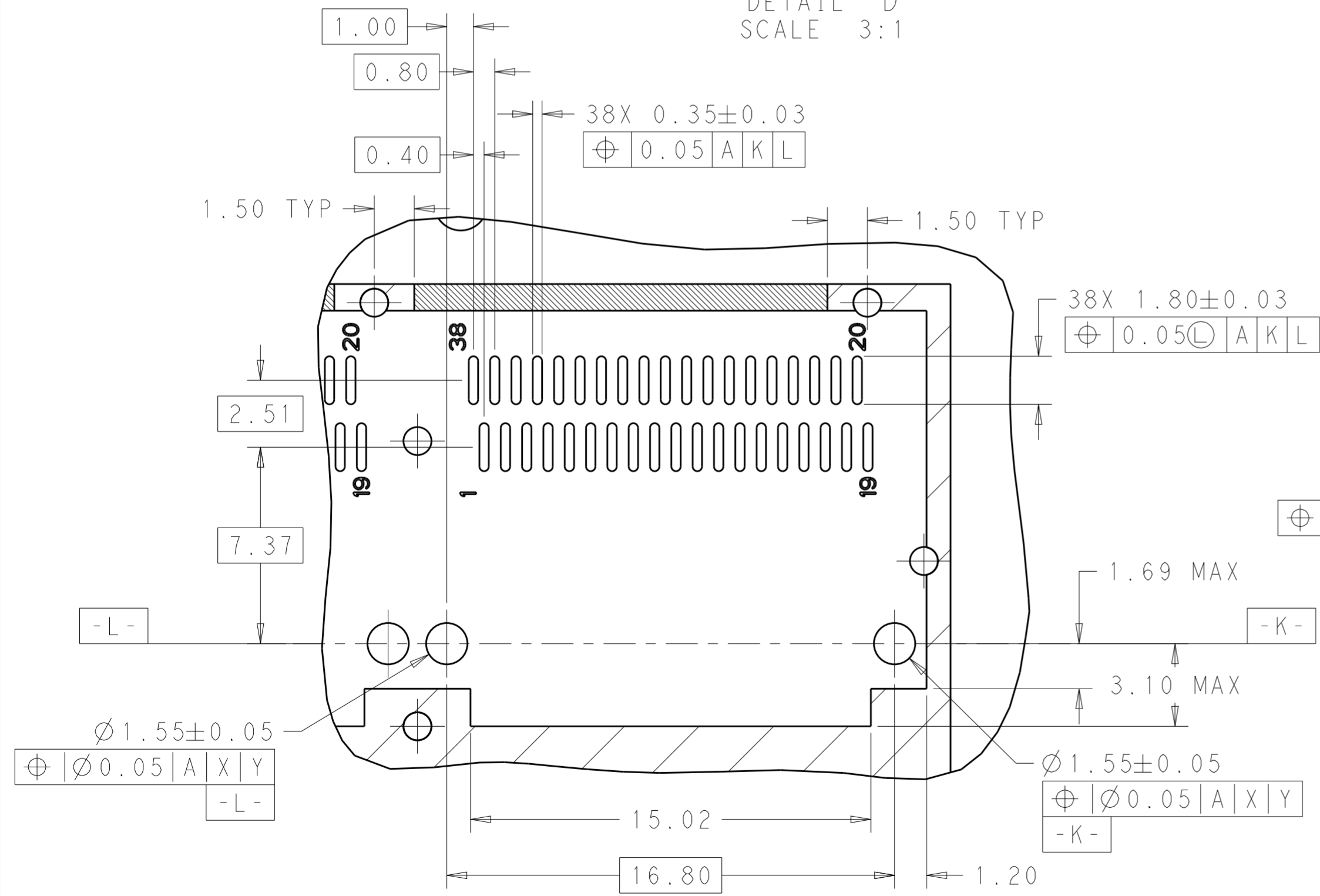
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| -   | -   | SEE SHEET 1 | -    | -         | -    |  |  |



DETAIL D  
SCALE 3:1



DETAIL B  
SCALE 6:1



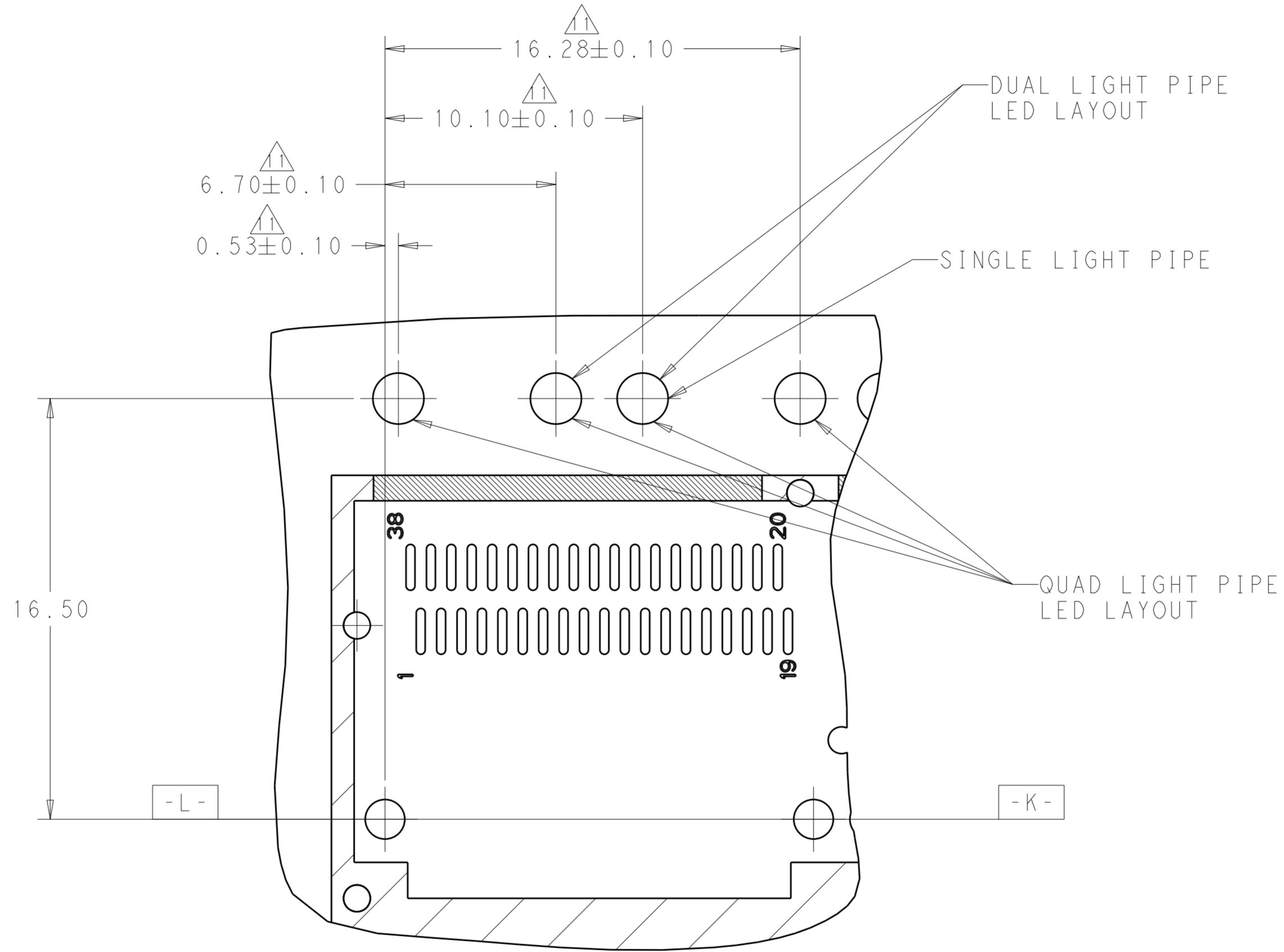
DETAIL A  
SCALE 6:1

|  |                                      |  |  |
|--|--------------------------------------|--|--|
| THIS DRAWING IS A CONTROLLED DOCUMENT.   |                                      | DWN<br>BING LIU<br>22APR2014   | <br>TE Connectivity  |
| DIMENSIONS:<br>mm  |                                      | CHK<br>JASON YANG<br>22APR2014   |  |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:   |                                      | APVD<br>SEAN HAN<br>22FEB2016  |  |
| 0 PLC ±<br>1 PLC ±0.25<br>2 PLC ±0.2<br>3 PLC ±<br>4 PLC ±<br>ANGLES ±<br>FINISH SEE NOTES |                                      | NAME<br>RECEPTACLE CAGE ASSEMBLY WITH HEAT SINKS AND LIGHT PIPES, THRU BEZEL, 1X3, QSFP28<br>PRODUCT SPEC<br>108-19428<br>APPLICATION SPEC<br>114-32023<br>WEIGHT<br>- |  |
| MATERIAL<br>SEE NOTES<br>material_2  | FINISH<br>SEE NOTES<br>finish_spec_2 | CUSTOMER DRAWING   | SIZE<br>A200779<br>CAGE CODE<br>C-2170740<br>DRAWING NO<br>-<br>RESTRICTED TO<br>-<br>SCALE 1:1 SHEET 8 OF 9 REV A |



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| LOC | DIST | REVISIONS   |      |     |      |
|-----|------|-------------|------|-----|------|
| P   | LTR  | DESCRIPTION | DATE | DWN | APVD |
| -   | -    | SEE SHEET 1 | -    | -   | -    |
|     |      |             |      |     |      |
|     |      |             |      |     |      |



DETAIL C  
SCALE 6:1

|  |  |                                |   |
|--|--|--------------------------------|---|
| THIS DRAWING IS A CONTROLLED DOCUMENT.   |  | DWN<br>BING LIU<br>22APR2014   | <b>STE</b> TE Connectivity  |
| DIMENSIONS:<br>mm  |  | CHK<br>JASON YANG<br>22APR2014 |   |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:<br>0 PLC ±<br>1 PLC ±0.25<br>2 PLC ±0.2<br>3 PLC ±<br>4 PLC ±<br>ANGLES ± |  | APVD<br>SEAN HAN<br>22FEB2016  |   |
| MATERIAL<br>SEE NOTES<br>material_2  |  | PRODUCT SPEC<br>108-19428      | NAME<br>RECEPTACLE CAGE ASSEMBLY<br>WITH HEAT SINKS AND LIGHT PIPES,<br>THRU BEZEL, 1X3, QSFP28 |
| FINISH<br>SEE NOTES<br>finish_spec_2   |  | APPLICATION SPEC<br>114-32023  | SIZE<br>A200779   |
| CUSTOMER DRAWING   |  | WEIGHT<br>-                    | DRAWING NO<br>C-2170740   |
| SCALE 1:1  |  | SHEET 9 OF 9                   | RESTRICTED TO<br>-<br>REV A   |