

# AMPHENOL PART NUMBER CONFIGURATION

U90 - D4X1 - 1XXX

## HEAT SINK OPTION

- 1 = NO HEAT SINK OR CLIP SHIPPED
- 5 = PIN STYLE HEAT SINK AND CLIP (H1=15.03; H2=6.5; SAN HEIGHT)
- 6 = PIN STYLE HEAT SINK AND CLIP (H1=12.73; H2=4.2; PCI HEIGHT)
- 7 = PIN STYLE HEAT SINK AND CLIP (H1= 22.03; H2=13.5; TALL)
- D = PIN-FIN STYLE HEAT SINK AND CLIP (H1=15.03; H2=6.5; SAN HEIGHT)
- E = PIN-FIN STYLE HEAT SINK AND CLIP (H1=12.73; H2=4.2; PCI HEIGHT)
- F = PIN-FIN STYLE HEAT SINK AND CLIP (H1= 22.03; H2=13.5; TALL)

NOTE:  
FOR LOCATION OF "H1" AND "H2" DIMENSIONS SEE SHEET 2

## PACKAGING OPTIONS

- 0 = TRAY PACKAGING, HEAT SINK & CLIP SHIPPED IN SEPARATE TRAY
- A = TRAY PACKAGING, HEAT SINK & CLIP SHIPPED ASSEMBLED
- B = TRAY PACKAGING, HEAT SINK & CLIP SHIPPED ASSEMBLED WITH LIGHT PIPE BULK PACKED

## LIGHT PIPE AND BEHIND BEZEL COVER OPTIONS

- 0 = STANDARD (NO LIGHT PIPES)
- 1 = WITH ROUND LIGHT PIPES
- 3 = WITH SQUARE LIGHT PIPES INSTALLED
- Z = WITH SINGLE BARREL ROUND LIGHT PIPE

## OPTIONAL DUST COVER

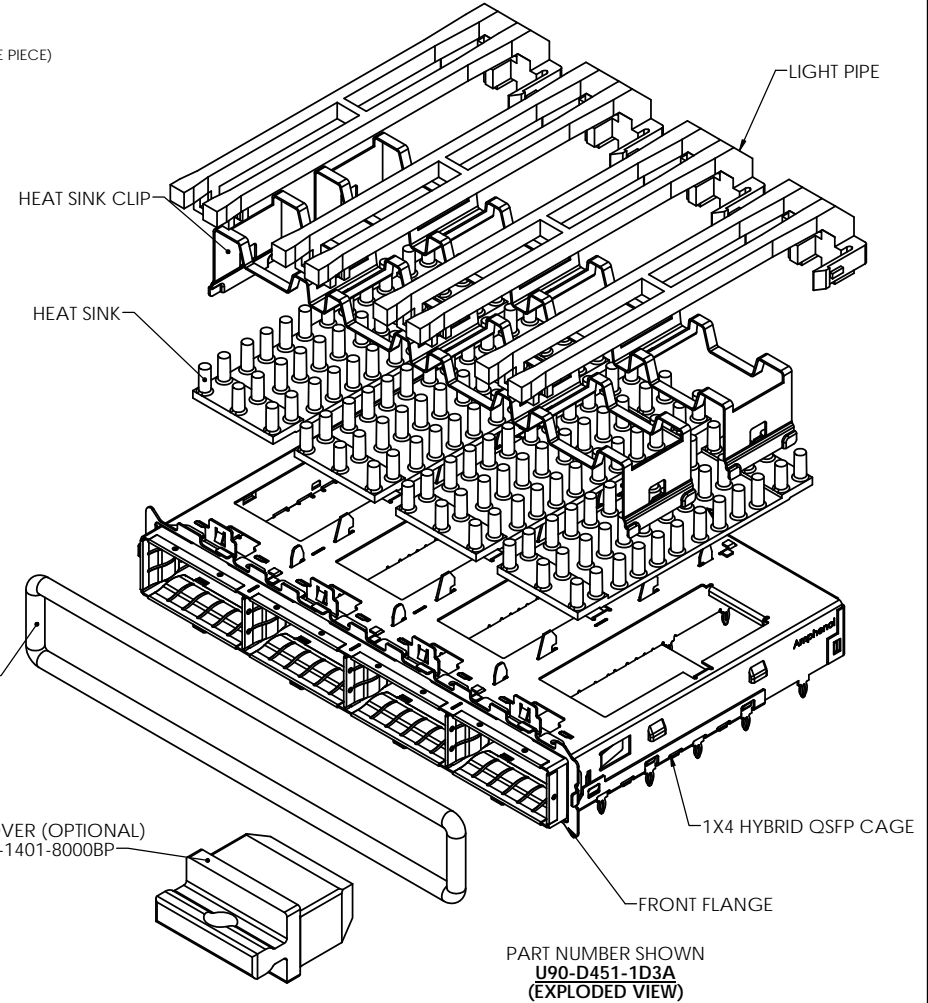
- 0 = WITHOUT DUST COVER
- D = WITH DUST COVER (SHIPPED AS LOOSE PIECE)

| REVISIONS |                                     |           |       |
|-----------|-------------------------------------|-----------|-------|
| REV       | DESCRIPTION, ECN, EAR NO.           | DATE      | APP'D |
| J         | NOTE REVISED FOR L.P. POSITION DIM. | JAN 31/13 | ZLJ   |
|           |                                     |           |       |
|           |                                     |           |       |
|           |                                     |           |       |
|           |                                     |           |       |
|           |                                     |           |       |
|           |                                     |           |       |

PART NUMBER SHOWN  
**U90-D451-103A**

ELASTOMER EMI GASKET  
P/N: U90-1410-1100 FOR SINGLE LEVEL MOUNT  
P/N: U90-1410-1105 BELLY TO BELLY MOUNT (ORDER SEPARATELY)

PART NUMBER SHOWN  
**U90-D451-107A**

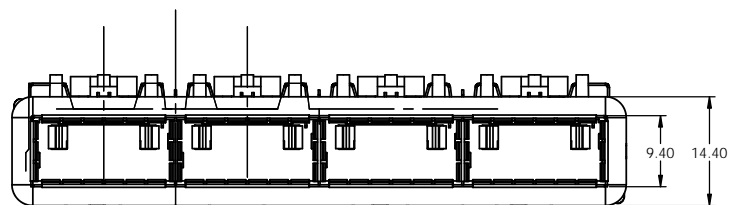
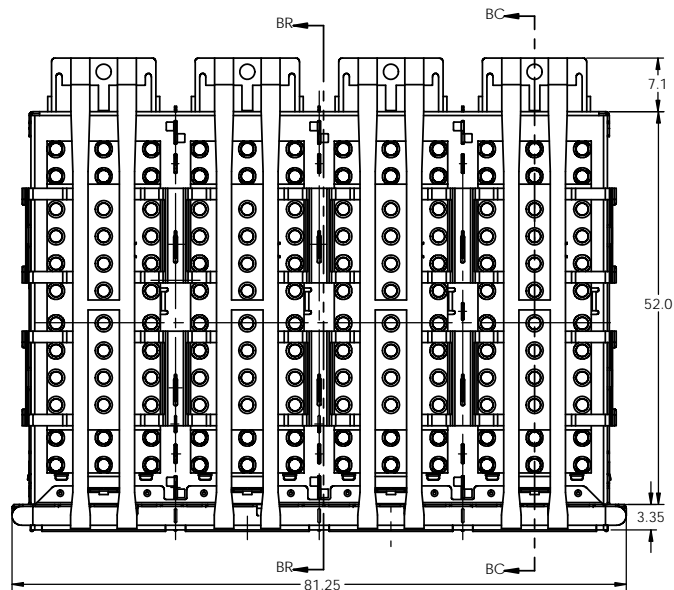


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|                                   |                        |            |           |
|-----------------------------------|------------------------|------------|-----------|
| UNLESS OTHERWISE SPECIFIED        | DRAWN                  | J.HU       | FEB 17/12 |
| ALL DIMENSIONS ARE IN MILLIMETERS | CHECKED                | ZLJ        | FEB 17/12 |
| REFERENCE IN PARENTHESES          | M.E. APP'D             |            |           |
| GENERAL TOLERANCES                | Q.A. APP'D             |            |           |
| 1 DECIMAL PLACE 0.X±0.25          | DWG APPR.              |            |           |
| 2 DECIMAL PLACES 0.XX±0.10        | ENG. REL. NO.          | ECN EXXXXX |           |
| ANGULAR DEGREES ±1°               | REF.                   |            |           |
|                                   | THIRD ANGLE PROJECTION |            |           |
|                                   | DO NOT SCALE DRAWING   |            |           |

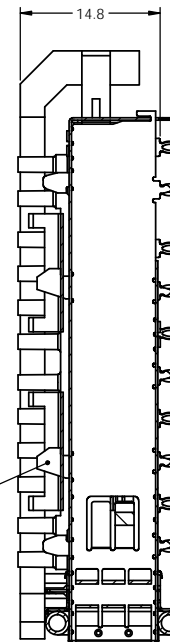
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|--|-----------------|-------------|------------|
| Amphenol High Speed Interconnects<br>A Division of Amphenol Corp. www.amphenolcanada.com |                 |             |            |
| QSFP 1X4 CAGE<br>HYBRID<br>WITH HEATSINK, CLIP AND LIGHT PIPE                            |                 |             |            |
| DWG. NO.   | P-U90-D4X1-1XXX |             |            |
| CODE ID NO.  | 03554           | DWG SIZE: C | SCALE: 2:1 |
| SHEET 1 OF 9   |                 |             | REV J      |

| REVISIONS |                           |           |      |
|-----------|---------------------------|-----------|------|
| REV       | DESCRIPTION, ECN, EAR NO. | DATE      | APPD |
| J         | SEE SHEET 1               | JAN 31/13 | ZLJ  |



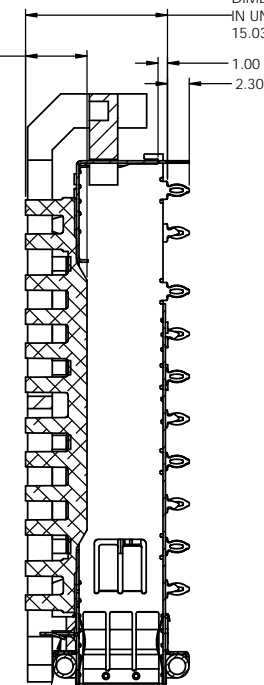
PART NUMBER SHOWN  
U90-D451-103A  
(WITH SQUARE LIGHT PIPE)

LATCH FEATURE FOR  
HEAT SINK CLIP  
6 PLACES



SECTION BR-BR  
SCALE 2.5 : 1

DIMENSION "H2"  
6.5 SHOWN



LATCH FEATURE  
FOR LIGHT PIPE

SECTION BC-BC  
SCALE 2.5 : 1

# NOTES:

- MATERIAL:  
CAGE AND EMI SPRINGS: COPPER ALLOY  
HEAT SINK CLIP: STEEL ALLOY  
PIN-FIN STYLE HEAT SINK: ALUMINUM  
PIN STYLE HEAT SINK: NICKEL PLATED ALUMINUM  
CAGE PLATING: 3.81µm [100µ"] MIN. NICKEL.  
LIGHT PIPE: GE LEXAN, OPTICAL GRADE  
EMI GASKET: CHO-SEAL 1273 CONDUCTIVE ELASTOMER
- CAGE IS INTENDED FOR USE WITH THE  
QUAD SMALL FORM-FACTOR PLUGGABLE (QSFP)  
TRANSCEIVER SPECIFICATION INF-8438I.

| DIMENSION "H1" SHOWN IN UN-PLUGGED STATE |           |           |
|--|-----------|-----------|
| PART NUMBER                              | DIM. "H1" | DIM. "H2" |
| U90-D451-1XXX                            | 15.03     | 6.50      |
| U90-D461-1XXX                            | 12.73     | 4.20      |
| U90-D471-1XXX                            | 22.03     | 13.50     |
| U90-D4D1-1XXX                            | 15.03     | 6.50      |
| U90-D4E1-1XXX                            | 12.73     | 4.20      |
| U90-D4F1-1XXX                            | 22.03     | 13.50     |



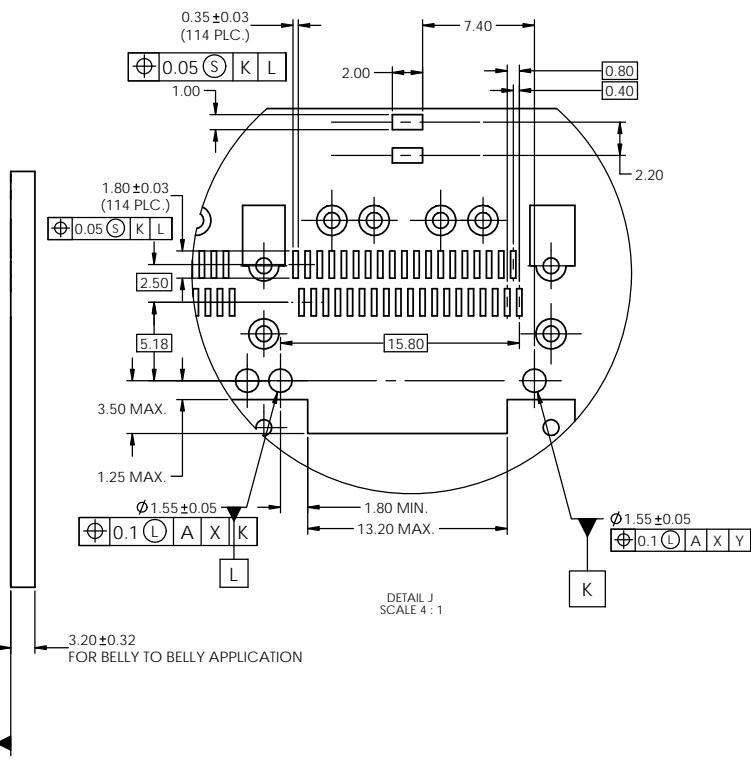
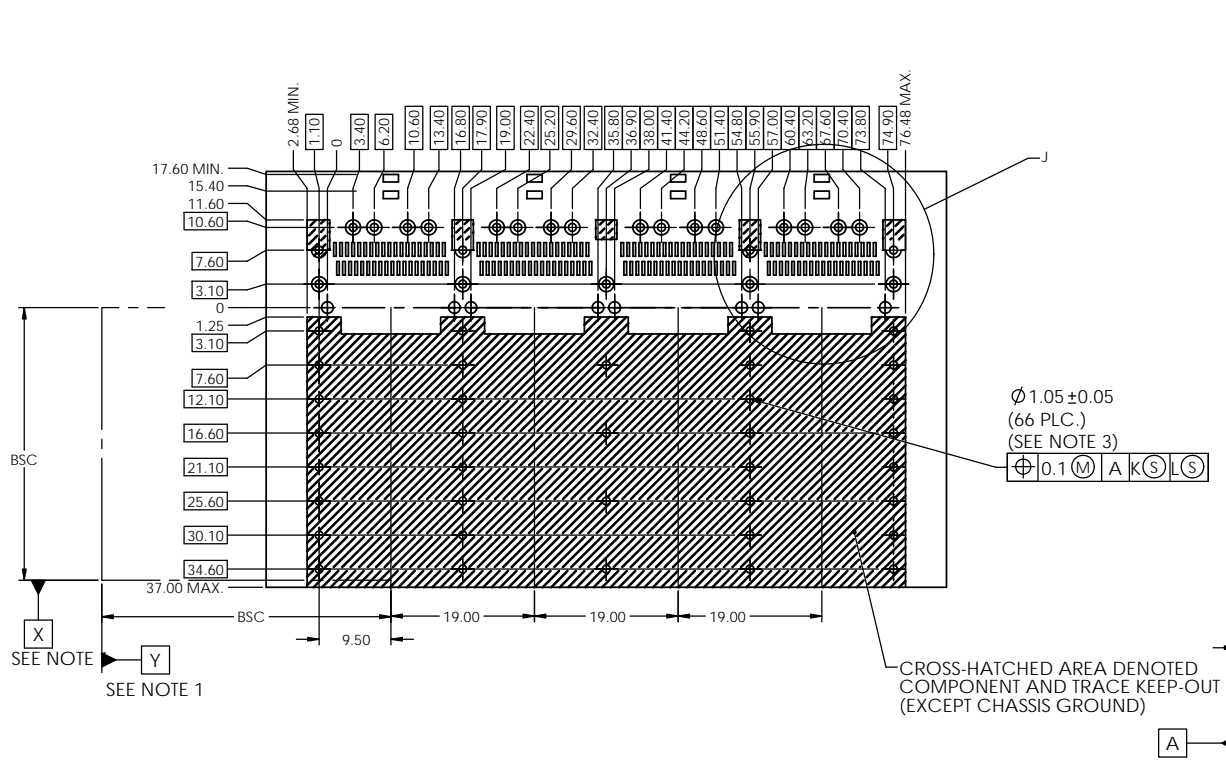
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|-----------------------------------|------------------------|------------|-----------|
| UNLESS OTHERWISE SPECIFIED        | DRAWN                  | J.HU       | FEB 17/12 |
| ALL DIMENSIONS ARE IN MILLIMETERS | CHECKED                | ZLJ        | FEB 17/12 |
| REFERENCE IN PARENTHESES          | M.E. APP'D             |            |           |
| GENERAL TOLERANCES                | Q.A. APP'D             |            |           |
| 1 DECIMAL PLACE 0.X ±0.25         | DWG APPR.              |            |           |
| 2 DECIMAL PLACES 0.XX ±0.10       | ENG. REL. NO.          | ECN EXXXXX |           |
| ANGULAR DEGREES ±1°               | REF.                   |            |           |
|                                   | THIRD ANGLE PROJECTION |            |           |
|                                   | DO NOT SCALE DRAWING   |            |           |

|  |                 |           |        |
|--|-----------------|-----------|--------|
| Amphenol High Speed Interconnects<br>A Division of Amphenol Corp. www.amphenolcanada.com |                 |           |        |
| QSFP 1X4 CAGE<br>HYBRID<br>WITH HEATSINK, CLIP AND LIGHT PIPE                            |                 |           |        |
| DWG. NO.   | P-U90-D4X1-1XXX |           |        |
| CODE ID NO.  | 03554           | DWG SIZE: | C      |
| SCALE:   | 2:1             | SHEET     | 2 OF 9 |





| REVISIONS |                           |           |       |
|-----------|---------------------------|-----------|-------|
| REV       | DESCRIPTION, ECN, EAR NO. | DATE      | APP'D |
| J         | SEE SHEET 1               | JAN 31/13 | ZLJ   |





**RECOMMENDED HOST PCB BOARD  
BELLY TO BELLY LAYOUT  
WITH SINGLE BARREL LIGHT PIPE  
(COMPONENT SIDE OF BOARD)**

- NOTES:
- DATUM X AND Y ESTABLISHED BY CUSTOMER'S FUDUCIAL.
  - LOCATION OF EDGE OF PCB IS APPLICATION SPECIFIC.
  - FINISHED HOLE SIZE.



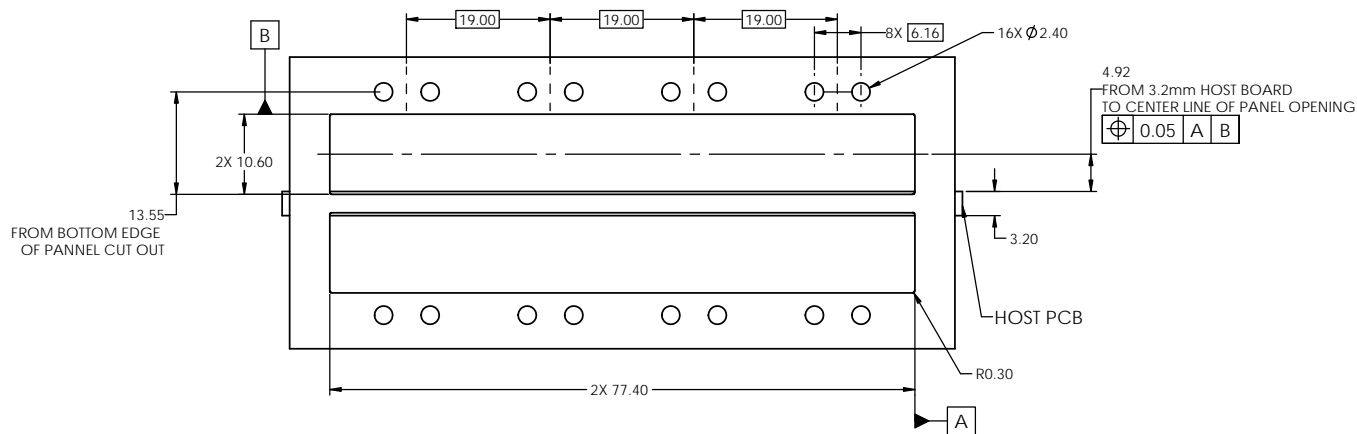
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|--------------------------------------|------------|---|------|---|--|-------|-------------|------------|--------------|
| UNLESS OTHERWISE SPECIFIED           |            | DRAWN   | J.HU | FEB 17/12   | <div>Amphenol High Speed Interconnects</div> <div>A Division of Amphenol Corp. <a href="http://www.amphenolcanada.com">www.amphenolcanada.com</a></div> <div>QSFP 1X4 CAGE</div> <div>HYBRID</div> <div>WITH HEATSINK, CLIP AND LIGHT PIPE</div> |       |             |            | REV<br>J     |
| ALL DIMENSIONS ARE IN<br>MILLIMETERS |            | CHECKED   | ZLJ  | FEB 17/12   |  |       |             |            |              |
| REFERENCE IN PARENTHESES             |            | M.E. APP'D  |      |   |  |       |             |            |              |
| GENERAL TOLERANCES                   |            | Q.A. APP'D  |      |   |  |       |             |            |              |
| 1 DECIMAL PLACE                      | 0.X ±0.25  | DWG APPR.   |      |   | DWG. NO.<br><br>P-U90-D4X1-1XXX  |       |             |            |              |
| 2 DECIMAL PLACES                     | 0.XX ±0.10 | ENG. REL. NO.   |      | ECN EXXXXX  |  |       |             |            |              |
| ANGULAR DEGREES                      |            | REF.  |      |   |  |       |             |            |              |
| THIRD ANGLE PROJECTION               |            |  |      |  | DO NOT SCALE DRAWING   |       |             |            |              |
|                                      |            |   |      |   | CODE ID NO.  | 03554 | DWG SIZE: C | SCALE: 2:1 | SHEET 5 OF 9 |

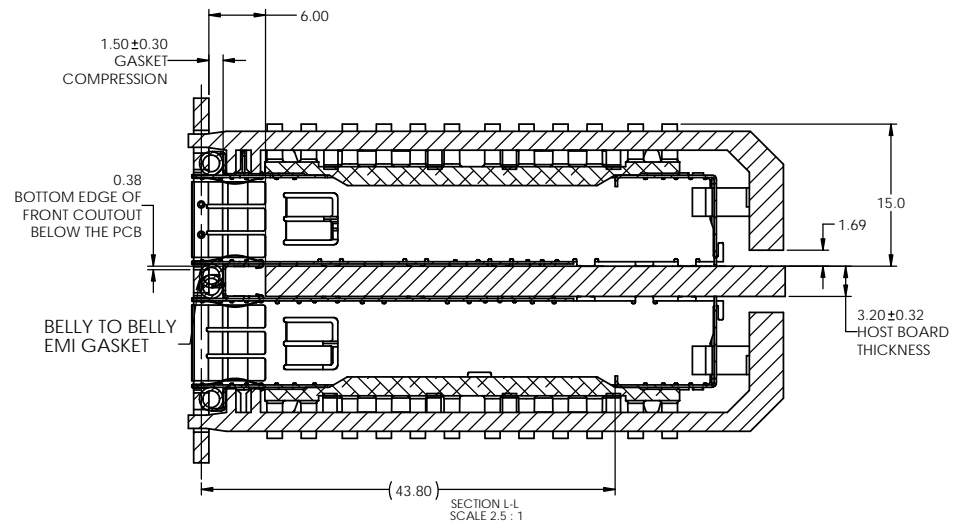
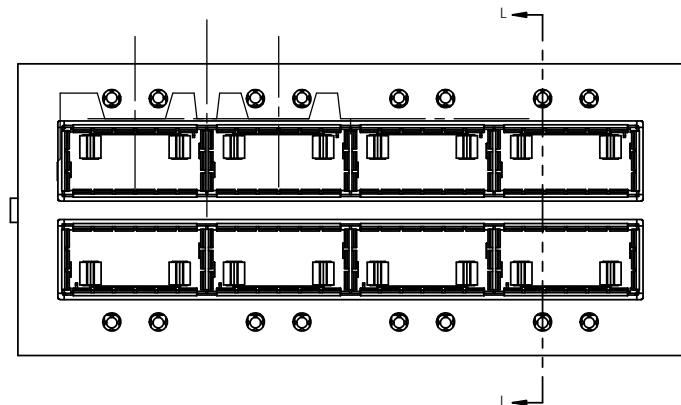




| REVISIONS |                           |           |      |
|-----------|---------------------------|-----------|------|
| REV       | DESCRIPTION, ECN, EAR NO. | DATE      | APPD |
| J         | SEE SHEET 1               | JAN 31/13 | ZLJ  |



PANEL CUTOUT FOR BEHIND BEZEL  
BELLY TO BELLY OPTION  
WITH DOUBLE BARREL ROUND LIGHT PIPES



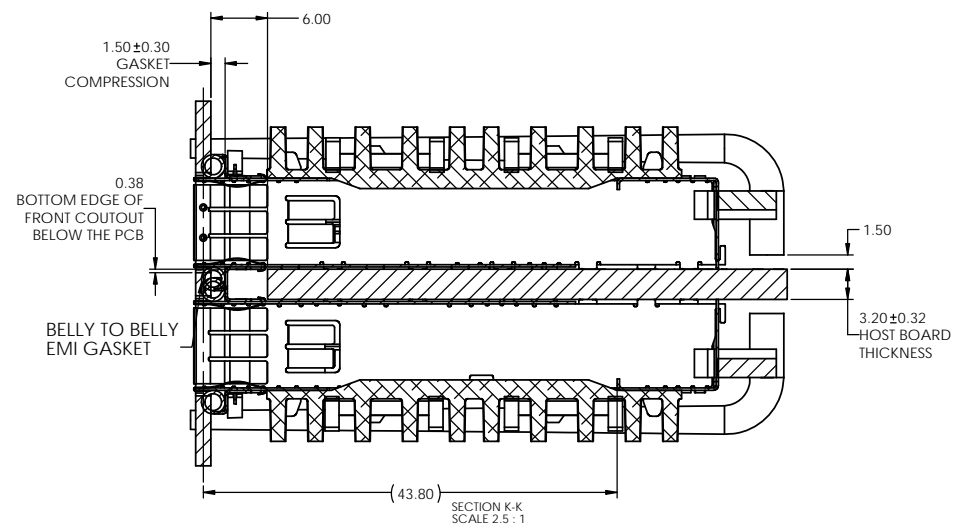
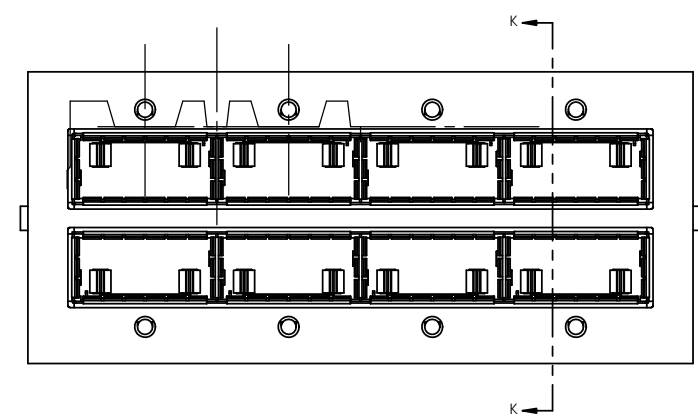
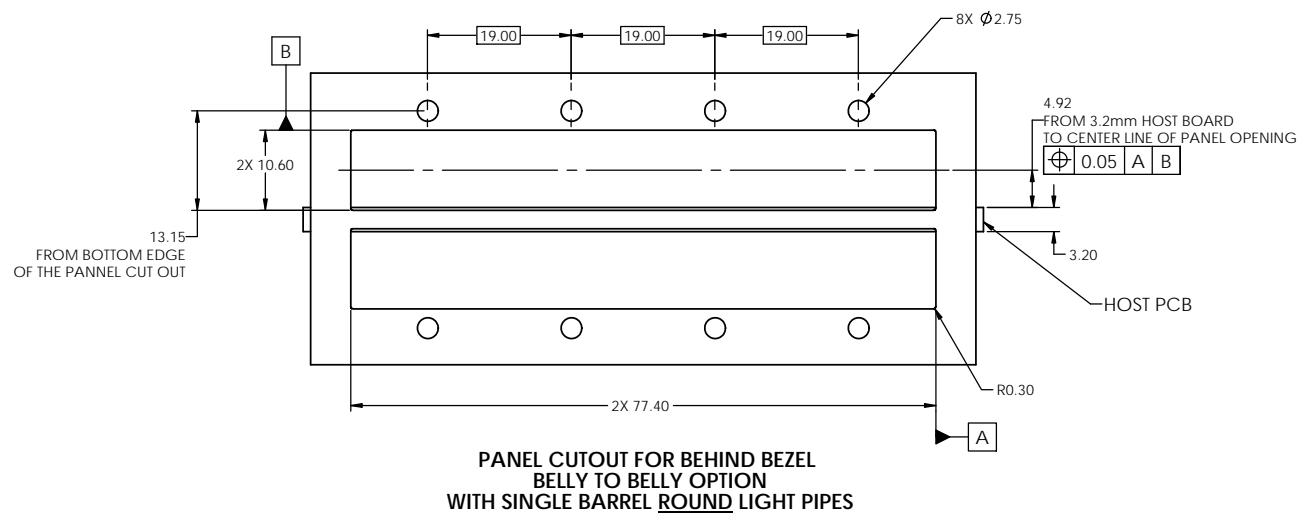
PART NUMBER SHOWN  
U90-D451-101A  
(WITH DOUBLE BARREL ROUND LIGHT PIPE)



|                                   |                        |            |           |
|-----------------------------------|------------------------|------------|-----------|
| UNLESS OTHERWISE SPECIFIED        | DRAWN                  | J.HU       | FEB 17/12 |
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| GENERAL TOLERANCES                | Q.A. APP'D             |            |           |
| 1 DECIMAL PLACE 0.X ± 0.25        | DWG APPR.              |            |           |
| 2 DECIMAL PLACES 0.XX ± 0.10      | ENG. REL. NO.          | ECN EXXXXX |           |
| ANGULAR DEGREES ±1°               | REF.                   |            |           |
|                                   | THIRD ANGLE PROJECTION |            |           |
|                                   | DO NOT SCALE DRAWING   |            |           |

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|--|-------------|------------|--------------|
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| QSFP 1X4 CAGE<br>HYBRID<br>WITH HEATSINK, CLIP AND LIGHT PIPE  |             |            |              |
| DWG. NO. P-U90-D4X1-1XXX   |             |            | REV J        |
| CODE ID NO. 03554  | DWG SIZE: C | SCALE: 2:1 | SHEET 7 OF 9 |

| REVISIONS |                           |           |      |
|-----------|---------------------------|-----------|------|
| REV       | DESCRIPTION, ECN, EAR NO. | DATE      | APPD |
| J         | SEE SHEET 1               | JAN 31/13 | ZLJ  |



PART NUMBER SHOWN  
U90-D451-107A  
(WITH SINGLE BARREL ROUND LIGHT PIPE)



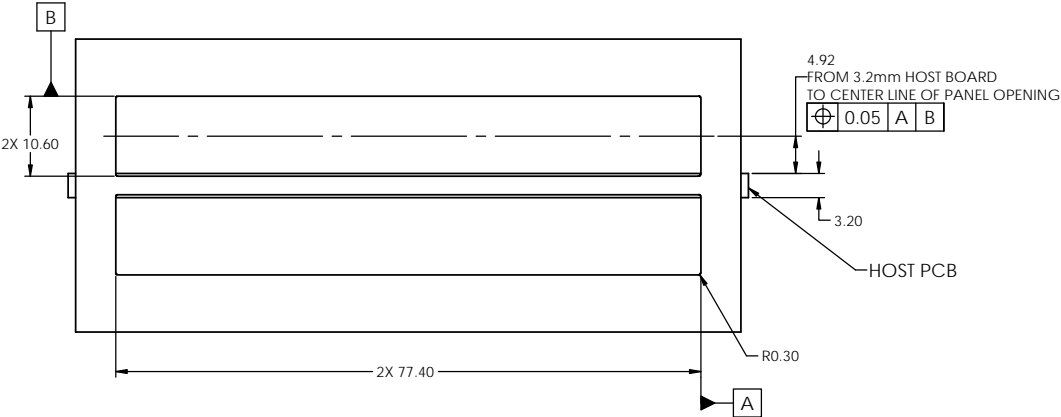
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|-----------------------------------|------------------------|----------------------|
| UNLESS OTHERWISE SPECIFIED        | DRAWN J.HU             | FEB 17/12            |
| ALL DIMENSIONS ARE IN MILLIMETERS | CHECKED ZLJ            | FEB 17/12            |
| REFERENCE IN PARENTHESES          | M.E. APP'D             |                      |
| GENERAL TOLERANCES                | Q.A. APP'D             |                      |
| 1 DECIMAL PLACE 0.X ± 0.25        | DWG APPR.              |                      |
| 2 DECIMAL PLACES 0.XX ± 0.10      | ENG. REL. NO.          | ECN EXXXXX           |
| ANGULAR DEGREES ± 1°              | REF.                   |                      |
|                                   | THIRD ANGLE PROJECTION | DO NOT SCALE DRAWING |

|  |                 |              |
|--|-----------------|--------------|
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| QSFP 1X4 CAGE<br>HYBRID<br>WITH HEATSINK, CLIP AND LIGHT PIPE  |                 |              |
| DWG. NO.   | P-U90-D4X1-1XXX | REV J        |
| CODE ID NO.  | 03554           | DWG SIZE: C  |
| SCALE:   | 2:1             | SHEET 8 OF 9 |

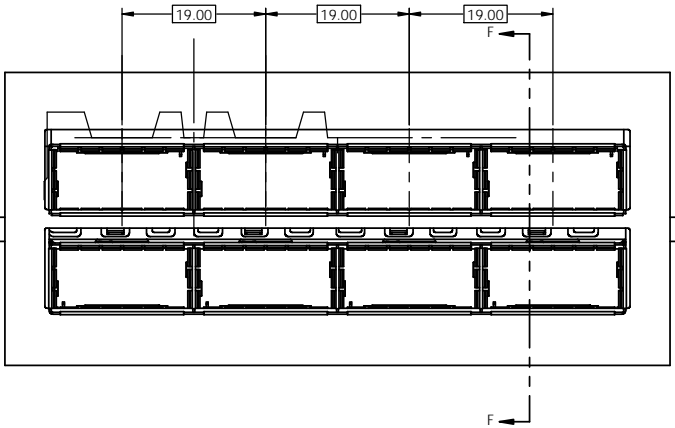
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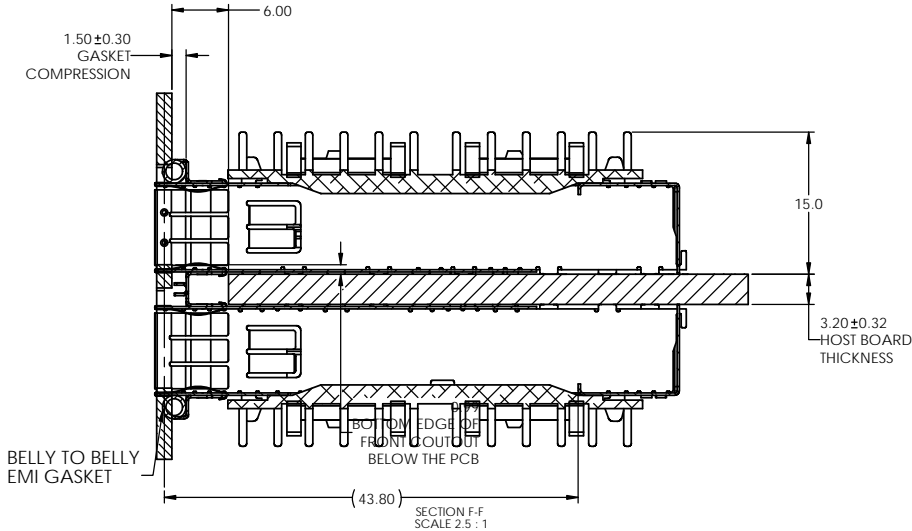
| REVISIONS |                           |           |       |
|-----------|---------------------------|-----------|-------|
| REV       | DESCRIPTION, ECN, EAR NO. | DATE      | APP'D |
| J         | SEE SHEET 1               | JAN 31/13 | ZLJ   |
|           |                           |           |       |



PANEL CUTOUT FOR BEHIND BEZEL  
BELLY TO BELLY OPTION  
WITH NO LIGHT PIPES



PART NUMBER SHOWN  
U90-D451-101A  
(WITH NO LIGHT PIPE)



|                                   |                        |            |           |
|-----------------------------------|------------------------|------------|-----------|
| UNLESS OTHERWISE SPECIFIED        | DRAWN                  | J.HU       | FEB 17/12 |
| ALL DIMENSIONS ARE IN MILLIMETERS | CHECKED                | ZLJ        | FEB 17/12 |
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| 1 DECIMAL PLACE 0.X ± 0.25        | DWG APPR.              |            |           |
| 2 DECIMAL PLACES 0.XX ± 0.10      | ENG. REL. NO.          | ECN EXXXXX |           |
| ANGULAR DEGREES ± 1°              | REF.                   |            |           |
|                                   | THIRD ANGLE PROJECTION |            |           |
|                                   | DO NOT SCALE DRAWING   |            |           |

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| QSFP 1X4 CAGE<br>HYBRID<br>WITH HEATSINK, CLIP AND LIGHT PIPE  |             |            |              |
| DWG. NO. P-U90-D4X1-1XXX   |             |            | REV J        |
| CODE ID NO. 03554  | DWG SIZE: C | SCALE: 2:1 | SHEET 9 OF 9 |