

**AMPHENOL PART NUMBER CONFIGURATION**  
**U90-G4X1-1XXX**

**HEATSINK OPTION**

- 1 = NO HEATSINK OR CLIP SHIPPED
- 5 = PIN STYLE HEATSINK AND CLIP (H1=15.1; H2=6.5; SAN HEIGHT)
- 6 = PIN STYLE HEATSINK AND CLIP (H1=12.8; H2=4.2; PCI HEIGHT)
- 7 = PIN STYLE HEATSINK AND CLIP (H1=22.1; H2=13.5; TALL)
- D = PIN-FIN STYLE HEATSINK AND CLIP (H1=15.1; H2=6.5; SAN HEIGHT)
- E = PIN-FIN STYLE HEATSINK AND CLIP (H1=12.8; H2=4.2; PCI HEIGHT)
- F = PIN-FIN STYLE HEATSINK AND CLIP (H1=22.1; H2=13.5; TALL)

**NOTE**

FOR LOCATION OF "H1" AND "H2" DIMENSIONS SEE SHEET 2 AND 3

**PACKAGING OPTIONS**

- 0 = TRAY PACKAGING, (HEATSINK & CLIP SHIPPED IN SEPARATE TRAY, IF ORDERED)
- A = TRAY PACKAGING, HEATSINK & CLIP SHIPPED ASSEMBLED

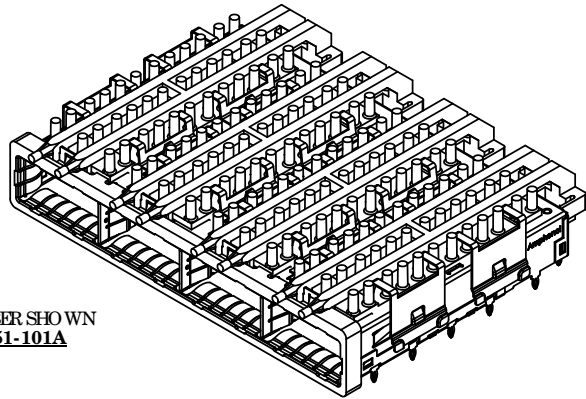
**LIGHT PIPE AND BEHIND BEZEL COVERS OPTIONS**

- 0 = STANDARD (NO LIGHT PIPES)
- 1 = WITH DUAL BARREL ROUND LIGHT PIPES INSTALLED
- 2 = WITH DUAL BARREL ROUND LIGHT PIPES AND WITH BEHIND BEZEL EMI GASKET SHIPPED LOOSE
- 3 = WITH DUAL BARREL SQUARE LIGHT PIPES INSTALLED. FOR DETAILS ON THIS OPTION SEE SHEETS 3 AND 9
- 7 = WITH SINGLE BARREL ROUND LIGHT PIPE
- 9 = NO LIGHT PIPES AND WITH BEHIND BEZEL EMI GASKET SHIPPED LOOSE

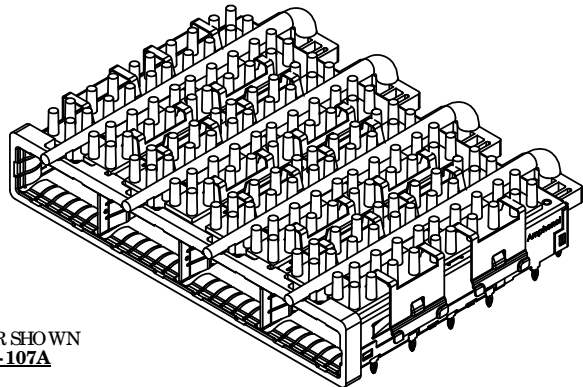
**OPTIONAL DUST COVER**

- 0 = WITH NO DUST COVER
- D = WITH DUST COVER (SHIPPED AS LOOSE PIECE)

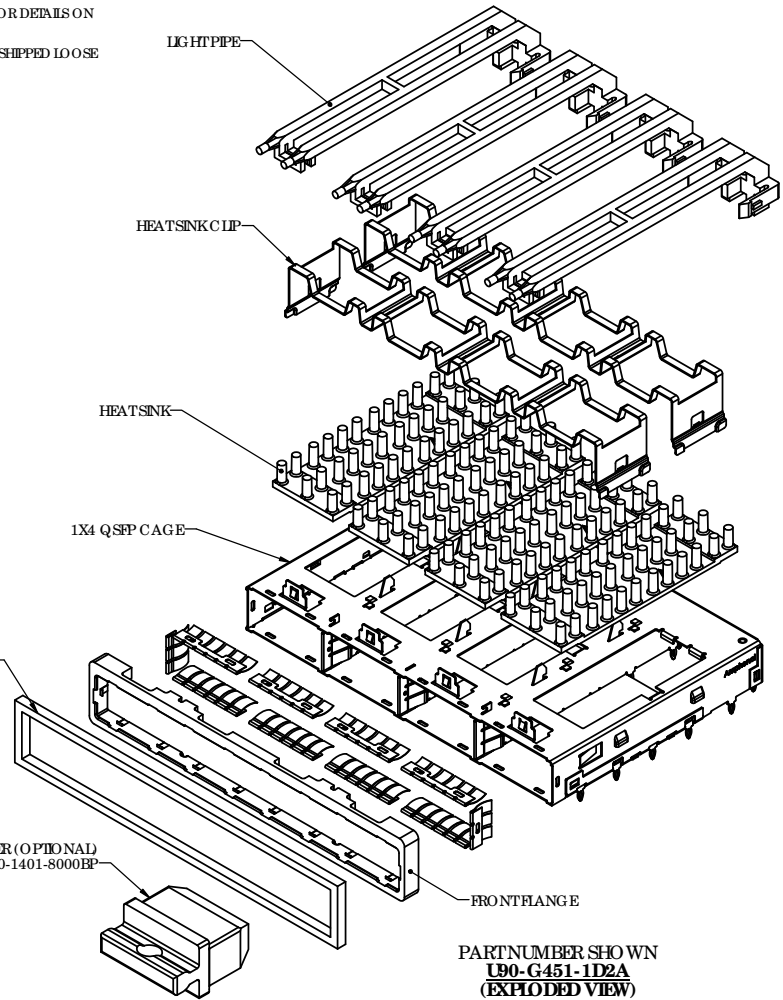
REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
L		NEW FRONT FLANGE ADDED	JAN 14/11	ZLJ
M		NEW SINGLE LIGHT PIPE OPTION ADDED	NOV 22/11	ZLJ
N		BEZEL COUPLER POSITION REVISED	JAN 03/12	ZLJ
P		NO LP W/ GASKET OPTION ADDED	APR 05/12	ZLJ
Q		BEZEL COUPLER POSITION REVISED	JAN 29/13	ZLJ



PART NUMBER SHOWN  
**U90-G451-101A**



PART NUMBER SHOWN  
**U90-G451-107A**



PART NUMBER SHOWN  
**U90-G451-1D2A**  
 (EXPLODED VIEW)

BEHIND BEZEL EMI GASKET (OPTIONAL)  
 P/N: U90-1420-8010-BP

DUST COVER (OPTIONAL)  
 P/N U90-1401-8000-BP



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:

DECIMALS .XX ±.10  
 .X ±.25

ANGLES ± 1°

MATERIAL AND FINISH

REF.

CODE IDENT. NO.

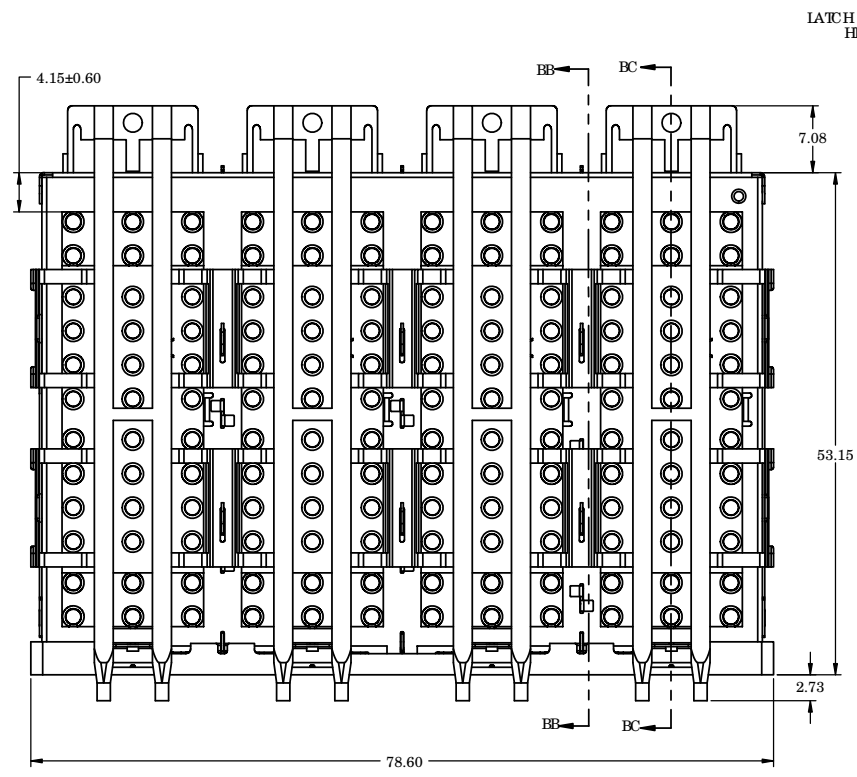
APPROVALS	DATE
DRAWN Jane.Z	NOV 25/08
DESIGNED ZLJ	NOV 25/08
CHECKED	
QA APP'D	
IE APP'D	
DWG APP'D A.GREEN	NOV 25/08

**Amphenol Canada Corp.**

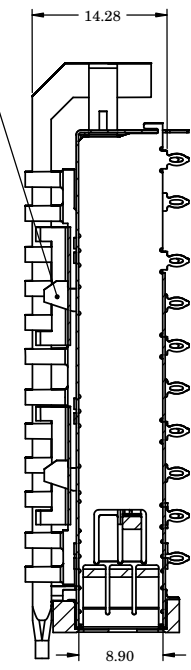
TITLE  
**Q SFP 1X4 CAGE  
 BEHIND BEZEL  
 WITH HEATSINK, CLIP AND LIGHT PIPE**

SIZE C	DWG. NO. P-U90-G4X1-1XXX	REV. Q
SCALE 1.6:1	PROJECT	SHEET 1 OF 10

REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ

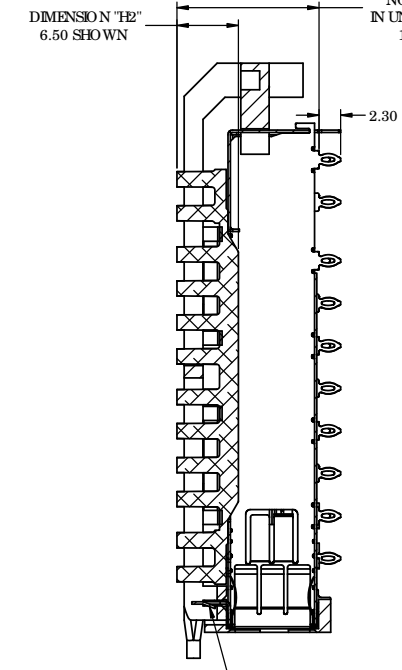


LATCH FEATURE FOR HEAT SINK CLIP 6 PLACES



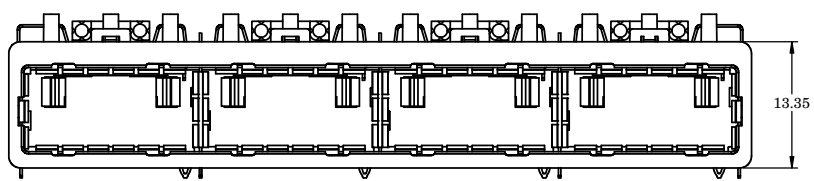
SECTION BB-BB  
SCALE 2.5:1

DIMENSION "H1"  
NOMINAL HEIGHT  
IN UN-PLUGGED STATE  
15.02 SHOWN



SECTION BC-BC  
SCALE 2.5:1

LATCH FEATURE FOR LIGHT PIPE



PART NUMBER SHOWN  
**U90-G451-101A**  
(WITH ROUND LIGHT PIPE)

NOTES:

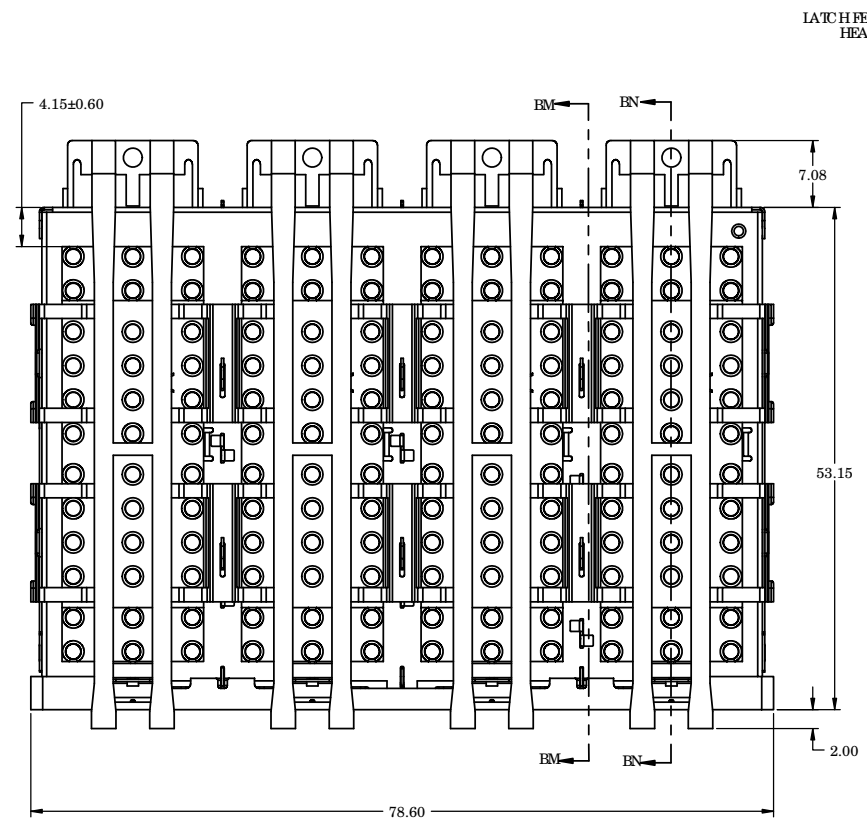
- MATERIAL  
CAGE AND EMI SPRINGS: COPPER ALLOY  
FRONT FLANGE: ZINC DIE CAST  
HEAT SINK CLIP: STEEL ALLOY  
PIN-FIN STYLE HEAT SINK: ALUMINUM  
PIN STYLE HEAT SINK: NICKEL PLATED ALUMINUM  
CAGE PLATING: 3.81µm [100µ"] MIN. NICKEL  
LIGHT PIPE: GEL EXAN, OPTICAL GRADE
- CAGE IS INTENDED FOR USE WITH THE Q SFP 1X4 SMALL FORM-FAC TOR PLUGGABLE (Q SFP) TRANSCEIVER SPECIFICATION INF-84381

DIMENSION "H1" SHOWN IN UN-PLUGGED STATE		
PART NUMBER	DIM. "H1"	DIM. "H2"
U90-G451-1XXX	15.03	6.50
U90-G461-1XXX	12.37	4.20
U90-G471-1XXX	22.03	13.50
U90-G4D1-1XXX	15.03	6.50
U90-G4E1-1XXX	12.37	4.20
U90-G4F1-1XXX	22.03	13.50

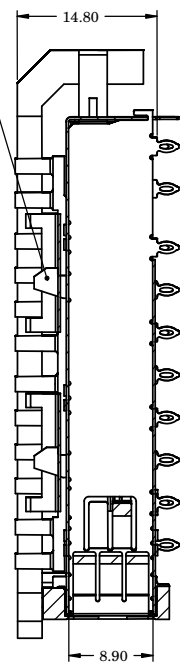


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:		APPROVALS	DATE	<b>Amphenol Canada Corp.</b>	
DECIMALS .XX ±.10 .X ±.25	ANGLES ± 1°	DRAWN Jane.Z	NOV 25/08		
MATERIAL AND FINISH		DESIGNED ZLJ	NOV 25/08	TITLE <b>Q SFP 1X4 CAGE BEHIND BEZEL</b> WITH HEAT SINK, CLIP AND LIGHT PIPE	
		CHECKED			
REF.		QA APP'D		SIZE C	DWG. NO. P-U90-G4X1-1XXX
		IE APP'D		SCALE 5:2	PROJECT
CODE IDENT. NO.		DWG APP'D A.GREEN	NOV 25/08	SHEET 2 OF 10	

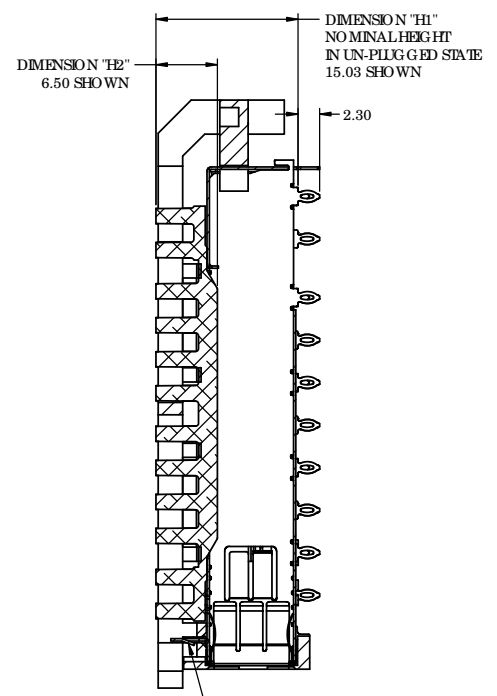
REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ



LATCH FEATURE FOR HEATSINK CLIP 6 PLACES

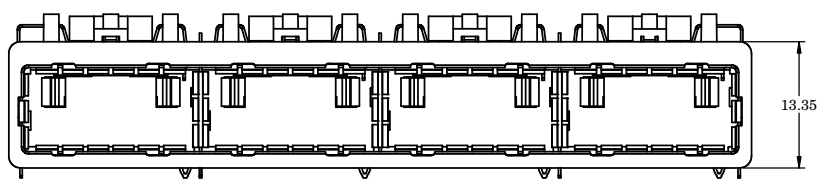


SECTION BM-BM  
SCALE 2.5:1



SECTION FN-FN  
SCALE 2.5:1

LATCH FEATURE FOR LIGHT PIPE



NOTES:

- MATERIAL  
CAGE AND EMI SPRINGS: COPPER ALLOY  
FRONT FLANGE: ZINC DIE CAST  
HEATSINK CLIP: STEEL ALLOY  
PIN-FIN STYLE HEATSINK: ALUMINUM  
PIN STYLE HEATSINK: NICKEL PLATED ALUMINUM  
CAGE PLATING: 3.81µm [100µ"] MIN. NICKEL  
LIGHT PIPE: GE LEXAN, OPTICAL GRADE
- CAGE IS INTENDED FOR USE WITH THE Q SFP 1X4 SMALL FORM-FAC TOR PLUGGABLE (QSFP) TRANSCEIVER SPECIFICATION INF-84381

DIMENSION "H1" SHOWN IN UN-PLUGGED STATE		
PART NUMBER	DIM. "H1"	DIM. "H2"
U90-G451-1XXX	15.03	6.50
U90-G461-1XXX	12.37	4.20
U90-G471-1XXX	22.03	13.50
U90-G4D1-1XXX	15.03	6.50
U90-G4E1-1XXX	12.37	4.20
U90-G4F1-1XXX	22.03	13.50

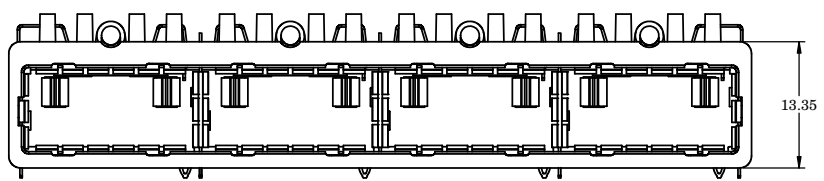
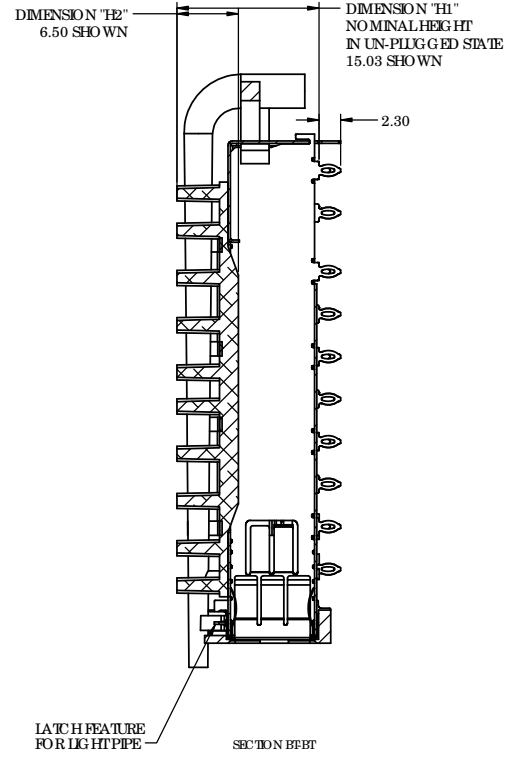
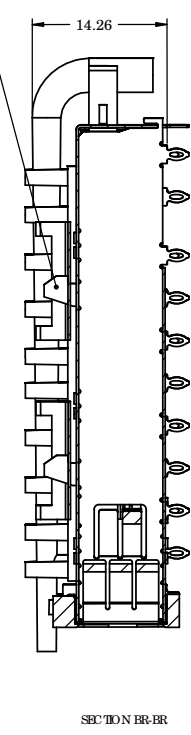
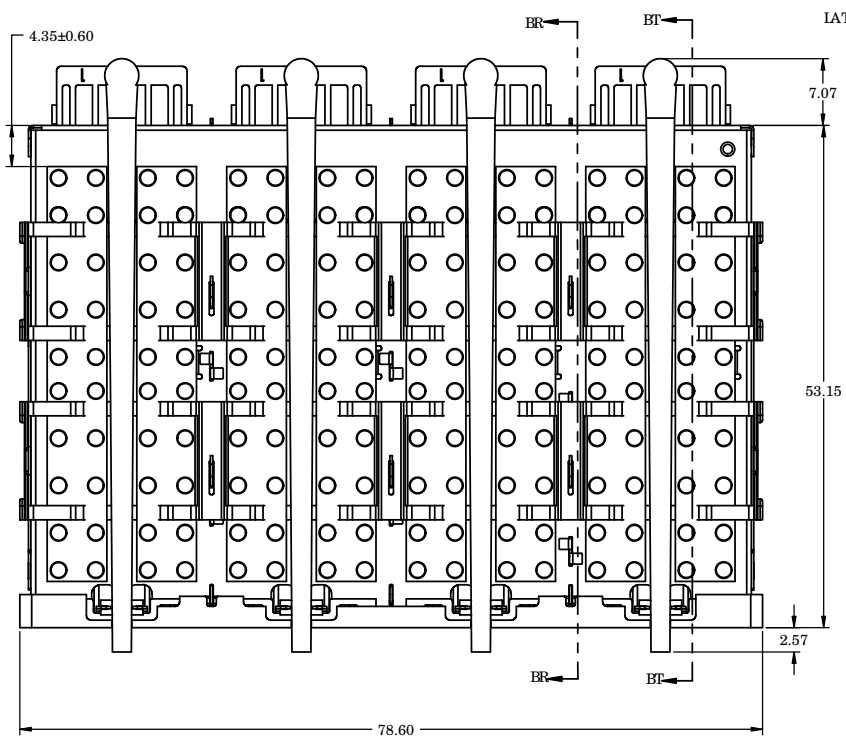
PART NUMBER SHOWN  
**U90-G451-103A**  
(WITH SQUARE LIGHT PIPES)



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:		APPROVALS	DATE	Amphenol Canada Corp.	
DECIMALS .XX ±.10 .X ±.25	ANGLES ± 1°	DRAWN Jane.Z	NOV 25/08		
MATERIAL AND FINISH		DESIGNED ZLJ	NOV 25/08	TITLE <b>Q SFP 1X4 CAGE BEHIND BEZEL</b> WITH HEATSINK, CLIP AND LIGHT PIPE	
		CHECKED			
REF.		QA APP'D		SIZE C	DWG. NO. P-U90-G4X1-1XXX
		IE APP'D		SCALE 5:2	PROJECT
CODE IDENT. NO.		DWG APP'D A.GREEN	NOV 25/08	SCALE 5:2	SHEET 3 OF 10

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REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ



**NOTES:**

- MATERIAL:**  
 CAGE AND EMI SPRINGS: COPPER ALLOY  
 FRONT FLANGE: ZINC DIE CAST  
 HEATSINK CLIP: STEEL ALLOY  
 PIN-FIN STYLE HEATSINK: ALUMINUM  
 PIN STYLE HEATSINK: NICKEL PLATED ALUMINUM  
 CAGE PLATING: 3.81µm [100µ"] MIN. NICKEL  
 LIGHT PIPE: GEL EXAN, OPTICAL GRADE
- CAGE IS INTENDED FOR USE WITH THE Q SFP SMALL FORM-FAC TOR PLUGGABLE (Q SFP) TRANSCEIVER SPECIFICATION INF-84381

DIMENSION "H1" SHOWN IN UN-PLUGGED STATE		
PART NUMBER	DIM. "H1"	DIM. "H2"
U90-G451-1XXX	15.03	6.50
U90-G461-1XXX	12.37	4.20
U90-G471-1XXX	22.03	13.50
U90-G4D1-1XXX	15.03	6.50
U90-G4E1-1XXX	12.37	4.20
U90-G4F1-1XXX	22.03	13.50

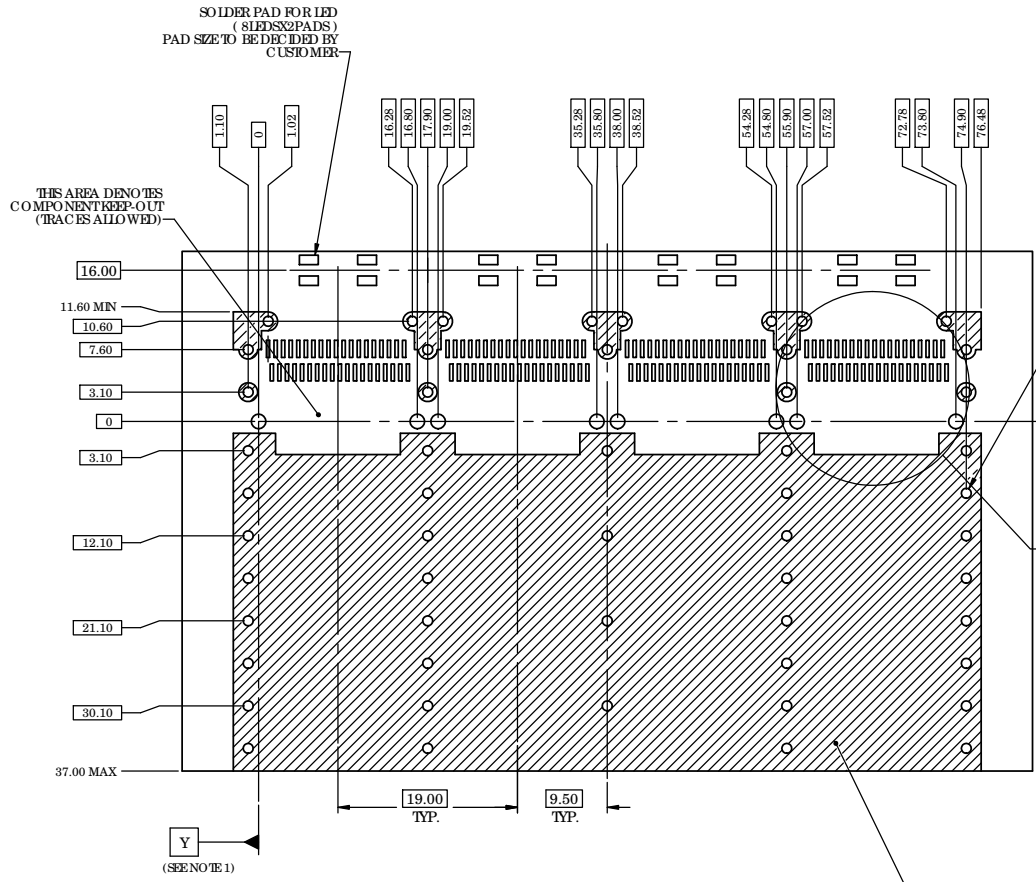
**PART NUMBER SHOWN**  
**U90-G451-107A**  
**(WITH SINGLE BARREL**  
**ROUND LIGHT PIPES)**



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:		APPROVALS	DATE	<b>Amphenol Canada Corp.</b>	
DECIMALS	ANGLES	DRAWN	NOV 25/08		
.XX ±.10	± 1°	DESIGNED	NOV 25/08	TITLE <b>Q SFP 1X4 CAGE</b> <b>BEHIND BEZEL</b>	
.X ±.25		CHECKED			
MATERIAL AND FINISH		QA APP'D		WITH HEATSINK, CLIP AND LIGHT PIPE	
REF.		IE APP'D			
CODE IDENT. NO.		DWG APP'D	NOV 25/08	SIZE C	DWG. NO. P-U90-G4X1-1XXX
		A.GREEN		SCALE 5:2	PROJECT
				SHEET 4 OF 10	



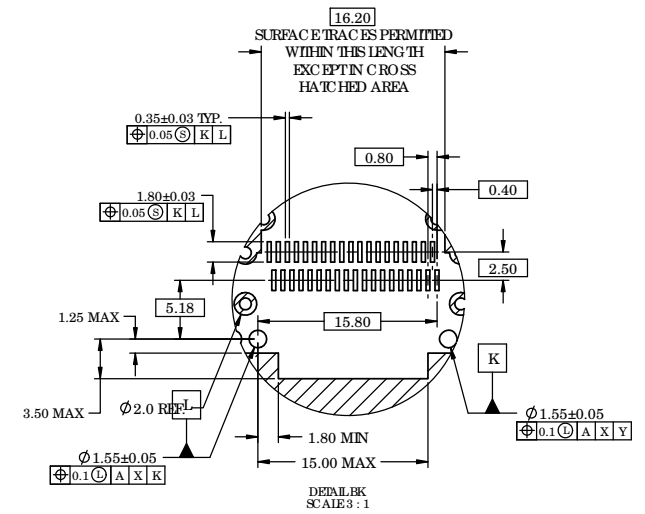
REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ



$\varnothing 1.05 \pm 0.05$   
(53 PLG.)  
(SEE NOTE 3)  
 $\varnothing 0.1 \text{ (A|K|L|S)}$

X  
(SEE NOTE 1)

CROSS-HATCHED AREA DENOTES  
COMPONENT AND TRACE KEEP-OUT  
(EXCEPT CHASSIS GROUND)



3.20 ± 0.32  
FOR BELLY TO BELLY APPLICATION

**RECOMMENDED HO ST PCB BOARD  
BEHIND BEZEL BELLY TO BELLY LAYOUT  
FOR DOUBLE BARREL LIGHT PIPE  
(COMPONENT SIDE OF BOARD)**

**NOTES:**

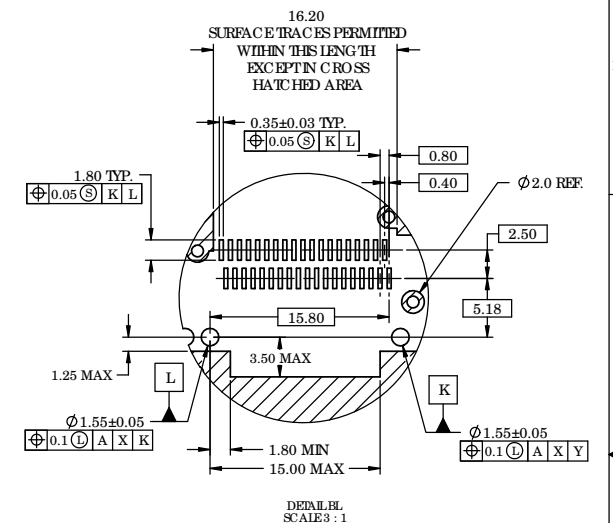
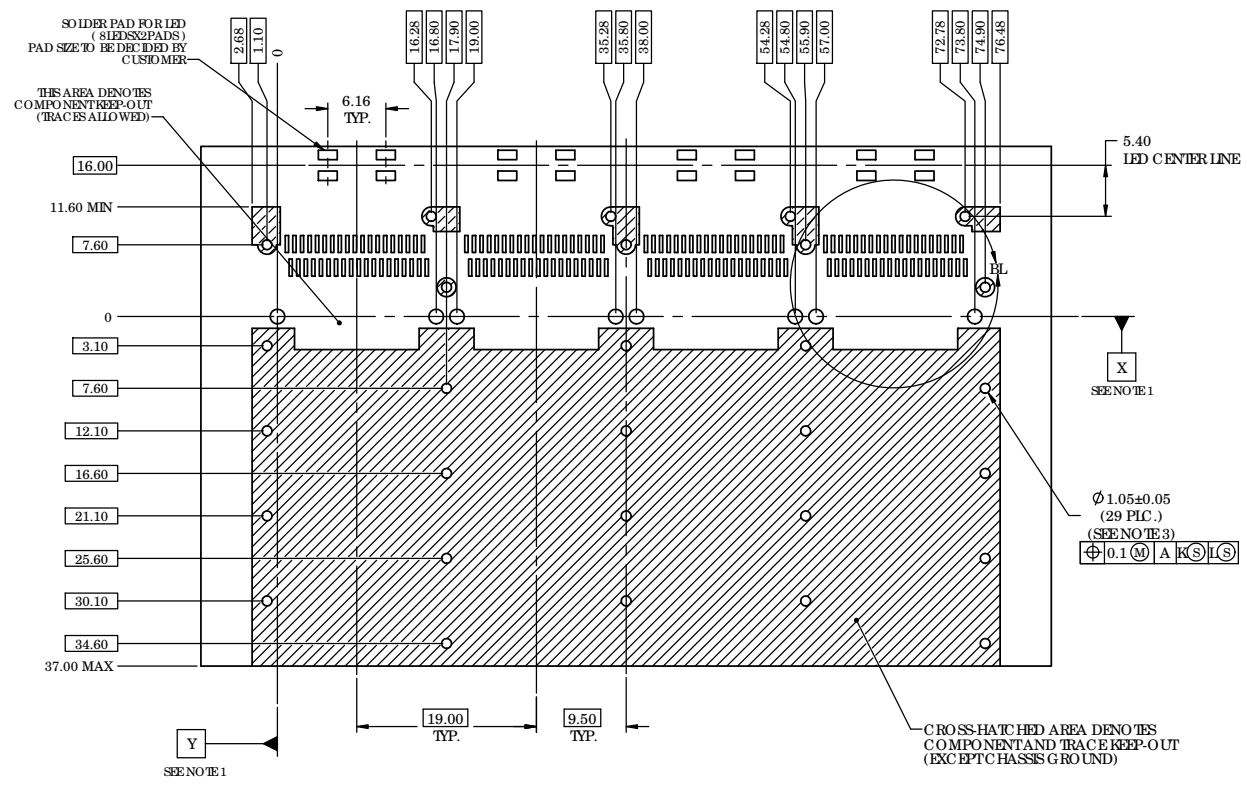
- DATUM X AND Y ESTABLISHED BY CUSTOMER'S FUDICIAL
- LOCATION OF EDGE OF PCB IS APPLICATION SPECIFIC.
- FINISHED HOLE SIZE.

DO NOT SCALE DRAWING

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:  DECIMALS .XX ± .10 .X ± .25  ANGLES ± 1°	APPROVALS	DATE	<b>Amphenol Canada Corp.</b>		
	DRAWN Jane.Z	NOV 25/08			
MATERIAL AND FINISH	DESIGNED ZLJ	NOV 25/08	SIZE C	DWG. NO. P-U90-G4X1-1XXX	REV. Q
	REF.	DWG APP'D A.GREEN	SCALE 5:2	PROJECT	SHEET 5 OF 10
CODE IDENT. NO.		NOV 25/08			

REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ



**RECOMMENDED HO ST PCB BOARD  
SINGLE LEVEL MOUNTING LAYOUT  
FOR DOUBLE BARREL LIGHT PIPE  
(COMPONENT SIDE OF BOARD)**

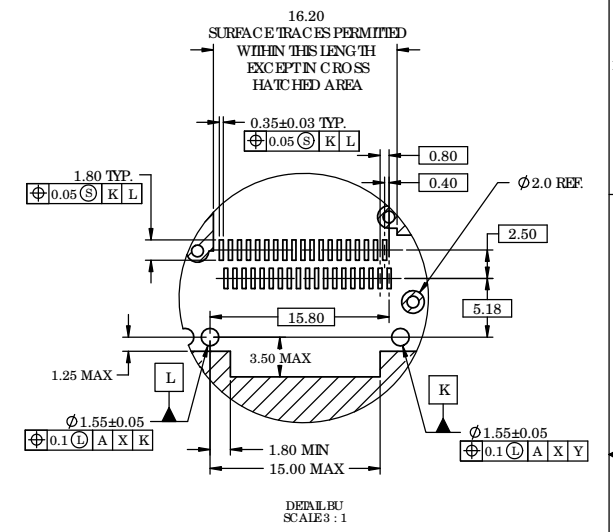
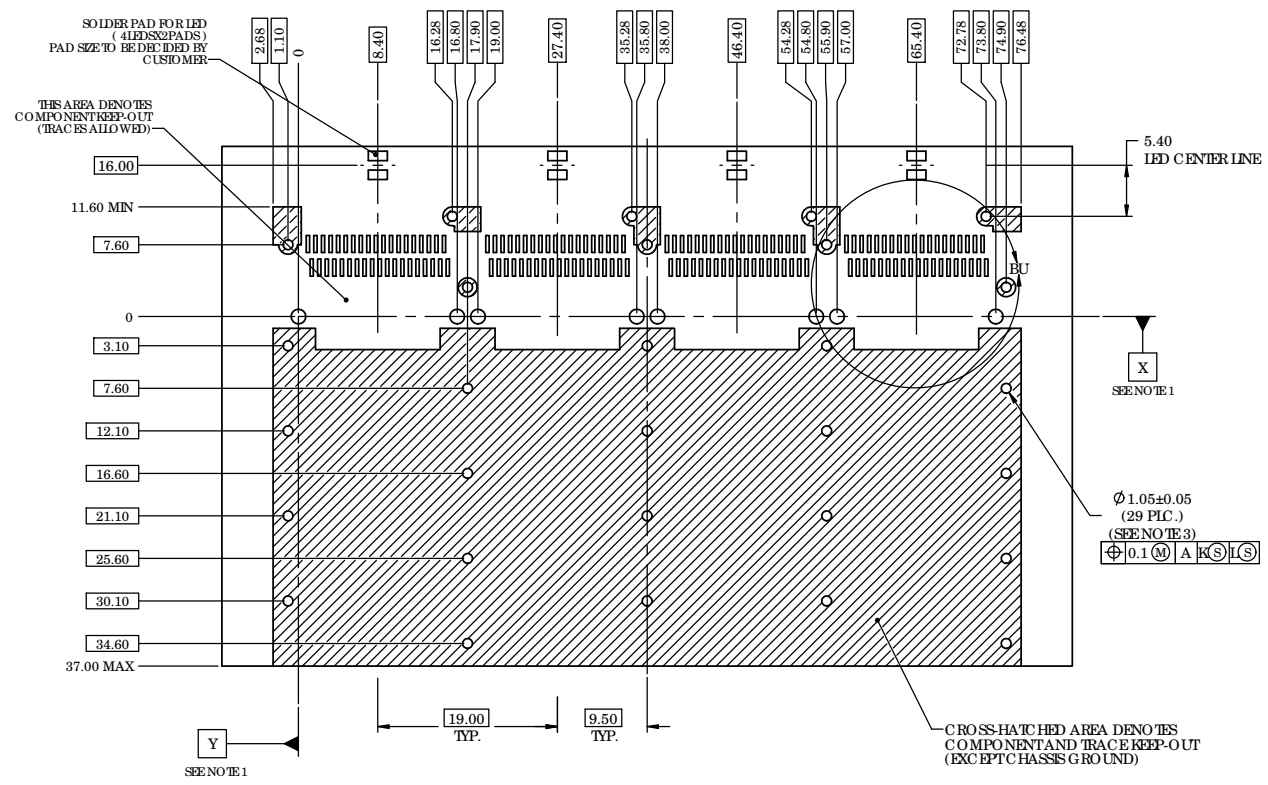


- NOTES:**
- DATUM X AND Y ESTABLISHED BY CUSTOMER'S FUDICIAL
  - LOCATION OF EDGE OF PCB IS APPLICATION SPECIFIC.
  - FINISHED HOLE SIZE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE: DECIMALS .XX ±.10 .X ±.25 ANGLES ± 1°	APPROVALS	DATE	<b>Amphenol Canada Corp.</b>		
	DRAWN Jane.Z	NOV 25/08			
MATERIAL AND FINISH	DESIGNED ZLJ	NOV 25/08	TITLE <b>Q SFP 1X4 CAGE BEHIND BEZEL WITH HEATSINK, CLIP AND LIGHT PIPE</b>		
	CHECKED				
REF.	QA APP'D		SIZE C	DWG. NO. P-U90-G4X1-1XXX	REV. Q
	IE APP'D		SCALE 2.5:1	PROJECT	SHEET 6 OF 10
CODE IDENT. NO.	DWG APP'D A.GREEN	NOV 25/08			



REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ

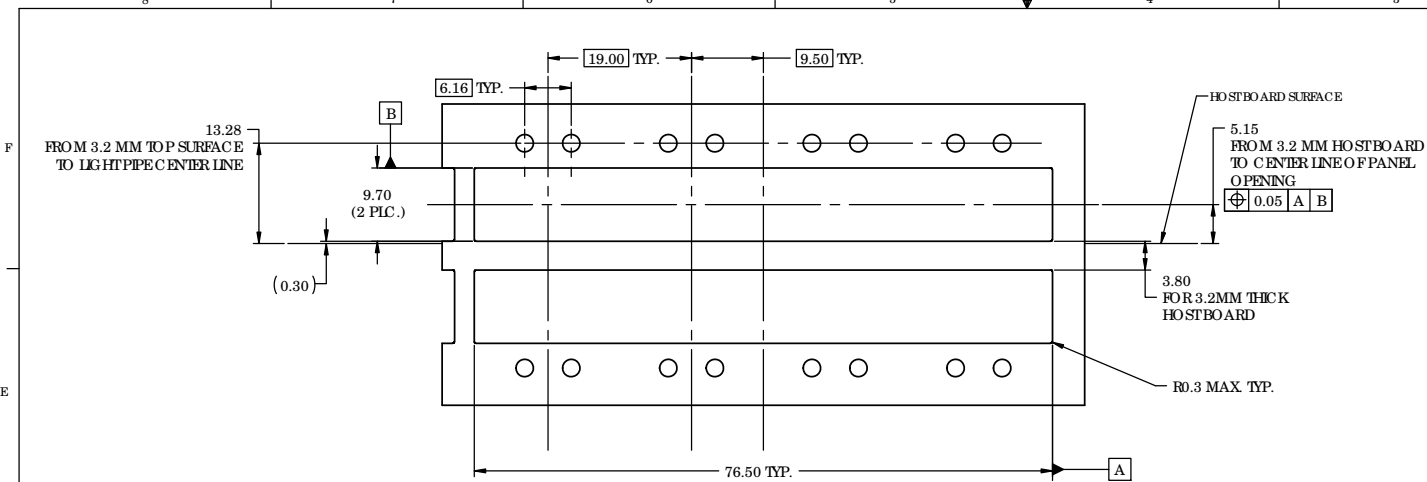


**RECOMMENDED HO ST PCB BOARD  
SINGLE LEVEL MOUNTING  
SINGLE BARREL IP LAYOUT  
(COMPONENT SIDE OF BOARD)**

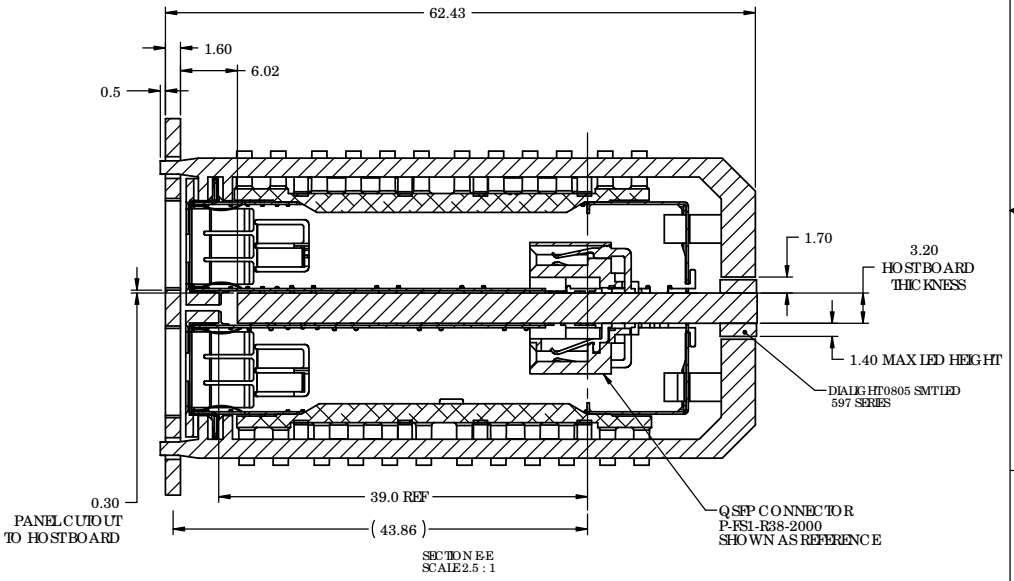
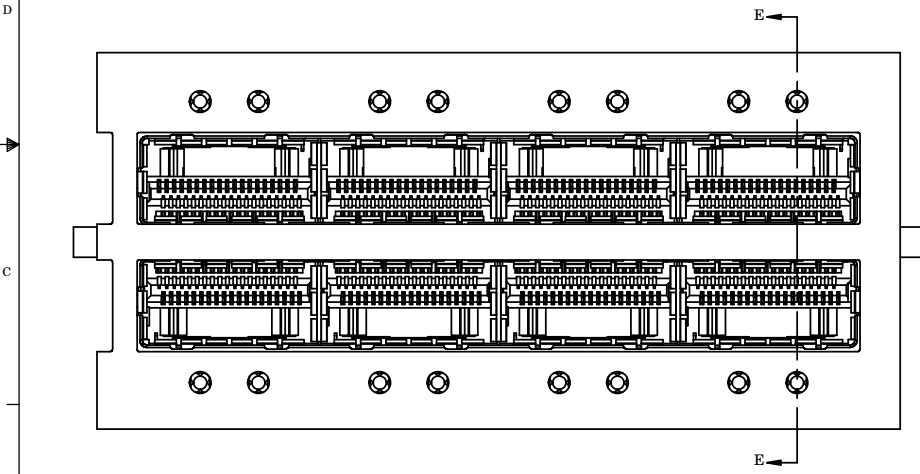


- NOTES:
- DATUM X AND Y ESTABLISHED BY CUSTOMER'S FUDICIAL
  - LOCATION OF EDGE OF PCB IS APPLICATION SPECIFIC.
  - FINISHED HOLE SIZE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE: DECIMALS .XX ±.10 .X ±.25 ANGLES ± 1°	APPROVALS	DATE	<b>Amphenol Canada Corp.</b>	
	DRAWN Jane.Z	NOV 25/08		
MATERIAL AND FINISH	DESIGNED ZLJ	NOV 25/08	TITLE <b>Q SFP 1X4 CAGE BEHIND BEZEL WITH HEATSINK, CLIP AND LIGHT PIPE</b>	
	CHECKED			
REF.	QA APP'D		SIZE C	DWG. NO. P-U90-G4X1-1XXX
	IE APP'D		SCALE 2.5:1	PROJECT
CODE IDENT. NO.	DWG APP'D A.GREEN	NOV 25/08	SHEET 7 OF 10	REV. Q



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



**PART NUMBER SHOWN  
U90-G451-101A  
(WITH ROUND LIGHT PIPES)**

REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:

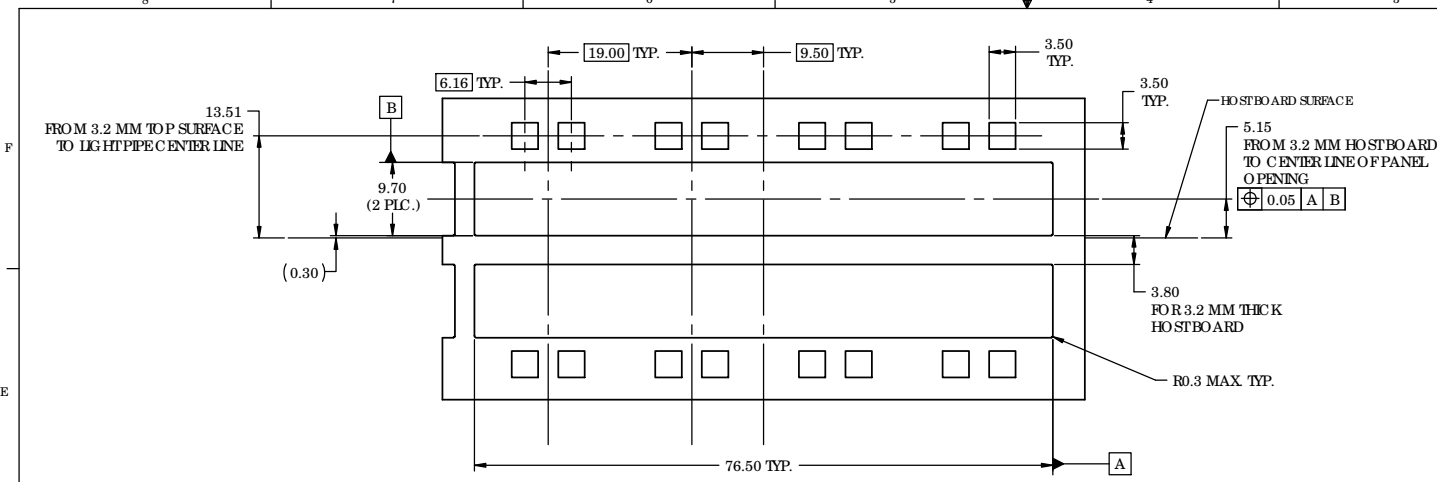
DECIMALS	ANGLES
.XX ±.10	± 1°
.X ±.25	

MATERIAL AND FINISH	APPROVALS	DATE
REF.	DRAWN Jane.Z	NOV 25/08
CODE IDENT. NO.	DESIGNED ZLJ	NOV 25/08
	CHECKED	
	QA APP'D	
	IE APP'D	
	DWG APP'D A.GREEN	NOV 25/08

Amphenol Canada Corp.		
TITLE Q SFP 1X4 CAGE BEHIND BEZEL WITH HEATSINK, CLIP AND LIGHT PIPE		
SIZE C	DWG. NO. P-U90-G4X1-1XXX	REV. Q
SCALE 2.5:1	PROJECT	SHEET 8 OF 10

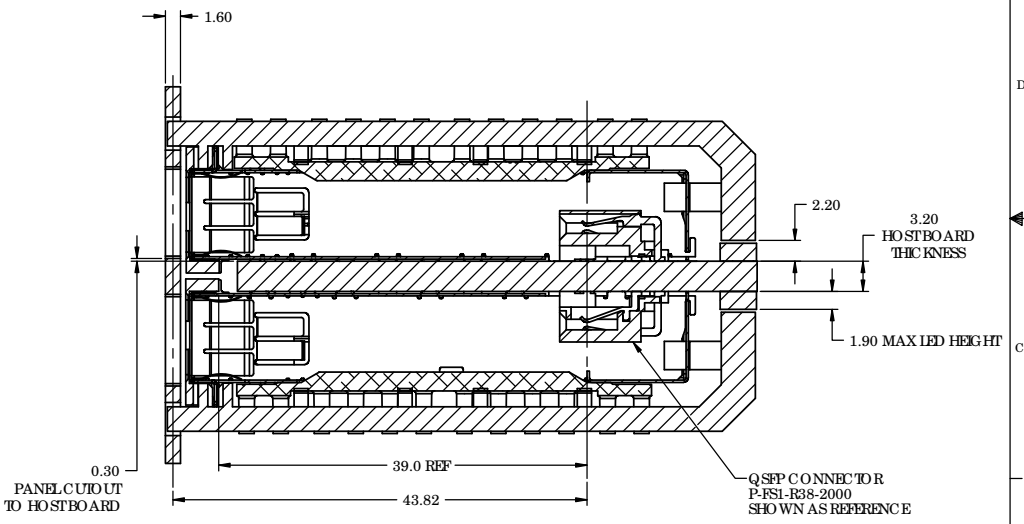
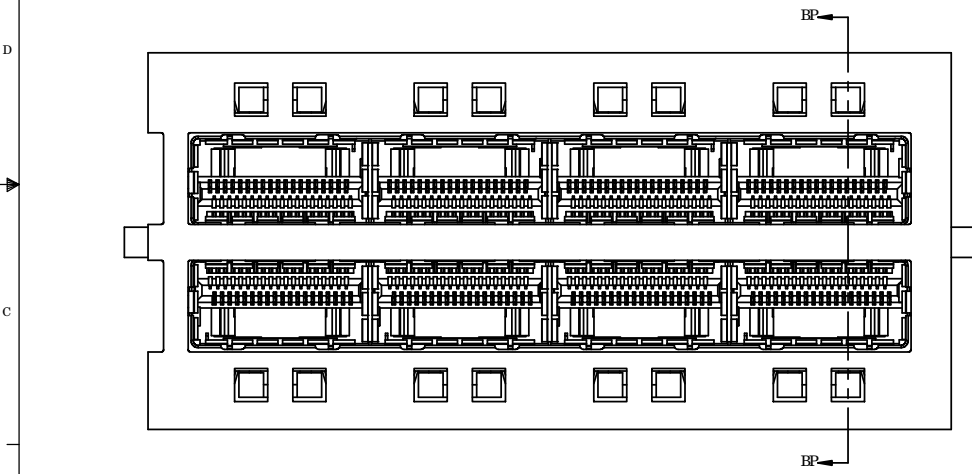
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**PANEL CUTOUT FOR BEHIND BEZEL  
BELLY TO BELLY OPTION WITH LIGHT PIPES**

REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ

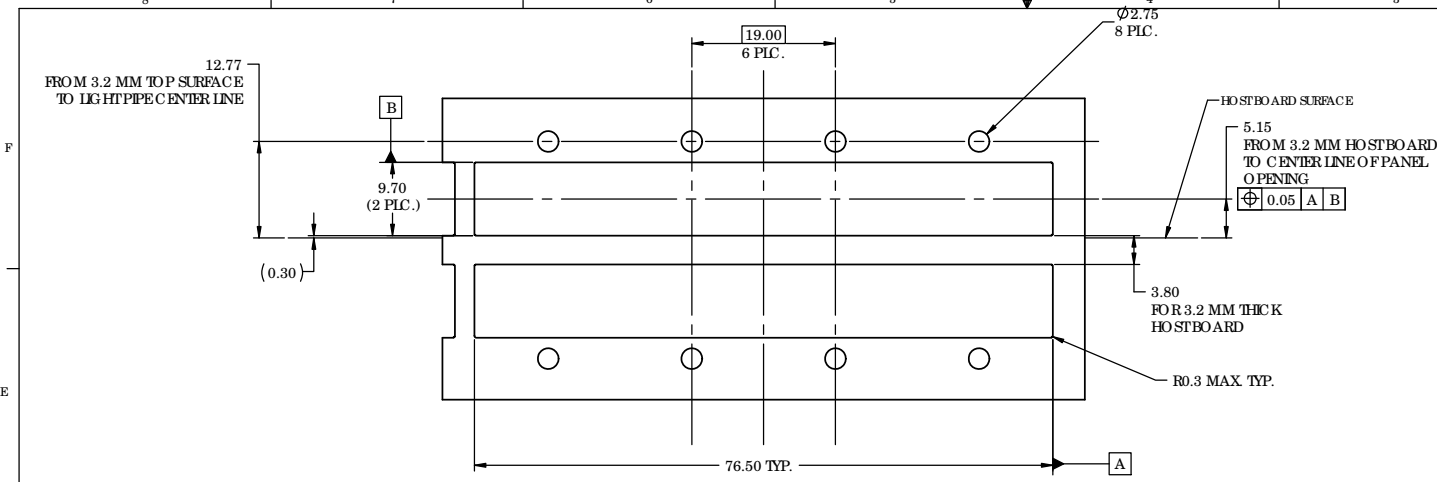


**PART NUMBER SHOWN  
U90-G451-103A  
(WITH SQUARE LIGHT PIPES)**

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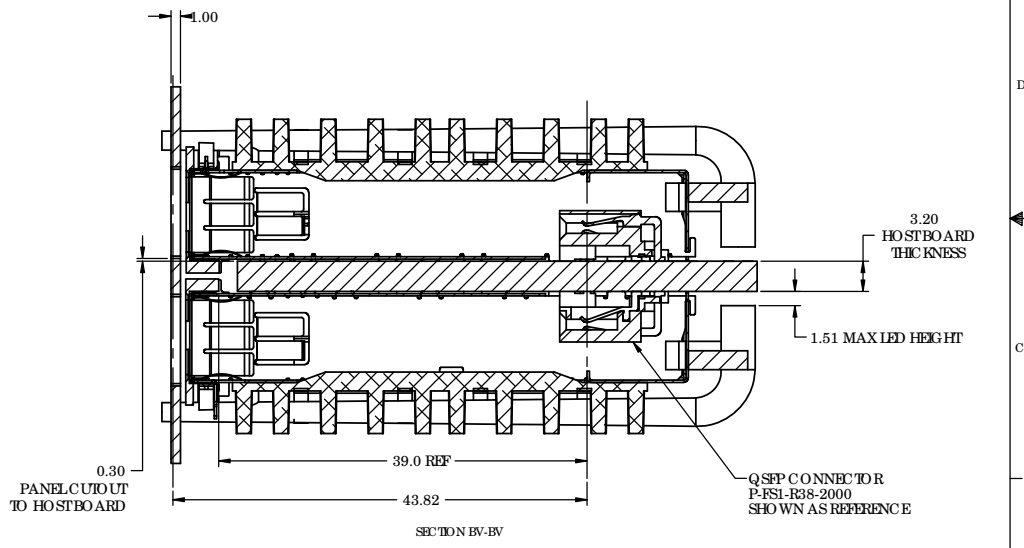
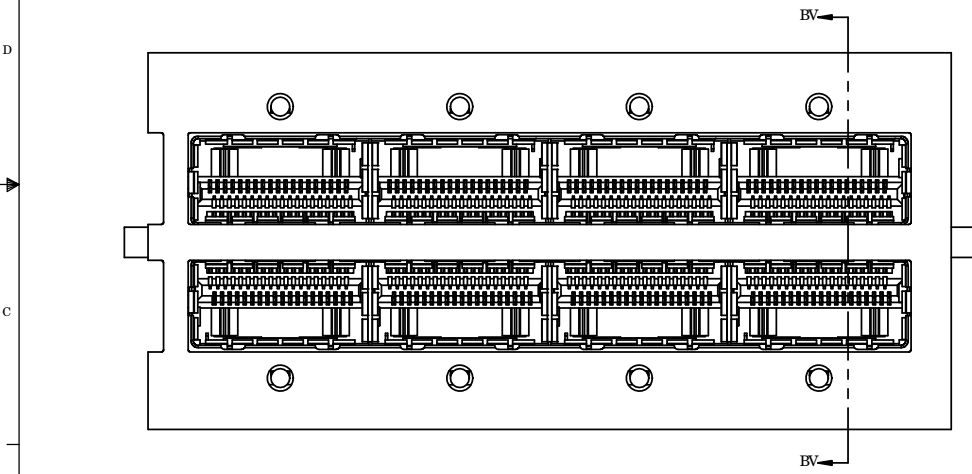


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:  DECIMALS .XX ±.10 .X ±.25  ANGLES ± 1°  MATERIAL AND FINISH  REF.  CODE IDENT. NO.	APPROVALS	DATE	<b>Amphenol Canada Corp.</b>	
	DRAWN Jane.Z	NOV 25/08		
	DESIGNED ZLJ	NOV 25/08	TITLE <b>Q SFP 1X4 CAGE BEHIND BEZEL WITH HEATSINK, CLIP AND LIGHT PIPE</b>	
	CHECKED		SIZE C	DWG. NO. P-U90-G4X1-1XXX
	QA APP'D		SCALE 2.5:1	REV. Q
	IE APP'D		PROJECT	SHEET 9 OF 10
	DWG APP'D A.GREEN	NOV 25/08		



REVISIONS				
REV.	ECN/ER	DESCRIPTION	DATE	APPROVED
Q		SEE SHEET 1	JAN 29/13	ZLJ

**PANEL CUTOUT FOR BEHIND BEZEL  
BELLY TO BELLY OPTION WITH LIGHT PIPES**



**PART NUMBER SHOWN  
U90-G451-107A  
(WITH SINGLE SINGLE BARREL ROUND LIGHT PIPES)**

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE:  DECIMALS .XX ± .10 .X ± .25  MATERIAL AND FINISH  REF.  CODE IDENT. NO.	APPROVALS	DATE	<b>Amphenol Canada Corp.</b>	
	DRAWN Jane.Z	NOV 25/08		
ANGLES ± 1°	DESIGNED ZLJ	NOV 25/08	TITLE <b>Q SFP 1X4 CAGE BEHIND BEZEL WITH HEATSINK, CLIP AND LIGHT PIPE</b>	
	CHECKED			
DWG APP'D	QA APP'D		SIZE C	DWG. NO. P-U90-G4X1-1XXX
	IE APP'D		SCALE 2.5:1	PROJECT
	DWG APP'D A.GREEN	NOV 25/08	SHEET 10 OF 10	