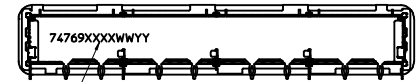
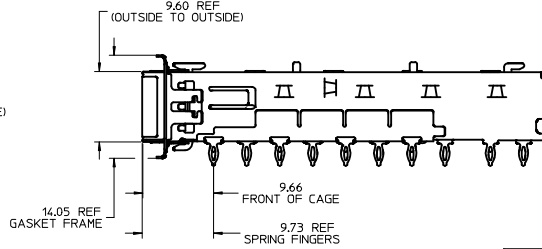
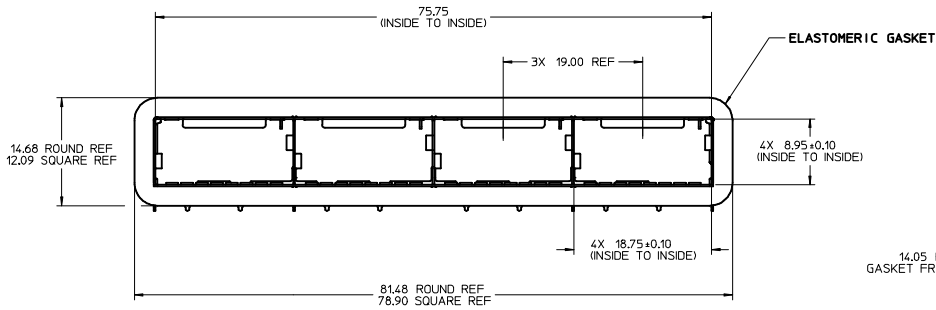
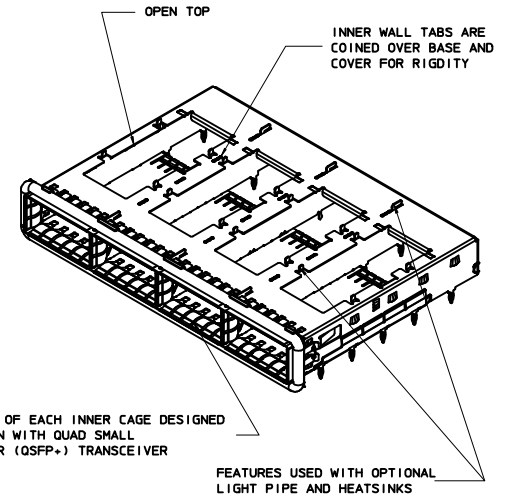
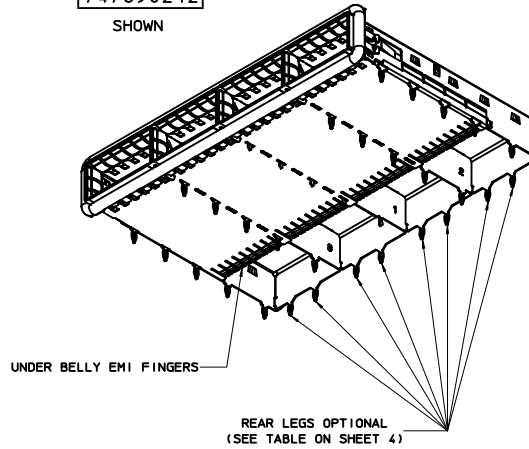
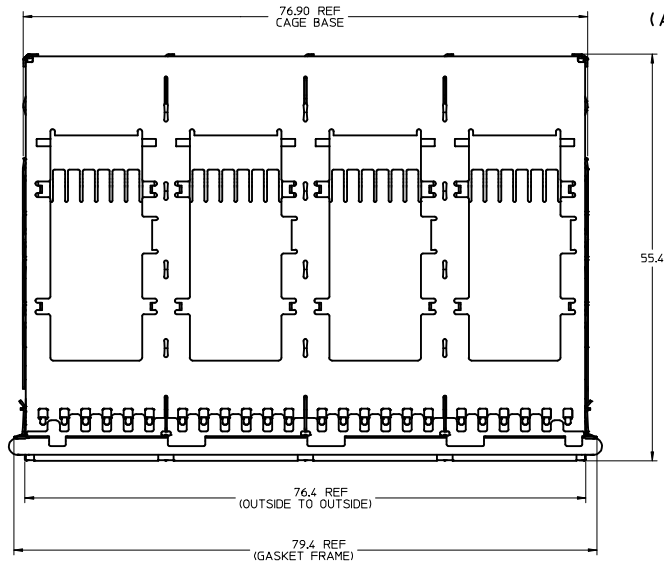


# BASE CAGE DETAILS

(APPLIES TO ALL CAGES IN THIS DRAWING)

747690212

SHOWN



PART NO. AND WEEK/YEAR DATE CODE TO BE PRINTED ON BACK OF COMPLETED CAGE ASSEMBLY APPROXIMATELY AS SHOWN. SEE TABLE BELOW FOR DATE CODE INFORMATION.

NOTE:  
ELASTOMER GASKET REMOVED FOR CLARITY.

WEEK/YEAR DATE CODE TABLE	
WW	01 THRU 52 OR 53 EXAMPLE: 01 = FIRST WEEK OF YEAR 52 = LAST WEEK OF YEAR
YY	12, 13, 14 ETC. EXAMPLE: YEAR 2014 = 14

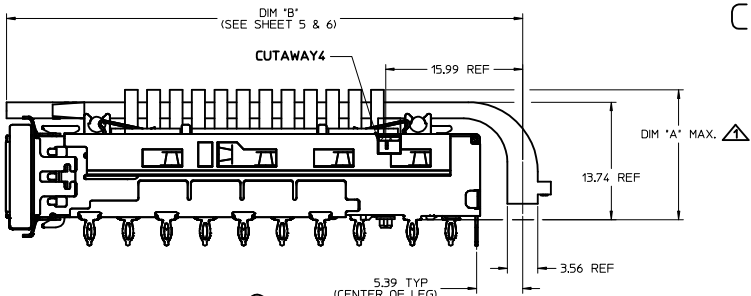
NOTE:  
INNER SPRING FINGERS HAVE BEEN REMOVED FOR CLARITY

NOTES:

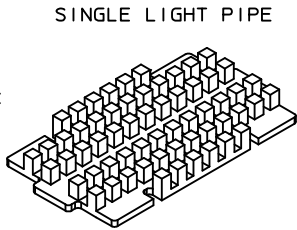
1. QSFP+ ASSEMBLES ALSO AVAILABLE AND 1X1 (74750 SERIES), 1X2 (74767 SERIES), 1X3 (74768 SERIES), AND 1X6 (74771 SERIES) CONFIGURATIONS.
2. MATERIAL:  
LIGHT PIPE/HEATSINK CLIP: STAINLESS STEEL  
LIGHT PIPES: POLYCARBONATE (94-V0 RATED)  
HEAT SINKS: ANNOXIDIZED ALUMINUM  
CAGE: NICKEL COPPER ALLOY
3. NO RoHS EXEMPTIONS
4. CUSTOM HEATSINKS AVAILABLE UPON REQUEST

SEE REV HISTORY EC NO: CPG2015-0311 M DRAWN: WALLACE01 2015/03/04 CHKD: JERWIN 2015/07/01 APPR: K LLOYD 2015/07/01	QUALITY SYMBOLS ▽=0 ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
		mm	INCH	MM ONLY	DATE			
		4 PLACES	± ---	± ---	DRAWN BY JERWIN	DATE 2011/05/03	TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET <b>molex</b>	DOCUMENT NO. SD-74769-0501
		3 PLACES	± ---	± ---	CHECKED BY CHIRSCHY	DATE 2011/05/03		
		2 PLACES	± 0.15	± ---	APPROVED BY RMAHMOOD	DATE 2011/06/10		
		1 PLACE	± 0.25	± ---				
		0 PLACE	± ---	± ---				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		ANGULAR ± 1 °		MATERIAL NO. SHT 5, 6, & 7		SHEET NO. 1 OF 14		
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION								

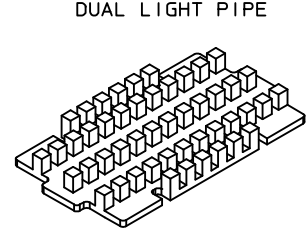
# CAGE ASSEMBLY OPTIONS



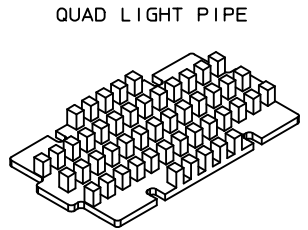
PCI HEATSINK (PIN STYLE)



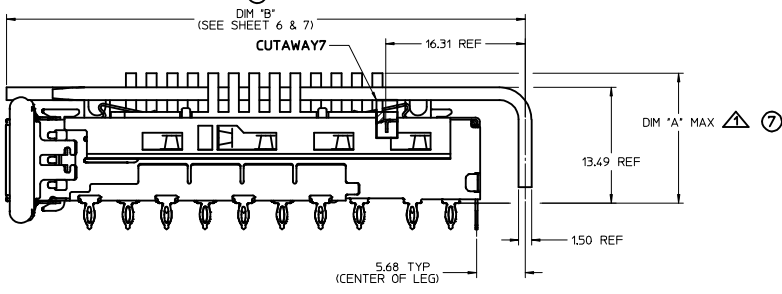
SINGLE LIGHT PIPE



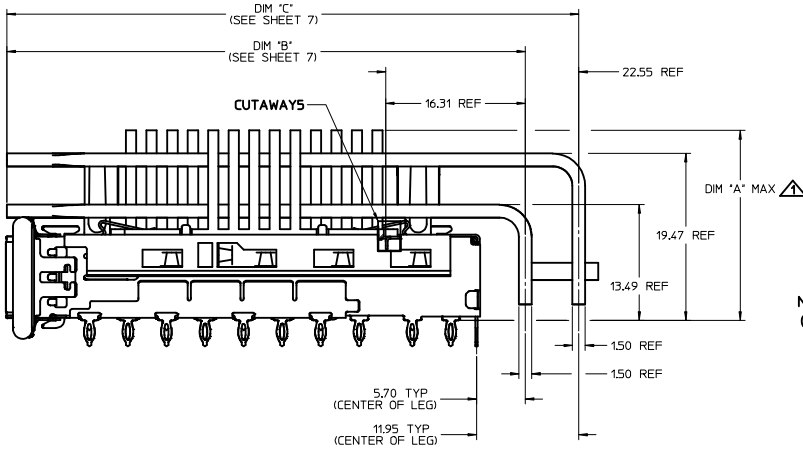
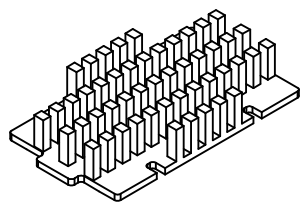
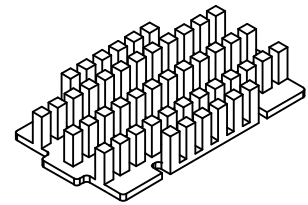
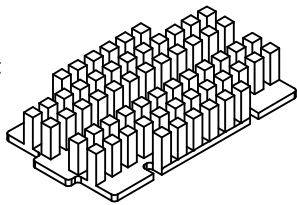
DUAL LIGHT PIPE



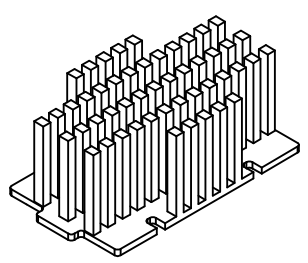
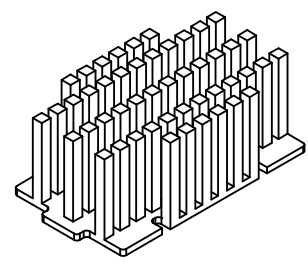
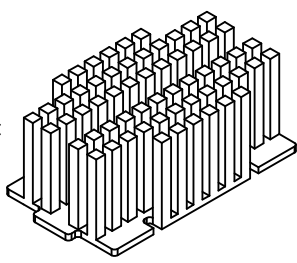
QUAD LIGHT PIPE



SAN HEATSINK (PIN STYLE)



NET HEATSINK (PIN STYLE)



## HEATSINK HEIGHT OPTIONS

OVERALL HEATSINK HEIGHT	DIM 'A'
PCI	13.7
SAN	16.0
NET	23.0

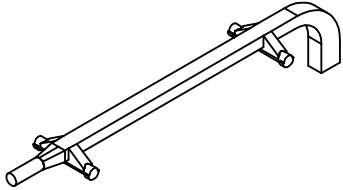
HEIGHT OF HEATSINK WITH MODULE INSERTED. DIMENSION MAY BE LESS DUE TO MODULE AND HEATSINK VARIATIONS.

NOTE:  
1) FOR LIGHT PIPE OPTIONS SEE SHEET 3.

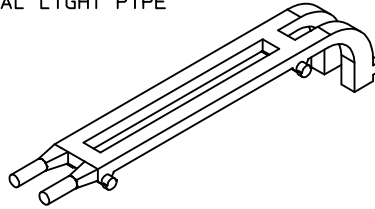
<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 CHKD: JERWIN APPR: KLOYD	2015/03/04 2015/07/01 2015/07/01	QUALITY SYMBOLS ∇=0 ∇=0 ∇=0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm      INCH		DIMENSION STYLE MM ONLY		SCALE 3.5:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
	4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.15 ± --- 1 PLACE ± 0.25 ± --- 0 PLACE ± --- ± ---		ANGLUAR ± 1 ° DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRAWN BY DATE JERWIN 2011/05/03		CHECKED BY DATE CHIRSCHY 2011/05/03		TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET <b>molex</b> DOCUMENT NO. SD-74769-0501	
	APPROVED BY DATE RMAHMOOD 2011/06/10		MATERIAL NO. SHT 5, 6, & 7		SHEET NO. 2 OF 14					
	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION									

# CAGE ASSEMBLY OPTIONS (CONT.)

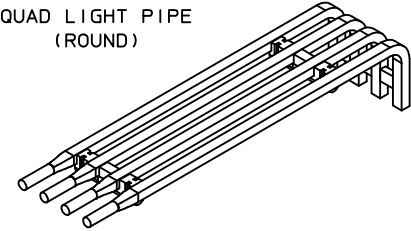
SINGLE LIGHT PIPE



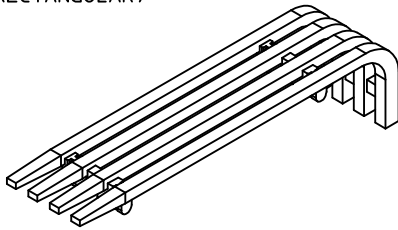
DUAL LIGHT PIPE



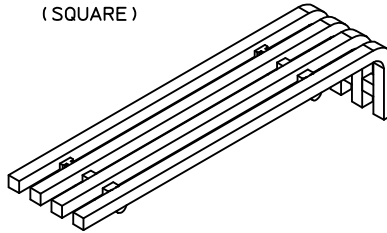
QUAD LIGHT PIPE  
(ROUND)



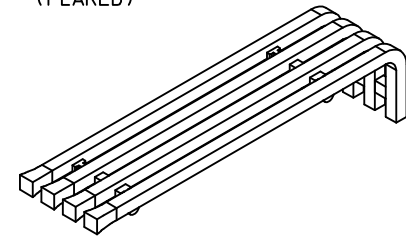
QUAD LIGHT PIPE  
(RECTANGULAR)



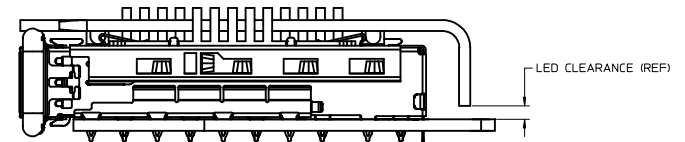
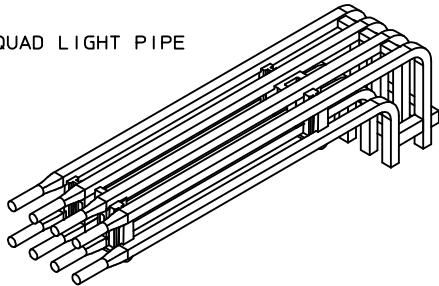
QUAD LIGHT PIPE  
(SQUARE)



QUAD LIGHT PIPE  
(FLARED)



2 ROW QUAD LIGHT PIPE

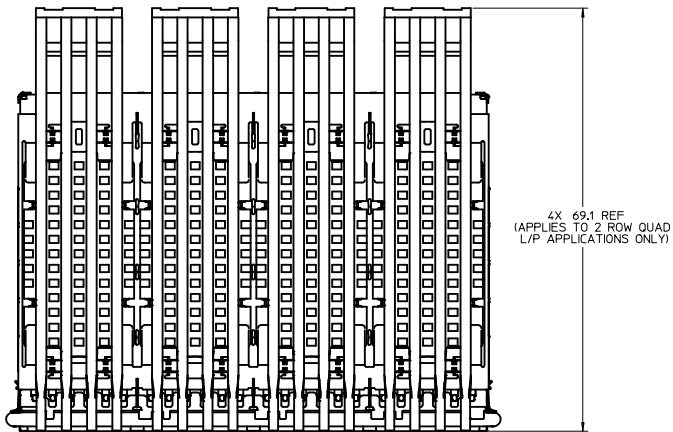
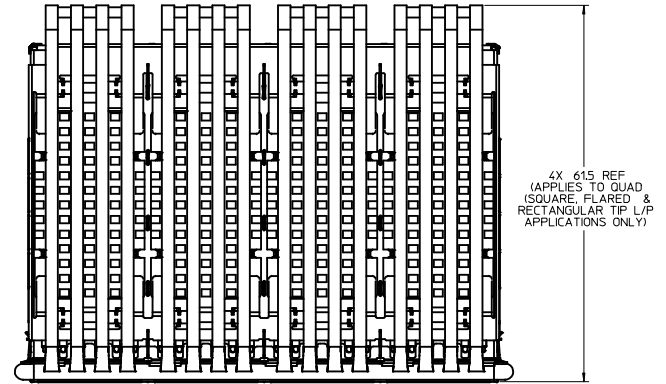
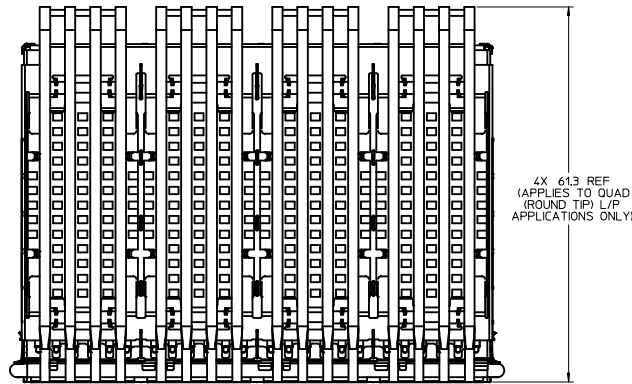
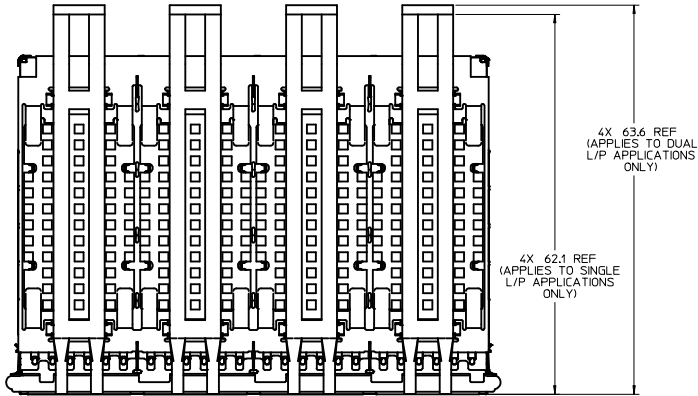


NOTE:  
1) FOR HEATSINK OPTIONS SEE SHEET 2.

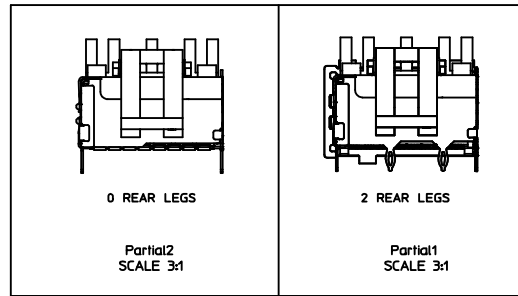
LIGHT PIPE	LED CLEARANCE (REF)
SINGLE	1.875
DUAL	1.875
QUAD (ROUND TIP)	1.875
QUAD (RECTANGLE TIP)	0.931
QUAD (SQUARE TIP)	1.875
QUAD (FLARED TIP)	1.725
QUAD (2 ROW)	1.875

<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHECKED: JERWIN 2015/07/01 APPR: KLOYD 2015/07/01	<b>QUALITY SYMBOLS</b> ∇=0 ∇=0 ∇=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY	SCALE 3:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		4 PLACES ± mm ± INCH	DRAWN BY JERWIN	DATE 2011/05/03	TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET <b>molex</b> MATERIAL NO. SHT 5, 6, & 7 DOCUMENT NO. SD-74769-0501			
		3 PLACES ± 0.15 ± 0.006	CHECKED BY CHIRSCHY	DATE 2011/05/03				
		2 PLACES ± 0.25 ± 0.010	APPROVED BY RMAHMOOD	DATE 2011/06/10				
1 PLACE ± 0.50 ± 0.020								
ANGULAR ± 1°		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE D		SHEET NO. 3 OF 14		

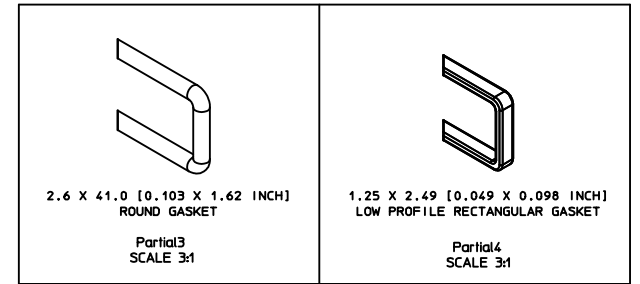
# CAGE ASSEMBLY OPTIONS ( CONT. )



## REAR LEG OPTIONS



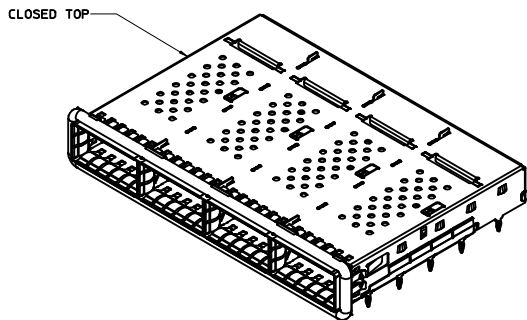
## ELASTOMERIC GASKET OPTIONS



<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 CHKD: JERWIN APPR: KLOYD	2015/03/04 2015/07/01 2015/07/01	DESCRIPTION 2015/07/01	QUALITY SYMBOLS ▽=0 ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm    INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.15 ± --- 1 PLACE ± 0.25 ± --- 0 PLACE ± --- ± ---	DIMENSION STYLE MM ONLY	SCALE 3:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
	DRAWN BY JERWIN	DATE 2011/05/03	CHECKED BY CHIRSCHY	DATE 2011/05/03	APPROVED BY RAHMOOD	DATE 2011/06/10	TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET		
	MATERIAL NO. SHT 5, 6, & 7				DOCUMENT NO. SD-74769-0501		SHEET NO. 4 OF 14		
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS								

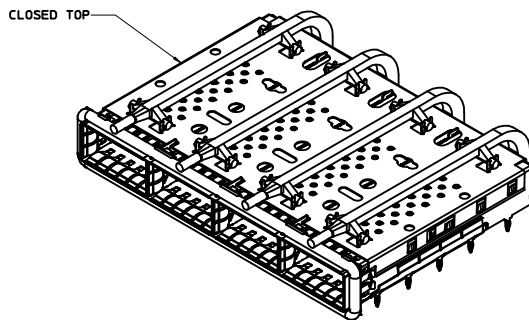
# PART NUMBER SELECTION

NO HEATSINKS  
NO LIGHT PIPES



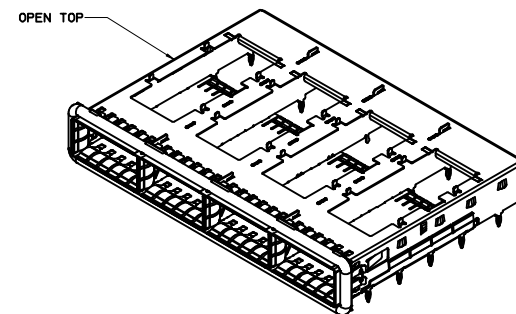
MOLEX P/N	# OF REAR LEGS PER PORT
747690223	2
747690226	0

NO HEATSINKS  
WITH SINGLE LIGHT PIPES



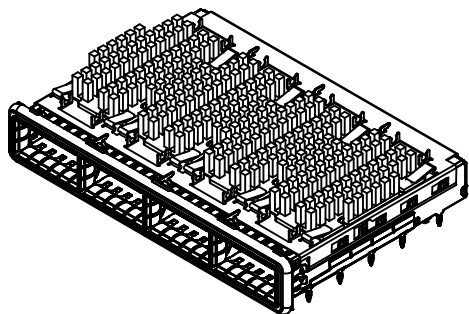
MOLEX P/N	GASKET STYLE	# OF REAR LEGS PER PORT
747690229	ROUND	2
747690230	ROUND	0

NO HEATSINKS  
NO LIGHT PIPES



MOLEX P/N	GASKET STYLE	# OF REAR LEGS PER PORT
747690204	SQUARE	0
747690205	SQUARE	2
747690206	ROUND	0
747690207	ROUND	2
747690208	SQUARE	2
747690209	SQUARE	0
747690210	ROUND	0
747690212	ROUND	2
747690217	SQUARE	2

WITH HEATSINKS  
NO LIGHT PIPES



MOLEX P/N	GASKET STYLE	HS	# OF REAR LEGS PER PORT
747690505	ROUND	PCI	2
747690506	ROUND	SAN	2
747690507	ROUND	NET	2
747690508*	ROUND	PCI	2
747690509*	ROUND	NET	2
747690514	ROUND	PCI	2
747690516	SQUARE	PCI	2
747690605	ROUND	PCI	0
747690606	ROUND	SAN	0
747690607	ROUND	NET	0

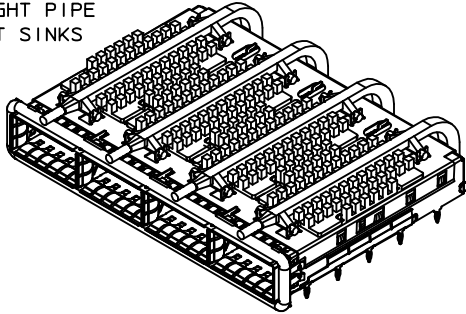
\* EMI GASKET SEAM PLACED ON LEFT SIDE VIEWING INTO PORT

<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHYK: ERWIN 2015/07/01 APPR: KLOYD 2015/07/01	<b>QUALITY SYMBOLS</b> ∇=0 ∇=0 ∇=0	<b>GENERAL TOLERANCES (UNLESS SPECIFIED)</b>		DIMENSION STYLE <b>MM ONLY</b>	SCALE <b>2:1</b>	DESIGN UNITS <b>METRIC</b>	THIRD ANGLE PROJECTION					
		4 PLACES ± mm ± INCH	3 PLACES ± --- ± ---	2 PLACES ± 0.15 ± ---	1 PLACE ± 0.25 ± ---	0 PLACE ± --- ± ---	ANGULAR ± 1 °	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWN BY JERWIN 2011/05/03	CHECKED BY CHIRSCHY 2011/05/03	APPROVED BY RMAHMOOD 2011/06/10	TITLE <b>QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET</b>
		MATERIAL NO.		DOCUMENT NO.		SHEET NO.						
		SEE TABLE		SD-74769-0501		5 OF 14						

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

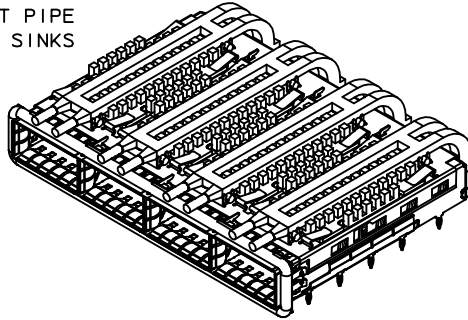
## PART NUMBER SELECTION (CONT.)

SINGLE LIGHT PIPE WITH HEAT SINKS



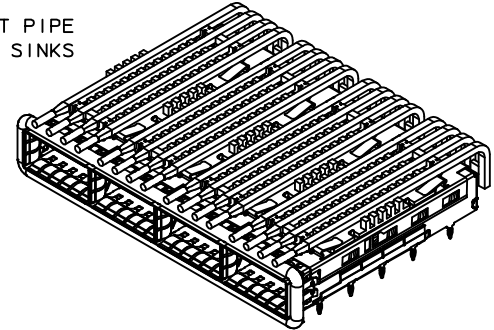
MOLEX P/N	LP	TIP STYLE	HS	# OF REAR LEGS PER PORT	DIM "B"
747690501	SINGLE	ROUND	SAN	2	60.25
747690502	SINGLE	ROUND	NET	2	60.25
747690513	SINGLE	ROUND	PCI	2	60.25
747690601	SINGLE	ROUND	SAN	0	60.25
747690602	SINGLE	ROUND	NET	0	60.25
747690612	SINGLE	ROUND	PCI	0	60.25

DUAL LIGHT PIPE WITH HEAT SINKS



MOLEX P/N	LP	TIP STYLE	GASKET STYLE	HS	# OF REAR LEGS PER PORT	DIM "B"
747690503	DUAL	ROUND	ROUND	SAN	2	60.25
747690504	DUAL	ROUND	ROUND	NET	2	60.25
747690511	DUAL	ROUND	ROUND	PCI	2	60.25
747690512	DUAL	ROUND	ROUND	NET	2	60.25
747690551	DUAL	ROUND	SQUARE	PCI	2	58.63
747690603	DUAL	ROUND	ROUND	SAN	0	60.25
747690604	DUAL	ROUND	ROUND	NET	0	60.25
747690611	DUAL	ROUND	ROUND	PCI	0	60.25

QUAD LIGHT PIPE WITH HEAT SINKS

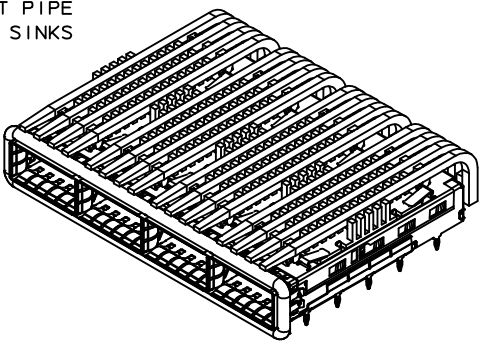


MOLEX P/N	LP	TIP STYLE	GASKET STYLE	HS	# OF REAR LEGS PER PORT	DIM "B"
747690517	QUAD	ROUND	ROUND	PCI	2	60.54
747690518	QUAD	ROUND	ROUND	SAN	2	60.54
747690519	QUAD	ROUND	ROUND	NET	2	60.54
747690520	QUAD	ROUND	ROUND	PCI	0	60.54
747690521	QUAD	ROUND	ROUND	SAN	0	60.54
747690522	QUAD	ROUND	ROUND	NET	0	60.54
747690537	QUAD	ROUND	SQUARE	PCI	2	60.54
747690538	QUAD	ROUND	SQUARE	SAN	2	60.54
747690539	QUAD	ROUND	SQUARE	NET	2	60.54
747690540	QUAD	ROUND	SQUARE	PCI	0	60.54
747690541	QUAD	ROUND	SQUARE	SAN	0	60.54
747690542	QUAD	ROUND	SQUARE	NET	0	60.54

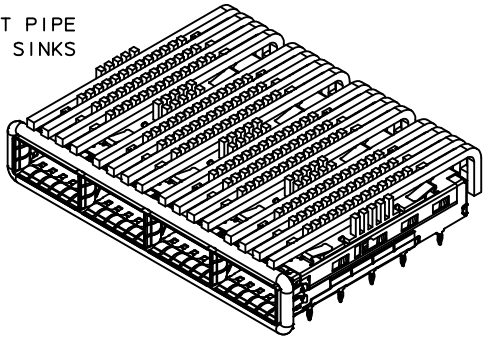
<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 CHYKD: JERWIN APPR: K LLOYD	2015/03/04 2015/07/01 2015/07/01	DESCRIPTION ∇=0 ∇=0 ∇=0	QUALITY SYMBOLS		GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE <b>MM ONLY</b>		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION			
			mm      INCH		DRAWN BY JERWIN      DATE 2011/05/03		TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET							
			4 PLACES ± --- ± ---		CHECKED BY CHIRSCHY      DATE 2011/05/03		<b>molex</b>							
			3 PLACES ± 0.15 ± --- 2 PLACES ± 0.25 ± --- 1 PLACE ± --- ± --- 0 PLACE ± --- ± ---		APPROVED BY RMAHMOOD      DATE 2011/06/10		MATERIAL NO. <b>SEE TABLE</b>		DOCUMENT NO. SD-74769-0501		SHEET NO. 6 OF 14			
ANGULAR ± 1 ° DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS														
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION														

## PART NUMBER SELECTION (CONT.)

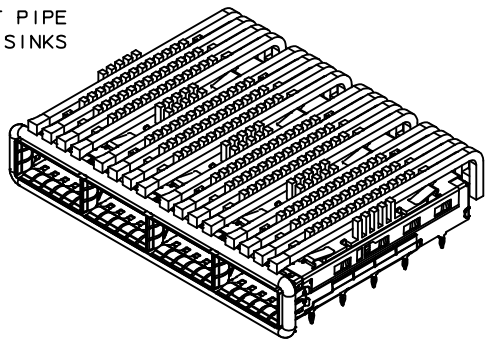
QUAD LIGHT PIPE  
WITH HEAT SINKS



QUAD LIGHT PIPE  
WITH HEAT SINKS



QUAD LIGHT PIPE  
WITH HEAT SINKS

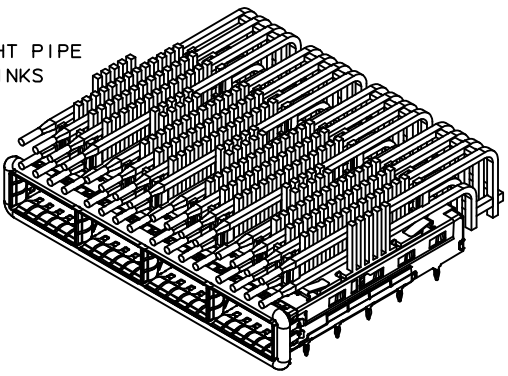


MOLEX P/N	LP	TIP STYLE	HS	# OF REAR LEGS PER PORT	DIM 'B'
747690561	QUAD	RECTANGULAR	SAN	0	59.96

MOLEX P/N	LP	TIP STYLE	HS	# OF REAR LEGS PER PORT	DIM 'B'
747690531	QUAD	SQUARE	PCI	2	60.54
747690532	QUAD	SQUARE	SAN	2	60.54
747690533	QUAD	SQUARE	NET	2	60.54
747690534	QUAD	SQUARE	PCI	0	60.54
747690535	QUAD	SQUARE	SAN	0	60.54
747690536	QUAD	SQUARE	NET	0	60.54

MOLEX P/N	LP	TIP STYLE	GASKET STYLE	HS	# OF REAR LEGS PER PORT	DIM 'B'
747690523	QUAD	FLARED	ROUND	PCI	2	60.54
747690524	QUAD	FLARED	ROUND	SAN	2	60.54
747690525	QUAD	FLARED	ROUND	NET	2	60.54
747690526	QUAD	FLARED	ROUND	PCI	0	60.54
747690527	QUAD	FLARED	ROUND	SAN	0	60.54
747690528	QUAD	FLARED	ROUND	NET	0	60.54
747690543	QUAD	FLARED	SQUARE	PCI	2	60.54
747690544	QUAD	FLARED	SQUARE	SAN	2	60.54
747690545	QUAD	FLARED	SQUARE	NET	2	60.54
747690546	QUAD	FLARED	SQUARE	PCI	0	60.54
747690547	QUAD	FLARED	SQUARE	SAN	0	60.54
747690548	QUAD	FLARED	SQUARE	NET	0	60.54

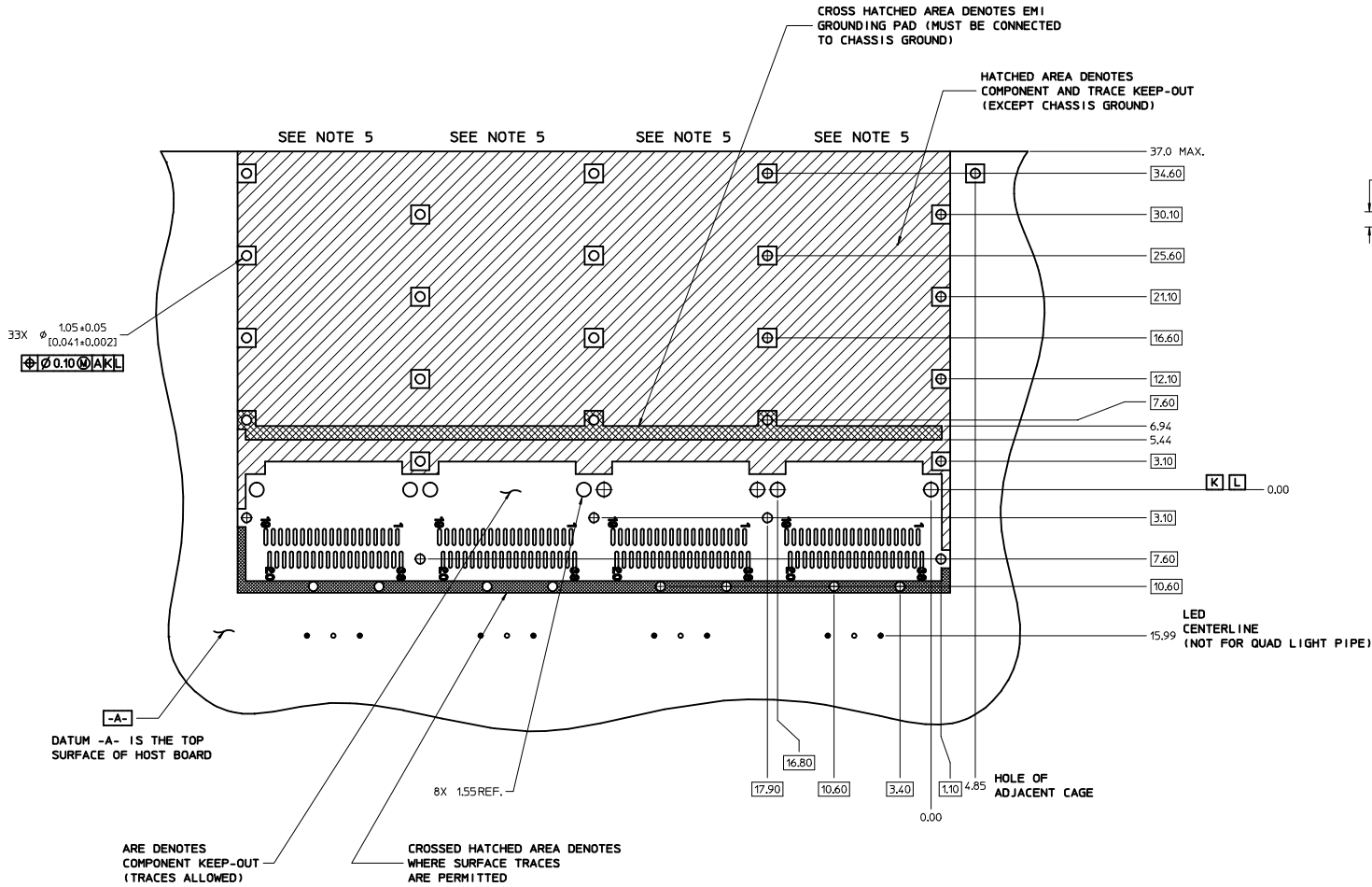
2 ROW QUAD LIGHT PIPE  
WITH HEAT SINKS



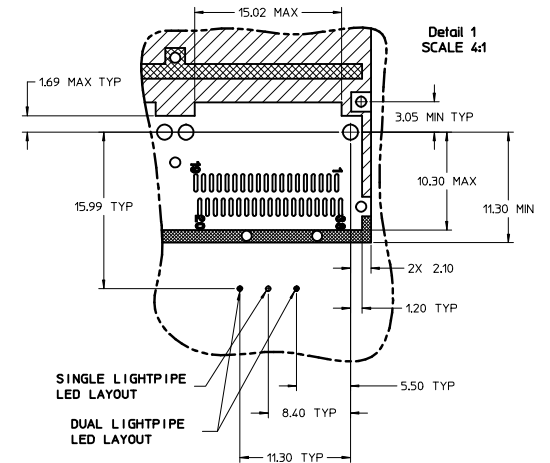
MOLEX P/N	LP	TIP STYLE	GASKET STYLE	HS	# OF REAR LEGS PER PORT	DIM 'B'	DIM 'C'
747690529	2 ROW QUAD	ROUND	ROUND	NET	0	60.54	66.78
747690530	2 ROW QUAD	ROUND	ROUND	NET	2	60.54	66.78
747690549	2 ROW QUAD	ROUND	SQUARE	NET	0	60.54	66.78
747690550	2 ROW QUAD	ROUND	SQUARE	NET	2	60.54	66.78

<b>SEE REV HISTORY</b> EIC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHYK: ERWIN 2015/07/01 APPR: KLOYD 2015/07/01	<b>QUALITY SYMBOLS</b> ∇=0 ∇=0 ∇=0	<b>GENERAL TOLERANCES (UNLESS SPECIFIED)</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> </thead> <tbody> <tr> <td>4 PLACES</td> <td>±.005</td> <td>±.0005</td> </tr> <tr> <td>3 PLACES</td> <td>±.008</td> <td>±.0008</td> </tr> <tr> <td>2 PLACES</td> <td>±.015</td> <td>±.0015</td> </tr> <tr> <td>1 PLACE</td> <td>±.025</td> <td>±.0025</td> </tr> <tr> <td>0 PLACE</td> <td>±.050</td> <td>±.0050</td> </tr> </tbody> </table> ANGULAR ± 1° DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		mm	INCH	4 PLACES	±.005	±.0005	3 PLACES	±.008	±.0008	2 PLACES	±.015	±.0015	1 PLACE	±.025	±.0025	0 PLACE	±.050	±.0050	<b>DIMENSION STYLE</b> MM ONLY	SCALE 2:1 DESIGN UNITS METRIC THIRD ANGLE PROJECTION	DRAWN BY: JERWIN DATE: 2011/05/03 CHECKED BY: CHIRSCHY DATE: 2011/05/03 APPROVED BY: RMAHMOOD DATE: 2011/06/10 MATERIAL NO: SEE TABLE DOCUMENT NO: SD-74769-0501
		mm	INCH																				
	4 PLACES	±.005	±.0005																				
	3 PLACES	±.008	±.0008																				
2 PLACES	±.015	±.0015																					
1 PLACE	±.025	±.0025																					
0 PLACE	±.050	±.0050																					
<b>OSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET</b>																							
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																							

# PCB LAYOUT FOR SINGLE SIDED MOUNTING



## HOST CONNECTOR DETAIL



### NOTES:

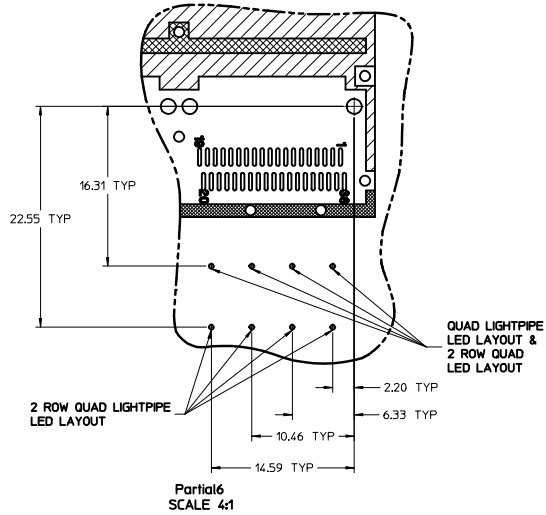
- PADS AND VIAS CONNECT TO CHASSIS GROUND (RECOMMEND PADS TO BE 2.00mm SQUARE)
- RECOMMENDED THRU HOLE PLATING INCLUDES HASL, OSP, OR IMMERSION (GOLD, SILVER, OR TIN).
- CONNECTOR PAD LAYOUT PER QSFP MSA WILL ACCOMMODATE MOLEX CONNECTOR 75586-0010 OR 75586-0011.
- SINGLE SIDED BOARD THICKNESS:  
NONIMAL: 1.60 [0.062"]  
MINIMUM: 1.44 [0.057"]
- SPACING BETWEEN PORTS IS 19.00 [0.748"].
- LED SHOULD BE PLACED RELATIVE TO THE QSFP CONNECTOR POST HOLES

<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHECKED: JERWIN 2015/07/01 APPR: KLOYD 2015/07/01	<b>QUALITY SYMBOLS</b> ∇=0 ∇=0 ∇=0	<b>GENERAL TOLERANCES (UNLESS SPECIFIED)</b>		<b>DIMENSION STYLE</b> MM ONLY	SCALE 4:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
		4 PLACES ± mm ± INCH 3 PLACES ± --- ± --- 2 PLACES ± 0.15 ± --- 1 PLACE ± 0.25 ± --- 0 PLACE ± --- ± ---	ANGLUAR ± 1 ° DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWN BY JERWIN DATE 2011/05/03	CHECKED BY CHIRSCHY DATE 2011/05/03	APPROVED BY RAHMOOD DATE 2011/06/10	TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET

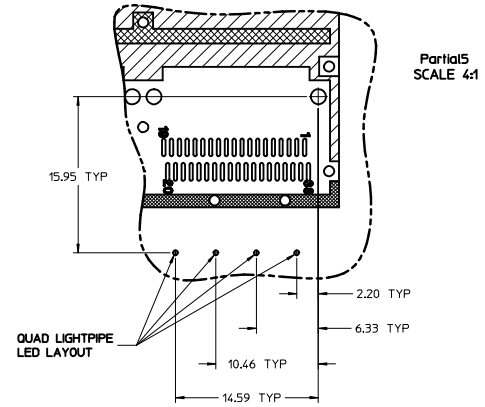


# PCB LAYOUT FOR SINGLE SIDED MOUNTING (CON'T)

FOR QUAD & 2 ROW QUAD LIGHT PIPE ONLY

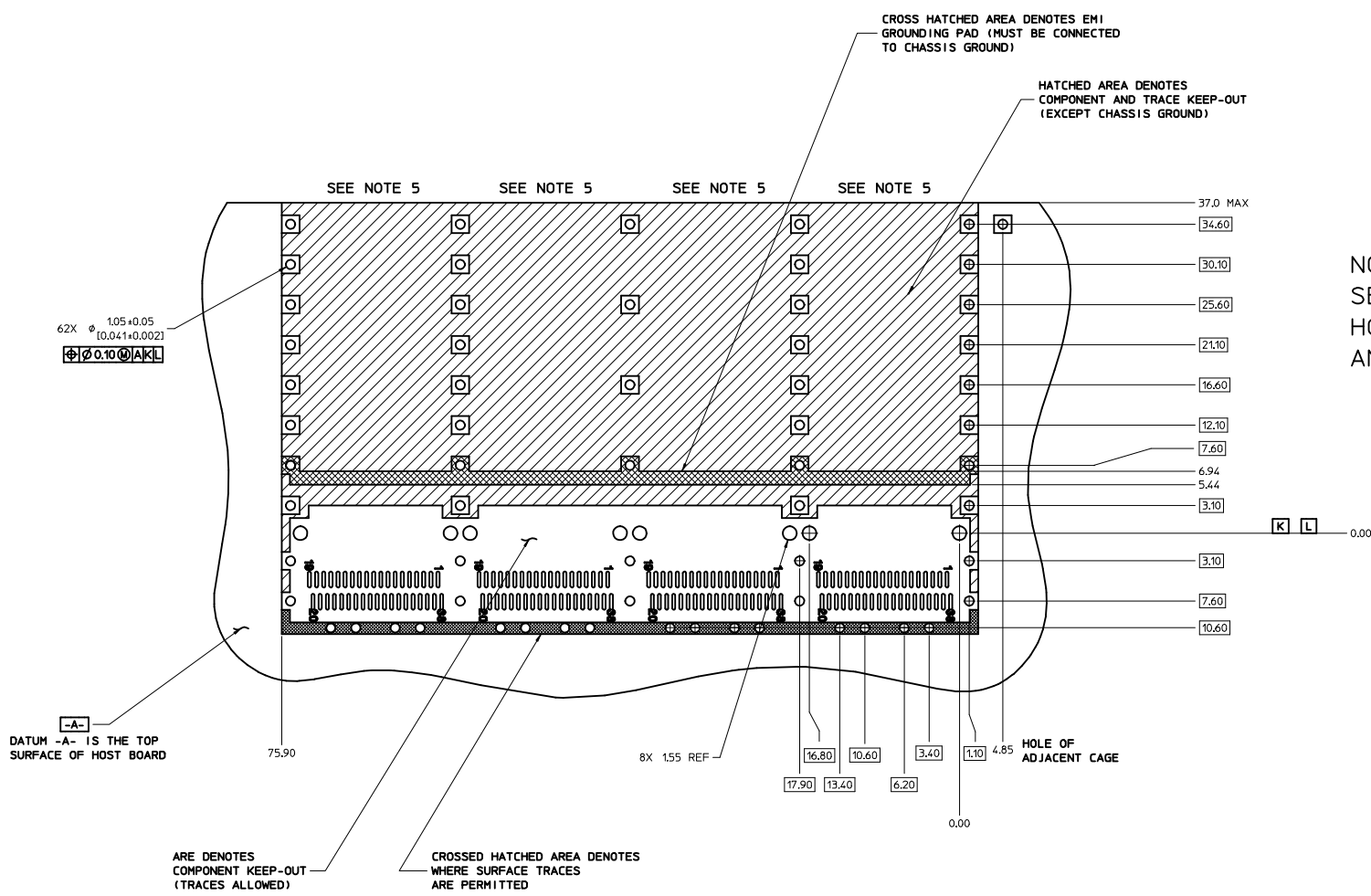


FOR QUAD 747500422 LIGHT PIPE ONLY



<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHECKED: JERWIN 2015/07/01 APPR: K LLOYD 2015/07/01	<b>QUALITY SYMBOLS</b> ▽=0 ▽=0 ▽=0	<b>GENERAL TOLERANCES (UNLESS SPECIFIED)</b>		<b>DIMENSION STYLE</b> MM ONLY	SCALE 3:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
		4 PLACES ± mm ± INCH	DRAWN BY JERWIN	DATE 2011/05/03	TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET		
		3 PLACES ± 0.15 ± 0.006	CHECKED BY CHIRSCHY	DATE 2011/05/03	APPROVED BY RMAHMOOD		
		2 PLACES ± 0.25 ± 0.010	DATE 2011/06/10	MATERIAL NO. SHT 5, 6 & 7	DOCUMENT NO. SD-74769-0501	SHEET NO. 9 OF 14	

# PCB LAYOUT FOR BELLY TO BELLY MOUNTING

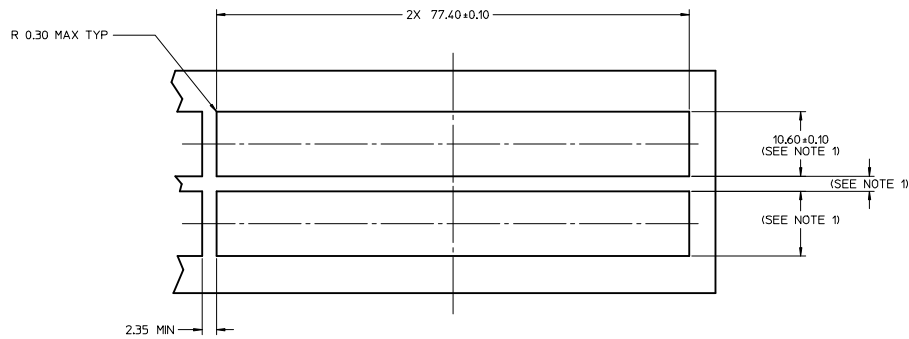
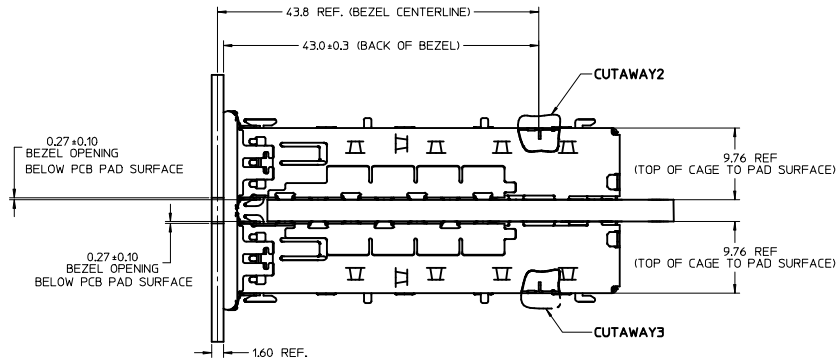


NOTE:  
SEE SHEET 8 & 9 FOR  
HOST CONNECTOR DETAIL  
AND LED LOCATION DETAILS

- NOTES:**
1. PADS AND VIAS CONNECT TO CHASSIS GROUND (RECOMMEND PADS TO BE 2.00mm SQUARE)
  2. RECOMMENDED THRU HOLE PLATING INCLUDES HASL, OSP, OR IMMERSION (GOLD, SILVER, OR TIN).
  3. CONNECTOR PAD LAYOUT PER QSFP MSA WILL ACCOMMODATE MOLEX CONNECTOR 75586-0010 OR 75586-0011.
  4. BELLY TO BELLY BOARD THICKNESS:  
NONIMAL: 2.90 [0.114"]  
MINIMUM: 2.48 [0.098"]
  5. SPACING BETWEEN PORTS IS 19.00 [0.748"].

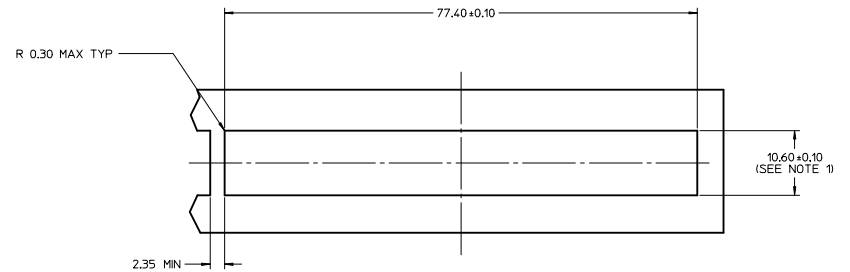
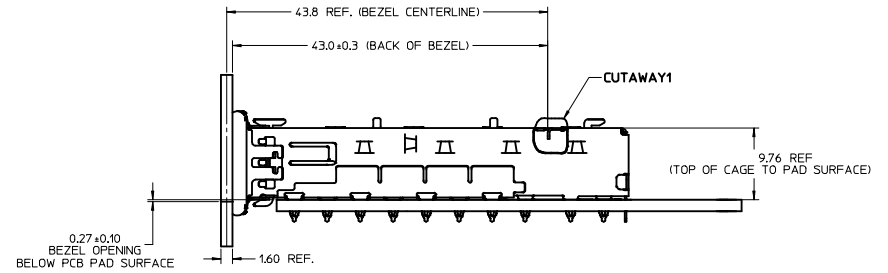
<b>SEE REV HISTORY</b> EC NO: CPG2015-0311 DRWNS: WALLACE01 2015/03/04 CHYD: JERWIN 2015/07/01 APPR: K LLOYD 2015/07/01	QUALITY SYMBOLS ▽=0 ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <thead> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> </thead> <tbody> <tr> <td>4 PLACES</td> <td>±0.15</td> <td>±0.005</td> </tr> <tr> <td>3 PLACES</td> <td>±0.25</td> <td>±0.010</td> </tr> <tr> <td>2 PLACES</td> <td>±0.38</td> <td>±0.015</td> </tr> <tr> <td>1 PLACE</td> <td>±0.51</td> <td>±0.020</td> </tr> <tr> <td>0 PLACE</td> <td>±0.64</td> <td>±0.025</td> </tr> </tbody> </table> ANGULAR ± 1° DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		mm	INCH	4 PLACES	±0.15	±0.005	3 PLACES	±0.25	±0.010	2 PLACES	±0.38	±0.015	1 PLACE	±0.51	±0.020	0 PLACE	±0.64	±0.025	DIMENSION STYLE MM ONLY	SCALE 4:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
		mm	INCH																					
	4 PLACES	±0.15	±0.005																					
3 PLACES	±0.25	±0.010																						
2 PLACES	±0.38	±0.015																						
1 PLACE	±0.51	±0.020																						
0 PLACE	±0.64	±0.025																						
DRAWN BY JERWIN	DATE 2011/05/03	CHECKED BY DATE	TITLE QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET	MATERIAL NO. SHT 5, 6, & 7	DOCUMENT NO. SD-74769-0501	SHEET NO. 10 OF 14																		
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																								

# BOARD POSITION AND BEZEL DIMENSIONS FOR BELLY TO BELLY MOUNTING



**NOTES:**  
 1. PCB THICKNESS VARIATION MUST BE CONSIDERED WHEN DETERMINING BEZEL OPENING, SIZE, AND LOCATION

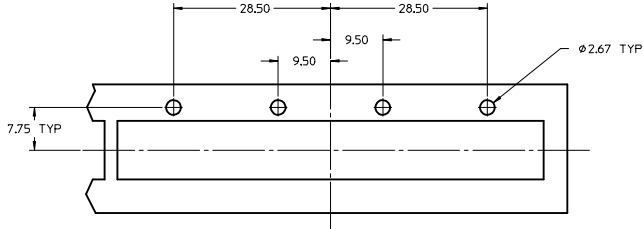
# BOARD POSITION AND BEZEL DIMENSIONS FOR SINGLE SIDE MOUNTING



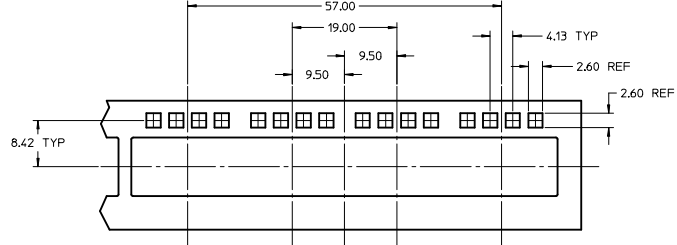
<b>SEE REV HISTORY</b> EIC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHKD: JERWIN 2015/07/01 APPR: KLLOYD 2015/07/01	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	▽=0	mm INCH	MM ONLY	2.5:1	METRIC	☉
	▽=0	4 PLACES ±0.15				
	▽=0	3 PLACES ±0.25				
		ANGULAR ± 1°	DRAWN BY	DATE	TITLE	
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	JERWIN	2011/05/03	QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET	
			CHECKED BY	DATE		
			CHIRSCHY	2011/05/03		
			APPROVED BY	DATE		
			MAHMOOD	2011/06/10		
			MATERIAL NO.	DOCUMENT NO.		
			SHT 5, 6, & 7	SD-74769-0501		
			SIZE			SHEET NO.
						11 OF 14
			THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

# LIGHTPIPE CUTOUT DIMENSIONS

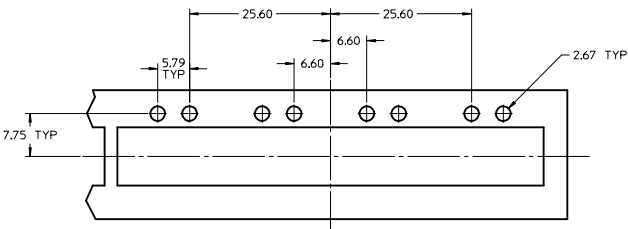
SINGLE LIGHT PIPE



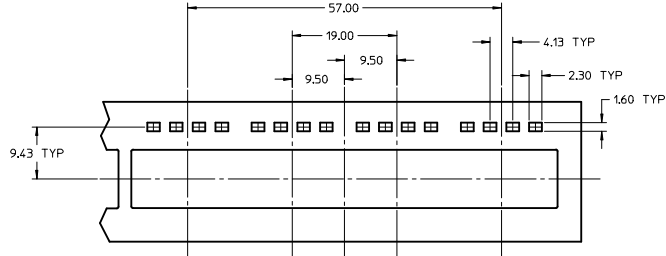
QUAD LIGHT PIPE (SQUARE)



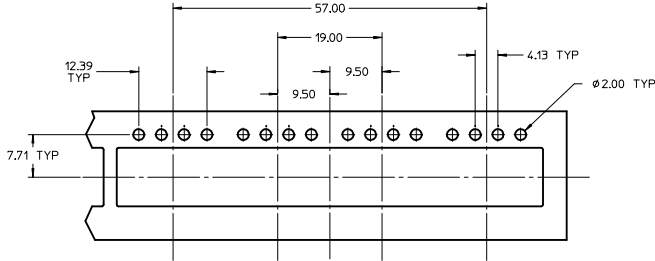
DUAL LIGHT PIPE



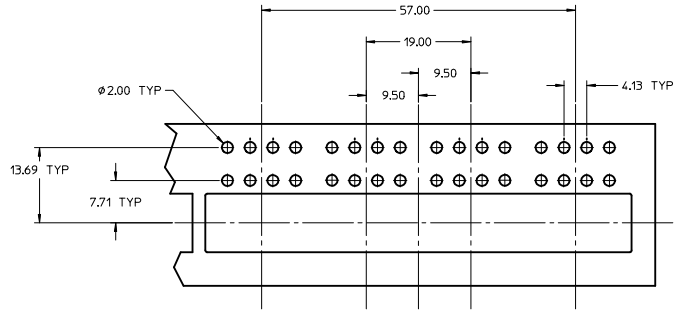
QUAD LIGHT PIPE (RECTANGULAR)



QUAD LIGHT PIPE (ROUND)



2 ROW QUAD LIGHT PIPE




NOTES:  
 1. PCB THICKNESS VARIATION MUST BE CONSIDERED WHEN DETERMINING BEZEL OPENING, SIZE, AND LOCATION

SEE REV HISTORY IEC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHECKED: JERWIN 2015/07/01 APPR: KLOYD 2015/07/01	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	▽=0	mm INCH	MM ONLY	2.25:1	METRIC	☉
	▽=0	4 PLACES ± 0.15				
	▽=0	2 PLACES ± 0.25				
		ANGULAR ± 1°	DRAWN BY	DATE	TITLE	
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	JERWIN	2011/05/03	QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET	
			CHECKED BY	DATE	<b>molex</b> DOCUMENT NO. SD-74769-0501 SHEET NO. 12 OF 14	
			APPROVED BY	DATE		
			RAHMOOD	2011/06/10		
			MATERIAL NO.	SIZE D THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		
			SHT 5, 6, & 7			

DATE	REV	DESCRIPTION
2011/05/03	A	1) INITIAL RELEASE
2012/11/21	B	SHT1: ADDED P/N 747690514 AND 747690515 TO CHART. SHT1: ADDED DIM 'B' IN.
2013/06/03	C	SHT1: CHANGED 5.39 TYP TO, 5.39 REF (TO CENTER OF LEG). SHT1: ADDED P/N'S 747690508, 747690509 AND 747690516 TO CHART. SHT2: MOVED DIM 15.99 FROM DETAIL 1 TO MAIN BOARD VIEW. SHT1: REARRANGED VIEWS AND MANAGED OUT PARTS TO ADD CAGES WITHOUT HEATSINKS AND LIGHT PIPES. MOVED LIGHT PIPE DIMENSIONS FROM FRONT VIEW TO SHT 3. ADDED ISO VIEW TO SHOW UNDERBELLY EMI FINGERS AND REAR LEGS. ADDED SHEET TITLE 'CAGE DETAILS' WITH P/N SHOWN. MOVED P/N TABLE TO SHT 4. MOVED HEATSINK HEIGHT TABLE TO SHT 2. ADDED DIMS FOR GASKET FRAME. REMOVED NOTES 3, 4, AND 7. CHANGED NOTE 1 TO READ QSPF+ ASSEMBLES ALSO AVAILABLE AND 1X1 (74750 SERIES), 1X2 (74767 SERIES), 1X3 (74768 SERIES), AND 1X6 (74771 SERIES) CONFIGURATIONS. ADDED NICKEL TO CAGE MATERIAL NOTE. SHT2: MOVED ALL VIEWS AND NOTES TO SHT 5. ADDED RIGHT SIDE VIEW AND VIEWS OF SINGLE AND DUAL HEATSINKS. ADDED TOL TO TABLE. SHT3: MOVED SHT 3 TO NEW SHT 6. ADDED TOP VIEW AND VIEWS OF SINGLE AND DUAL LIGHT PIPES. ADDED BACK VIEWS TO SHOW REAR LEG OPTIONS. ADDED ISO VIEWS TO SHOW ELASTOMERIC OPTIONS. SHT4: MOVED SHT 3 TO NEW SHT 7. ADDED ISO VIEWS TO SHOW CAGE ASSEMBLY OPTIONS. CHANGED THE P/N TABLE TO INDIVIDUAL TABLES SHOWING OPTIONS FOR NO HEATSINK AND LIGHT PIPES. NO LIGHT PIPES, AND HEATSINKS AND LIGHT PIPES. SHT5: MOVED REV HISTORY TO NEW SHT 9. SHT7: ADDED THE WORD 'PAD' TO NOTE 'BELOW PCB SURFACE' @I18, J18, AND 18. REMOVED DIM 10.60 +/- 0.10 @E12. SHT8: ADDED SHT 8 WITH BEZEL LIGHTPIPE CUTOUT POSITIONS DIMENSIONS. REMOVED DIM 10.60 +/- 0.10 D12 AND I12.
2013/08/08	D	SHT1: CHANGED FIXED TEXT @F20 & E16 TO READ RECTANGULAR INSTEAD OF SQUARE. SHT3: CORRECTED DIMENSIONS LISTED FOR THE ELASTOMER GASKETS. SHT4: ADDED P/N 747690217 TO TABLE @H11. ADDED NOTE 'USES LOW PROFILE RECTANGULAR GASKET' @H11 & C17. ALIGNED THE ISO VIEWS AND TABLES. SHT5: ALIGNED TEXT 'HOLE OF ADJACENT CAGE' TO CORRESPONDING DIM 4.85. ADDED TEXT HOST CONNECTOR DETAIL @C3. SHT7: ADDED REF & 'TOP OF CAGE TO PAD SURFACE TO DIMS 9.76 @J12, I12, & J2. SHT8: REMOVED MULTIPLIER FROM DIM 5.79 AND MADE IT TYP @F17.
2013/08/09	E	SHT4: REMOVED LIGHTPIPE OPTION FROM P/N'S 747690514 & 747690516. MOVED P/N'S TO TABLE WITH HEATSINK NO LIGHTPIPE.
2013/09/02	F	SHT1: CHANGED TITLE TO READ 'BASE CAGE DETAILS' @M10. REMOVED P/N AND 'SHOWN' FROM TITLE. REMOVED NOTE LIGHT PIPE REMOVED FOR CLARITY @F4. ADDED NOTE 'INNER SPRING FINGERS HAVE BEEN REMOVED FOR CLARITY' @D16. SHT2: DIM 16.0 REF WAS BROUGHT OUT TO TWO DECIMAL PLACES AND IS NOW 15.99 REF @L15. SHT3: REMOVED P/N AND 'SHOWN' FROM TITLE @L10. SHT4: HEATSINK AND LIGHT PIPE CLIP WERE MISSING FROM VIEWS @K4 & E4 AND WERE MANAGED INTO THE VIEWS. SHT5: CHANGED MULTIPLIER FOR DIAMETER DIM 1.05 +/-0.05 FROM X34 TO X33 @H20. SHT6: CHANGED MULTIPLIER FOR DIAMETER DIM 1.05 +/-0.05 FROM X68 TO X62 @I18.
2013/12/19	G	SHT2: ADDED PCI, SAN AND NET HEATINKS FOR QUAD LIGHT PIPES. SHT3: ADDED QUAD LIGHT PIPE. SHT4: ADDED ISO VIEW OF QUAD LIGHT PIPE ASSEMBLY AND P/N'S 747680517 THRU 0522 TO CHART. SHT5: ADDED VIEW OF QUAD LIGHT PIPE LED LAYOUT. SHT8: ADDED VIEWS FOR SINGLE AND BELLY TO BELLY BEZEL FOR QUAD LIGHT PIPES.
2014/02/11	H	SHT1: CORRECTED GASKET DIMENSIONS FOR FRONT VIEW. SHT2: CHANGED NOTE: 1) FOR LIGHT PIPE OPTIONS SEE SHEET 3 TO, 1) FOR LIGHT PIPE OPTIONS SEE SHEET 4. REMOVED DIMENSIONS DIM 'B' (SEE SHEET 6) CHANGED DIMENSION 22.55 REF TO, 22.55 +/-0.25 AND 16.31 REF TO, 16.31 +/-0.25. REMOVED TOLERANCE COLUMN FROM HEATSINK HEIGHT OPTIONS CHART AND CHANGED DIM 'A' TO, DIM 'A' MAX. SHT3: ADDED QUAD LIGHT PIPE (WITH SQUARE TIPS), QUAD LIGHT PIPE (WITH FLARED TIPS) AND 2 ROW LIGHT PIPE (ROUND TIPS). MOVED ALL OTHER VIEWS, LEG OPTIONS AND GASKET OPTIONS AND NOTE: 1 TO SHEET 4. SHT7: REMOVED DIM 'B' COLUMN FROM P/N'S 747690529 & 0530 AND ADDED P/N'S 747690429 & 0550. ADDED VIEWS AND PART NUMBERS FOR QUAD ASSEMBLIES WITH SQUARE, FLARED TIP OR 2 ROW QUAD LIGHT PIPES SHT8: CHANGED TEXT LED CENTERLINE TO, LED CENTERLINE (NOT FOR QUAD LIGHT PIPES). ADDED LED LOCATIONS FOR THE 2 ROW QUAD TO VIEW PARTIAL 6. ADDED NEW NOTE 4 AND CHANGED HOLE PATTERN NOTE FROM 'HOLE PATTERN REPEATS FOR EACH PORT. SPACING BETWEEN PORTS IS 19.00 [0.748] TO, SPACING BETWEEN PORTS IS 19.00 [0.748]. SHT9: ADDED NEW NOTE 4 AND CHANGED HOLE PATTERN NOTE FROM 'HOLE PATTERN REPEATS FOR EACH PORT. SPACING BETWEEN PORTS IS 19.00 [0.748] TO, SPACING BETWEEN PORTS IS 19.00 [0.748]. SHT10: REMOVED NOTE 2. SHT11: REMOVED NOTE 2 AND ALL BELLY TO BELLY BEZELS. ADDED SQUARE AND 2 ROW BEZELS.
2014/07/22	I	SHT3: UPDATED 2 ROW QUAD LIGHT PIPE VIEW. SHT4: UPDATED 2 ROW QUAD TOP VIEW AND ADDED CUTAWAY VIEW. SHT5: ADDED ISO OF CLOSED TOP WITH SINGLE LP AND ASSOCIATED PART NUMBERS. ADDED P/N'S 747680204, 0205, 0206 & 0207 TO NO HEATSINKS/ NO LIGHT PIPES CHART. SHT7: UPDATED 2 ROW QUAD LIGHT PIPE WITH HEATSINKS VIEW.
2014/09/10	J	SHT2: REVISED DIM 'B'(SEE SHEET 6) TO: DIM 'B'(SEE SHEET 5, 6 & 7) SHT3: ADDED ISO VIEW OF QUAD LIGHT PIPE WITH RECTANGULAR TIP. SHT4: UPDATED DIM 4X 62.9 REF (APPLIES TO SINGLE QUAD L/P APPLICATIONS ONLY) TO, 4X 62.9 REF (APPLIES TO SINGLE QUAD L/P APPLICATIONS ONLY) (EXCEPT 747690561). CORRECTED TEXT FROM 2.6 X 41.0 [.0103 X 1.62 INCH] ROUND GASKET TO, 2.6 X 41.0 [.0103 X 1.62 INCH] ROUND GASKET SHT7: ADDED ISO VIEW AND P/N WITH DESCRIPTION FOR 747690561. SHT9: MOVED DETAIL VIEW FOR QUAD & 2 ROW QUAD LIGHT PIPES FROM SHT 8 TO, SHT 9. ADDED DETAIL VIEW FOR PCB USING 747500422 LIGHT PIPE. SHT12: ADDED BEZEL VIEW FOR QUAD LIGHT PIPE WITH RECTANGULAR TIP LED HOLES.

SEE REV HISTORY EC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHKD: JERWIN 2015/07/01 APPR: KLOYD 2015/07/01	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	▽=0	4 PLACES ±--- INCH	MM ONLY	1:1	METRIC	
	▽=0	3 PLACES ±--- INCH				
	▽=0	2 PLACES ±0.15 INCH				
		1 PLACE ±0.25 INCH				
		0 PLACE ±--- INCH				
		ANGULAR ± 1 °				
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				
			MATERIAL NO.	DOCUMENT NO.		SHEET NO.
			SHT 5, 6, & 7	SD-74769-0501		13 OF 14
			THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

DATE	REV	DESCRIPTION
2014/11/14	K	SHT2: ADDED VIEW FOR ASSEMBLY W/ SINGLE QUAD LIGHT PIPE. REVISED DIM 'B' (SEE SHEET 5, 6 & 7) TO, DIM 'B' (SEE SHEET 5 & 6) ØM18. SHT3: ADDED VIEW AND CHART FOR LED CLEARANCE. SHT4: ADDED VIEWS FOR ASSEMBLIES USING ROUND TIP QUAD LIGHT PIPE AND SQUARE/ FLARED/ RECTANGULAR TIP LIGHT PIPES. SHT7: ADDED DIM 'B' & 'C' COLUMNS TO CHART FOR 2 ROW QUAD LIGHT PIPE WITH HEAT SINKS ASSEMBLIES. SHT10: CHANGED NOTE: SEE PREVIOUS SHEET FOR HOST CONNECTOR DETAIL AND LED LOCATION DETAILS TO, NOTE: SEE SHEET 8 & 9 FOR HOST CONNECTOR DETAIL AND LED LOCATION DETAILS
2014/12/18	L	SHT6: ADDED P/N 747690551 TO CHART.
2015/07/01	M	SHT6: ADDED GASKET STYLE COLUMN AND REVISED TIP STYLE COLUMN NOTE: 'WAS' SQUARE. 'NOW READS' ROUND ØH11.

<b>SEE REV HISTORY</b> IEC NO: CPG2015-0311 DRAWN: WALLACE01 2015/03/04 CHECKED: JERWIN 2015/07/01 APPR: K LLOYD 2015/07/01	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	▽=0	4 PLACES ± mm INCH	MM ONLY	3:1	METRIC	☉ □
	▽=0	3 PLACES ± 0.15				
	▽=0	2 PLACES ± 0.25				
		ANGULAR ± 1 °	DRAWN BY	DATE	TITLE	
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	JERWIN	2011/05/03	QSFP+ 1X4 GANGED CAGE ASSEMBLIES WITH ELASTOMER GASKET	
			CHECKED BY	DATE		
			CHIRSCHY	2011/05/03		
			APPROVED BY	DATE	DOCUMENT NO.	
			RAHMOOD	2011/06/10	SD-74769-0501	
			MATERIAL NO.	SHEET NO.		
			SHT 5, 6 & 7	14 OF 14		
			SIZE	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		
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