

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0459851112](#)  
**Status:** **Active**  
**Overview:** [extreme\\_lphpower](#)  
**Description:** 1.27mm (.050"), 12.00mm (.472") Pitch, EXTreme LPHPower™ Header, Right Angle, 10 Power Contacts, 12 Signal Contacts, Select Gold (Au) Plating, for 2.36mm (.093") Thick PC Board

**Documents:**

[3D Model](#) [Product Specification PS-45984-001 \(PDF\)](#)  
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)



**Agency Certification**

CSA	LR19980
TUV	30683046
UL	E29179

**General**

Product Family	PCB Headers
Series	<a href="#">45985</a>
Application	Board-to-Board
Overview	<a href="#">extreme_lphpower</a>
Product Name	EXTreme LPHPower™

**Physical**

Breakaway	No
Circuits (Loaded)	22
Circuits (maximum)	22
Circuits Detail	10 Power, 12 Signal
Color - Resin	Black
Durability (mating cycles max)	250
First Mate / Last Break	Yes
Flammability	94V-0
Glow-Wire Compliant	No
Guide to Mating Part	No
Keying to Mating Part	None
Lock to Mating Part	No
Material - Metal	Brass, High Performance Alloy (HPA)
Material - Plating Mating	Gold
Material - Plating Termination	Tin
Material - Resin	High Temperature Thermoplastic
Number of Rows	2
Orientation	Right Angle
PC Tail Length (in)	0.142 In
PC Tail Length (mm)	3.60 mm
PCB Locator	No
PCB Retention	None
PCB Thickness Recommended (in)	0.093 In
PCB Thickness Recommended (mm)	2.36 mm
Packaging Type	Tray
Pitch - Mating Interface (in)	0.050 In, 0.472 In
Pitch - Mating Interface (mm)	1.27 mm, 12.00 mm
Plating min: Mating (µin)	30
Plating min: Mating (µm)	0.75
Plating min: Termination (µin)	150, 50
Plating min: Termination (µm)	1.25, 3.75
Polarized to Mating Part	Yes

**EU RoHS**

**ELV and RoHS Compliant**

**REACH SVHC**

**Contains SVHC: No**

**Halogen-Free**

**Status**

**Halogen-Free**

**Need more information on product environmental compliance?**

Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

**China RoHS**



**Search Parts in this Series**

[45985Series](#)

**Mates With**

[45984](#) EXTreme LPHPower™ PCB Receptacles

Polarized to PCB	Yes
Shrouded	Fully
Stackable	No
Surface Mount Compatible (SMC)	Yes
Temperature Range - Operating	-40°C to +105°C
Termination Interface: Style	Through Hole

### **Electrical**

Current - Maximum per Contact	20A
Voltage - Maximum	250V AC (RMS)/DC

### **Solder Process Data**

Duration at Max. Process Temperature (seconds)	20
Lead-free Process Capability	Wave Capable (TH only)
Max. Cycles at Max. Process Temperature	3
Process Temperature max. C	260

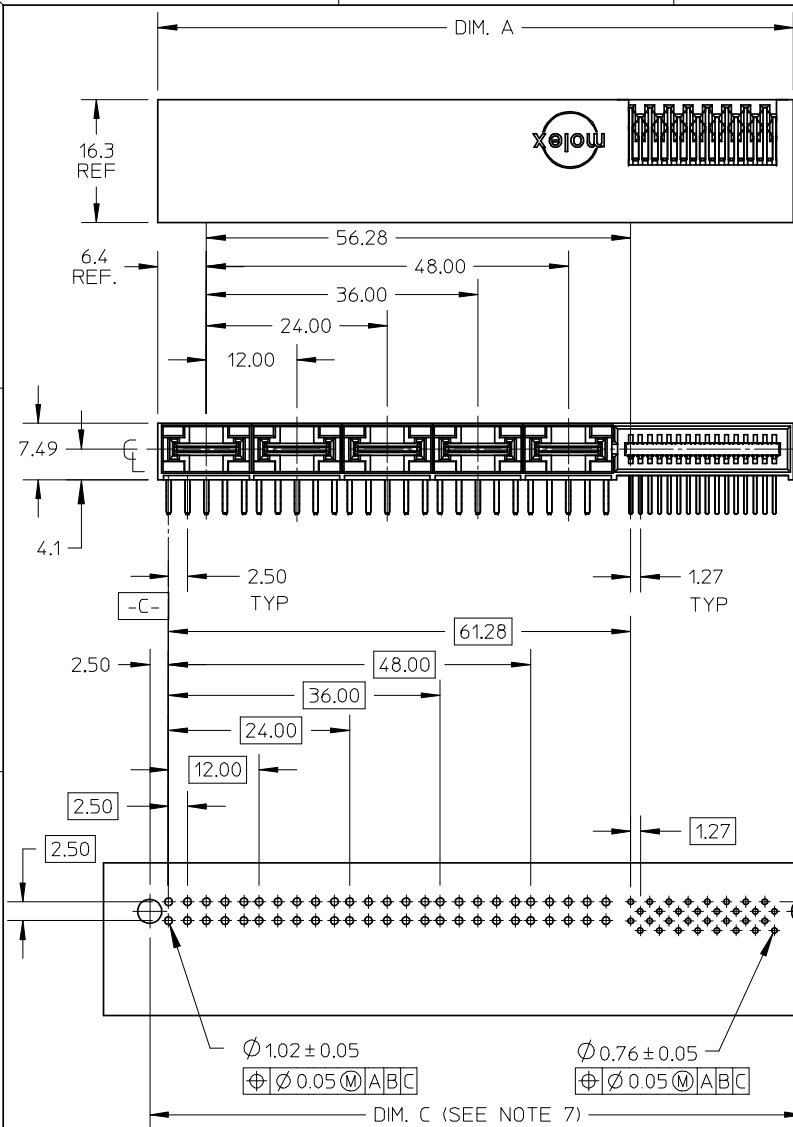
### **Material Info**

#### **Reference - Drawing Numbers**

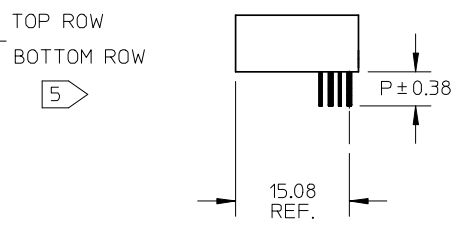
Packaging Specification	PK-45984-001
Product Specification	PS-45984-001
Sales Drawing	SD-45985-100

This document was generated on 05/25/2010

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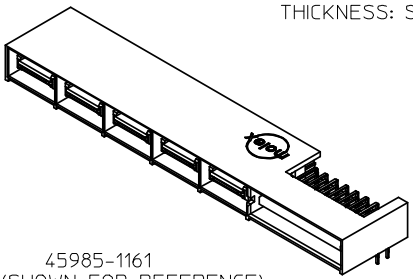


- NOTES:
1. MATERIAL: HOUSING: LCP, 94V-0, COLOR: BLACK  
MATERIAL: POWER CONTACT: COPPER ALLOY  
SIGNAL CONTACT: PHOSPHOR BRONZE
  2. FINISH: SELECT GOLD 0.76µM/30 M.I. MIN. IN CONTACT AREA.  
SELECT TIN 3.81µM/150 M.I. MIN. IN PC TAIL AREA.  
BOTH OVER NICKEL 1.27µM/50 M.I. MIN
  3. PRODUCT SPECIFICATION: PS-45984-001
  4. PACKAGING SPECIFICATION: TRAY PER PK-45984-001
  5. SEE SHEET 5 FOR CIRCUIT IDENTIFICATION.
  6. PARTS ARE RoHS COMPLIANT.
  7. PEG HOLES ARE OPTIONAL PCB FEATURES AND ARE REQUIRED ONLY WITH THE PEGGED HOUSING OPTIONS.
  8. MATES WITH MOLEX RECEPTACLE SERIES 45984-1\*\*\*.



NO OF SIGNAL	MATERIAL NUMBER	DIM A REF	DIM P	PCB THK
12	45985-1111	72.16	4.50	3.18
16	45985-1121	74.70		
20	45985-1131	77.24		
24	45985-1141	79.78		
28	45985-1151	82.32		
32	45985-1161	84.86		
36	45985-1171	87.40	3.90	2.36
40	45985-1181	89.94		
12	45985-1112	72.16		
16	45985-1122	74.70		
20	45985-1132	77.24		
24	45985-1142	79.78		
28	45985-1152	82.32	2.90	1.57
32	45985-1162	84.86		
36	45985-1172	87.40		
40	45985-1182	89.94		
12	45985-1113	72.16		
16	45985-1123	74.70		
20	45985-1133	77.24	2.90	1.57
24	45985-1143	79.78		
28	45985-1153	82.32		
32	45985-1163	84.86		
36	45985-1173	87.40		
40	45985-1183	89.94		

PCB LAYOUT: COMPONENT SIDE  
THICKNESS: SEE CHART



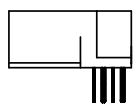
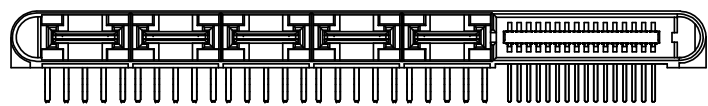
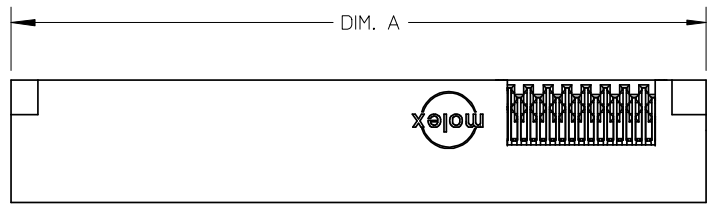
45985-1161  
(SHOWN FOR REFERENCE)  
SEE CHART

REVISED	DESCRIPTION
EC NO: UCP2007-3140	2008/03/03
DRWN:MBANDURA	2008/03/04
CHKD:	2008/03/06
APPR:APATEL	
REV	

GENERAL TOLERANCES (UNLESS SPECIFIED)	
	mm INCH
4 PLACES	± --- ± ---
3 PLACES	± --- ± ---
2 PLACES	± 0.25 ± ---
1 PLACE	± --- ± ---
ANGULAR ±1/2°	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	

DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
SCHAFFER	2005/06/20
CHECKED BY	DATE
SAMIEC	2005/06/21
APPROVED BY	DATE
MARGULIS	2005/06/22
MATERIAL NO.	
SEE CHARTS	

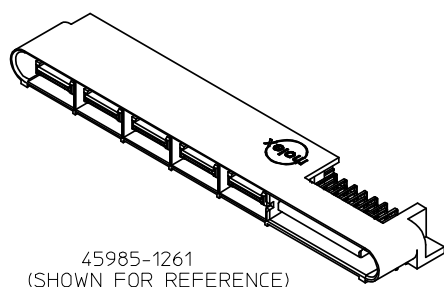
SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
1:1	METRIC	
TITLE		
LPH PLUG ASSEMBLY RT ANGLE 10 CIRCUIT POWER CONNECTOR		
MOLEX INCORPORATED		
DOCUMENT NO.	SHEET NO.	
SD-45985-100	1 OF 5	
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		



NO OF SIGNAL	MATERIAL NUMBER	DIM A REF	DIM P	PCB THK
12	45985-1211	79.66	4.50	3.18
16	45985-1221	82.20		
20	45985-1231	84.74		
24	45985-1241	87.28		
28	45985-1251	89.82		
32	45985-1261	92.36		
36	45985-1271	94.90	3.90	2.36
40	45985-1281	97.44		
12	45985-1212	79.66		
16	45985-1222	82.20		
20	45985-1232	84.74		
24	45985-1242	87.28		
28	45985-1252	89.82	2.90	1.57
32	45985-1262	92.36		
36	45985-1272	94.90		
40	45985-1282	97.44		
12	45985-1213	79.66		
16	45985-1223	82.20		
20	45985-1233	84.74		
24	45985-1243	87.28		
28	45985-1253	89.82		
32	45985-1263	92.36		
36	45985-1273	94.90		
40	45985-1283	97.44		

GUIDE OPTIONS

NOTE:  
1. SEE SHEET 1 FOR DIMENSIONS NOT SHOWN.

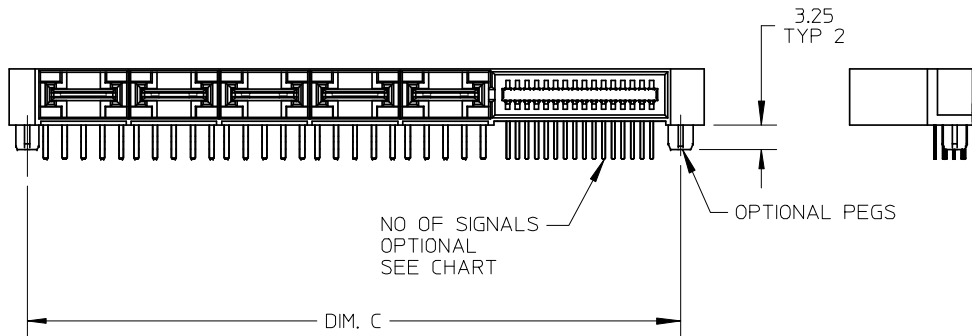
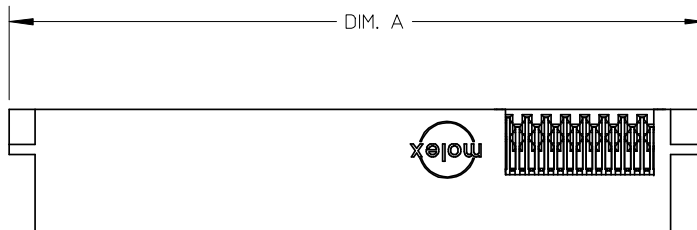


REVISED	DESCRIPTION
EC NO: UCP2007-3140	
DRWN:MBANDURA 2008/03/03	
CHKD: 2008/03/04	
APPR:APATEL 2008/03/06	
REV	

GENERAL TOLERANCES (UNLESS SPECIFIED)		
	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± ---	± ---
ANGULAR ±1/2°		
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		

DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
SCHAFFER	2005/06/20
CHECKED BY	DATE
SAMIEC	2005/06/21
APPROVED BY	DATE
MARGULIS	2005/06/22
MATERIAL NO.	
SEE CHART	

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
1:1	METRIC		
TITLE			
LPH PLUG ASSEMBLY RT ANGLE 10 CIRCUIT POWER CONNECTOR			
MOLEX INCORPORATED			
DOCUMENT NO.			SHEET NO.
SD-45985-100			2 OF 5
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			



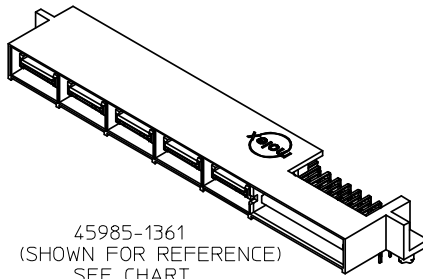
NO OF SIGNAL	MATERIAL NUMBER	DIM A REF	DIM C	DIM P	PCB THK
12	45985-1311	79.66	73.98	4.50	3.18
16	45985-1321	82.20	76.52		
20	45985-1331	84.74	79.06		
24	45985-1341	87.28	81.60		
28	45985-1351	89.82	84.14		
32	45985-1361	92.36	86.68		
36	45985-1371	94.90	89.22	3.90	2.36
40	45985-1381	97.44	91.76		
12	45985-1312	79.66	73.98		
16	45985-1322	82.20	76.52		
20	45985-1332	84.74	79.06		
24	45985-1342	87.28	81.60		
28	45985-1352	89.82	84.14	2.90	1.57
32	45985-1362	92.36	86.68		
36	45985-1372	94.90	89.22		
40	45985-1382	97.44	91.76		
12	45985-1313	79.66	73.98		
16	45985-1323	82.20	76.52		
20	45985-1333	84.74	79.06	2.90	1.57
24	45985-1343	87.28	81.60		
28	45985-1353	89.82	84.14		
32	45985-1363	92.36	86.68		
36	45985-1373	94.90	89.22	2.90	1.57
40	45985-1383	97.44	91.76		

NO OF SIGNALS  
OPTIONAL  
SEE CHART

OPTIONAL PEGS

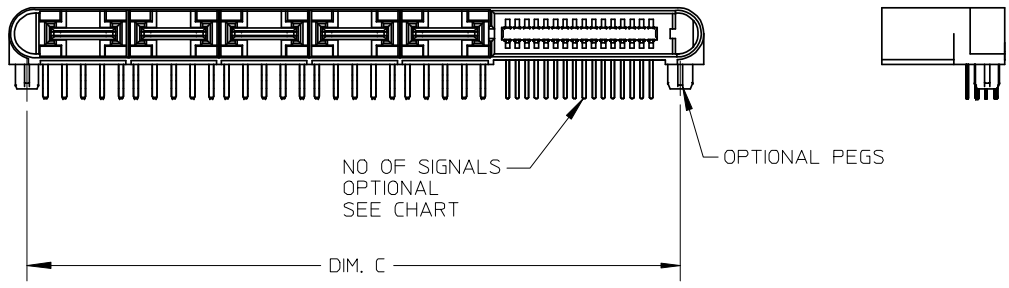
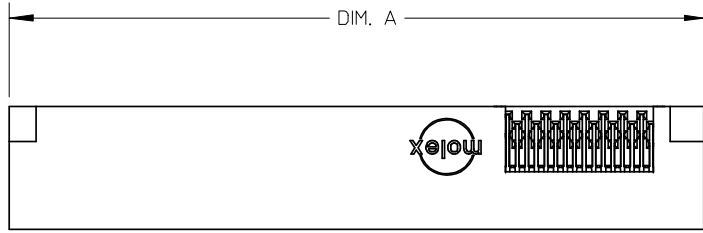
MOUNTING PEG OPTIONS

NOTE:  
1. SEE SHEET 1 FOR DIMENSIONS NOT SHOWN.



45985-1361  
(SHOWN FOR REFERENCE)  
SEE CHART

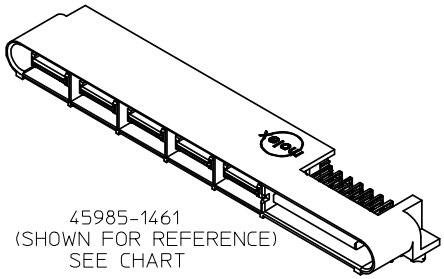
REVISED EC NO: UCP2007-3140 DRWN:MBANDURA 2008/03/03 CHKD: 2008/03/04 APPR:APATEL 2008/03/06	DESCRIPTION	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 1:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		4 PLACES	± ---	± ---	DRAWN BY SCHAFER	DATE 2005/06/20	TITLE LPH PLUG ASSEMBLY RT ANGLE 10 CIRCUIT POWER CONNECTOR		
3 PLACES	± ---	± ---	CHECKED BY SAMIEC	DATE 2005/06/21	MOLEX INCORPORATED				
2 PLACES	± 0.25	± ---	APPROVED BY MARGULIS	DATE 2005/06/22					DOCUMENT NO. SD-45985-100
1 PLACE	± ---	± ---	MATERIAL NO. SEE CHART		SHEET NO. 3 OF 5				
ANGULAR ±1/2°		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE A					THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION



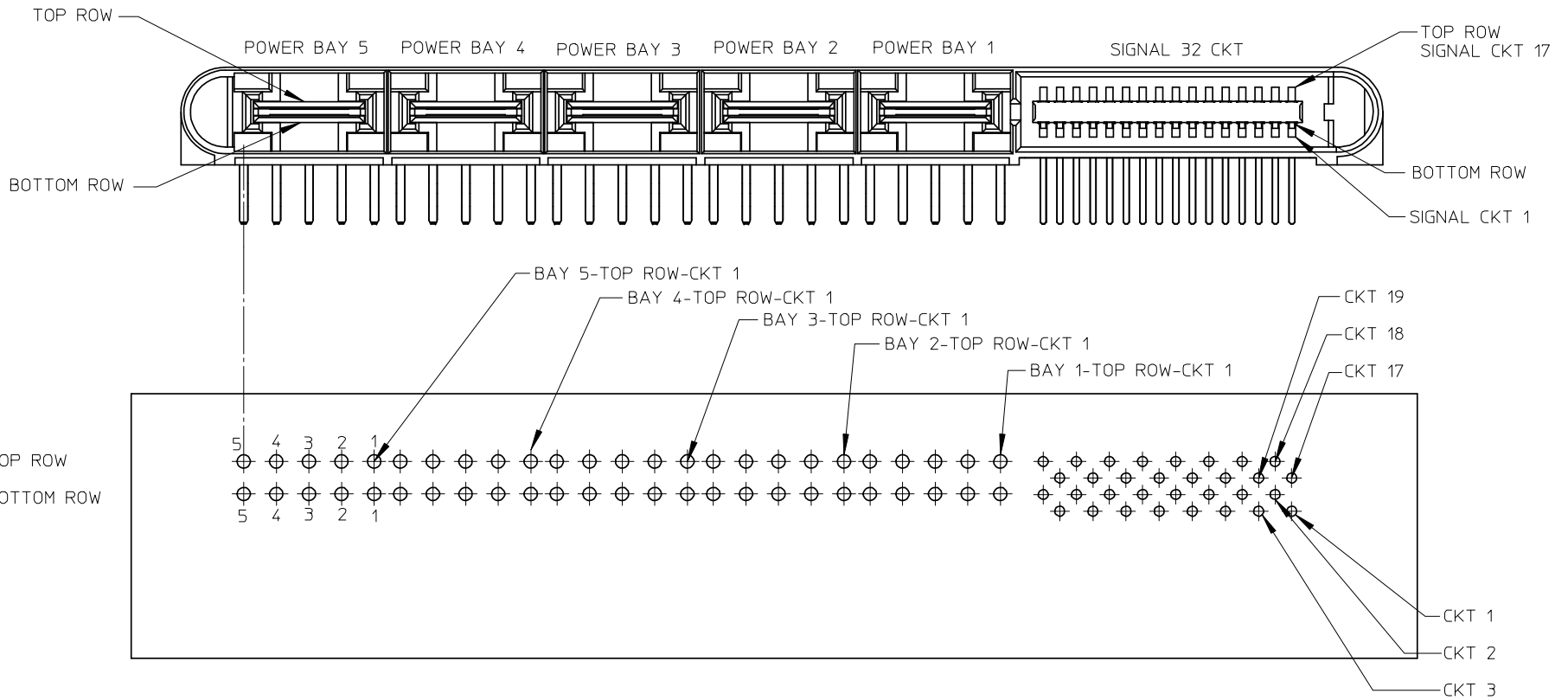
GUIDE & MOUNTING PEG OPTIONS

NO OF SIGNAL	MATERIAL NUMBER	DIM A REF	DIM C	DIM P	PCB THK
12	45985-1411	79.66	73.98	4.50	3.18
16	45985-1421	82.20	76.52		
20	45985-1431	84.74	79.06		
24	45985-1441	87.28	81.60		
28	45985-1451	89.82	84.14		
32	45985-1461	92.36	86.68		
36	45985-1471	94.90	89.22	3.90	2.36
40	45985-1481	97.44	91.76		
12	45985-1412	79.66	73.98		
16	45985-1422	82.20	76.52		
20	45985-1432	84.74	79.06		
24	45985-1442	87.28	81.60		
28	45985-1452	89.82	84.14		
32	45985-1462	92.36	86.68		
36	45985-1472	94.90	89.22		
40	45985-1482	97.44	91.76		
12	45985-1413	79.66	73.98	2.90	1.57
16	45985-1423	82.20	76.52		
20	45985-1433	84.74	79.06		
24	45985-1443	87.28	81.60		
28	45985-1453	89.82	84.14		
32	45985-1463	92.36	86.68		
36	45985-1473	94.90	89.22		
40	45985-1483	97.44	91.76		

NOTE:  
1. SEE SHEET 1 FOR ALL OTHER DIMENSIONS.



REVISED EC NO: UCP2007-3140 DRWN:MBANDURA 2008/03/03 CHKD: 2008/03/04 APPR:APATEL 2008/03/06 DESCRIPTION REV	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE <b>MM ONLY</b>		SCALE <b>1:1</b>	DESIGN UNITS <b>METRIC</b>	THIRD ANGLE PROJECTION		
		mm	INCH	DRAWN BY SCHAFER	DATE 2005/06/20	TITLE <b>LPH PLUG ASSEMBLY          RT ANGLE 10 CIRCUIT          POWER CONNECTOR</b>			
	4 PLACES	± ---	± ---	CHECKED BY SAMIEC	DATE 2005/06/21				
	3 PLACES	± ---	± ---	APPROVED BY MARGULIS	DATE 2005/06/22	MOLEX INCORPORATED DOCUMENT NO. SD-45985-100 SHEET NO. 4 OF 5			
2 PLACES	± 0.25	± ---	MATERIAL NO. SEE CHART						
1 PLACE	± ---	± ---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE <b>A</b>	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			
ANGULAR ±1/2°									



PCB LAYOUT: COMPONENT SIDE

REVISED EC NO: UCP2007-3140 DRWN:MBANDURA 2008/03/03 CHKD: 2008/03/04 APPR:APATEL 2008/03/06 DESCRIPTION REV	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 1:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		mm	INCH	DRAWN BY SCHAFFER	DATE 2005/06/20	TITLE LPH PLUG ASSEMBLY RT ANGLE 10 CIRCUIT POWER CONNECTOR		
	4 PLACES	± ---	± ---	CHECKED BY SAMIEC	DATE 2005/06/21			
	3 PLACES	± ---	± ---	APPROVED BY MARGULIS	DATE 2005/06/22	MOLEX INCORPORATED		
	2 PLACES	± 0.25	± ---	MATERIAL NO.	SEE CHART			
1 PLACE	± ---	± ---	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		