

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

**Part Number:** [0459841411](#)  
**Status:** **Active**  
**Overview:** [extreme\\_lphpower](#)  
**Description:** 1.27mm (.050"), 12.00mm (.472") Pitch, EXTreme LPHPower™ Receptacle Header, Right Angle, 10 Power Contacts, 12 Signal Contacts, Select Gold (Au) Plating, for 3.18mm (.125") Thick PC Board, with Guide Posts, with Press-fit Plastic Pegs

**Documents:**

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

**Agency Certification**

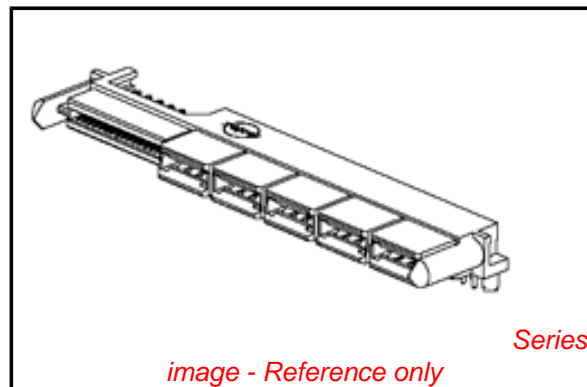
CSA LR 19980  
 UL E29179

**General**

Product Family PCB Receptacles  
 Series [45984](#)  
 Application Board-to-Board  
 Overview [extreme\\_lphpower](#)  
 Product Name EXTreme LPHPower™

**Physical**

Circuits (Loaded) 22  
 Circuits (maximum) 22  
 Circuits Detail 10 Power, 12 Signal  
 Color - Resin Black  
 Durability (mating cycles max) 250  
 Flammability 94V-0  
 Glow-Wire Compliant No  
 Guide to Mating Part Yes  
 Keying to Mating Part Yes  
 Lock to Mating Part No  
 Material - Metal High Performance Alloy (HPA), Phosphor Bronze  
 Material - Plating Mating Gold  
 Material - Plating Termination Tin  
 Material - Resin High Temperature Thermoplastic  
 Number of Rows 2  
 Orientation Right Angle  
 PC Tail Length (in) 0.177 In  
 PC Tail Length (mm) 4.50 mm  
 PCB Locator Yes  
 PCB Retention Yes  
 PCB Thickness Recommended (in) 0.125 In  
 PCB Thickness Recommended (mm) 3.18 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, 75  
 Plating min: Termination (µm) 1.875, 3.75  
 Polarized to Mating Part Yes  
 Polarized to PCB Yes  
 Stackable No  
 Surface Mount Compatible (SMC) Yes



**EU RoHS**

**ELV and RoHS Compliant**  
**REACH SVHC Contains SVHC: No**  
**Halogen-Free Status**

**China RoHS**



**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.

**Search Parts in this Series**

[45984Series](#)

**Mates With**

[45985](#) EXTreme LPHPower™ Headers, 1.57mm (.062") Card Edge

Temperature Range - Operating -40°C to +105°C  
Termination Interface: Style Through Hole

### **Electrical**

Current - Maximum per Contact 20A  
Grounding to PCB No  
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-45984-100

This document was generated on 05/21/2010

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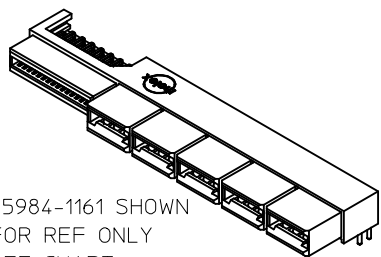


NOTES:

1. MATERIAL HOUSING: LCP, 94V-0, COLOR-BLACK.  
CONTACT: COPPER ALLOY.
2. FINISH: SELECT GOLD - .76  $\mu\text{M}$ /30 MI MIN. CONTACT.  
SELECT TIN - 3.81  $\mu\text{M}$ /150 MI MIN. TAIL.  
BOTH OVER NICKEL - 1.27  $\mu\text{M}$ /50 MI MIN.
3. POWER TERMINALS LUBRICATED IN CONTACT AREA.
4. PRODUCT SPECIFICATION: PS-45984-001.
5. PACKAGING: TRAY PER PK-45984-001.
6. SEE SHEET 5 FOR CKT IDENTIFICATION.
7. PARTS ARE RoHS COMPLIANT.
8. PEG HOLES ARE OPTIONAL
9. MATES TO 1571,062 CARD EDGE OR  
MOLEX P/N 45985-1\*\*\*

NO OF SIGNAL	MATERIAL NUMBER	DIM A	DIM P	PCB THK
12	45984-1111	71.5	4.50	3.18
16	45984-1121	74.0		
20	45984-1131	76.6		
24	45984-1141	79.1		
28	45984-1151	81.6		
32	45984-1161	84.2	3.60	2.36
36	45984-1171	86.7		
40	45984-1181	89.3		
12	45984-1112	71.5		
16	45984-1122	74.0		
20	45984-1132	76.6	2.90	1.57
24	45984-1142	79.1		
28	45984-1152	81.6		
32	45984-1162	84.2		
36	45984-1172	86.7		
40	45984-1182	89.3	2.90	1.57
12	45984-1113	71.5		
16	45984-1123	74.0		
20	45984-1133	76.6		
24	45984-1143	79.1		
28	45984-1153	81.6		
32	45984-1163	84.2		
36	45984-1173	86.7		
40	45984-1183	89.3		

PCB LAYOUT: COMPONENT SIDE  
PEG HOLES OPTIONAL



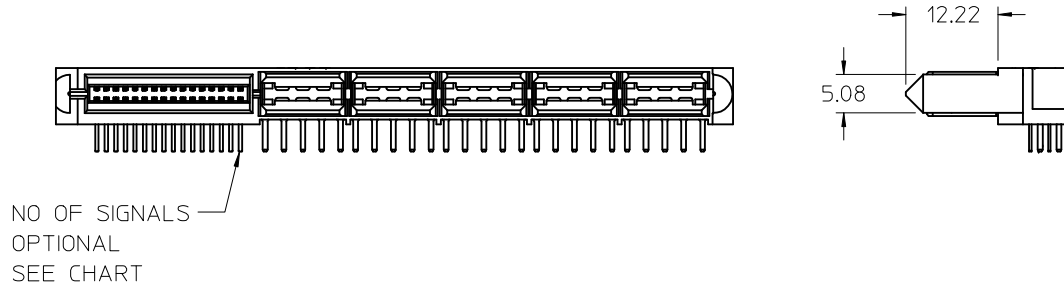
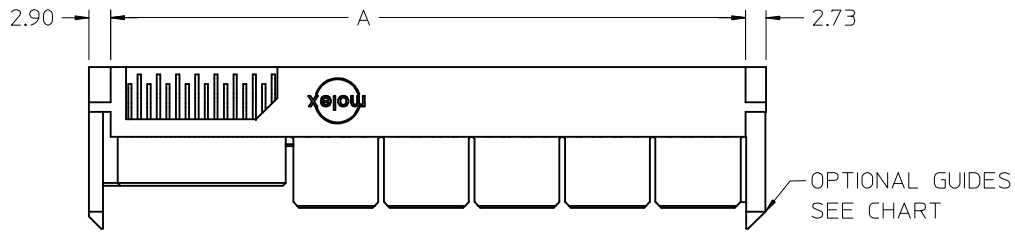
45984-1161 SHOWN FOR REF ONLY SEE CHART

REVISED	DESCRIPTION
EC NO: UCP2009-0971	2008/11/13
DRWN:MBANDURA	2008/11/14
CHKD:	2008/11/14
APPR:APATEL	2008/11/17
REV	

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

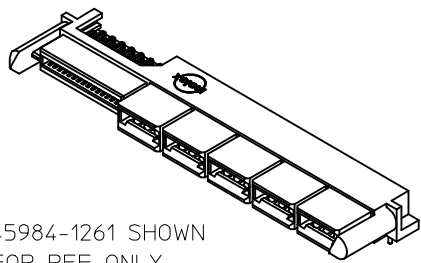
DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
SAMIEC	2005/05/13
CHECKED BY	DATE
SAMIEC	2005/05/13
APPROVED BY	DATE
MARGULIS	2005/05/13
MATERIAL NO.	SEE CHART
SIZE	A

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
1:1	METRIC		
TITLE			
LPH RECEPTACLE ASSEMBLY RT ANGLE 10 CIRCUIT POWER CONNECTOR			
MOLEX INCORPORATED			
DOCUMENT NO.			SHEET NO.
SD-45984-100			1 OF 5
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			



GUIDE POST OPTIONS

NO OF SIGNAL	MATERIAL NUMBER	DIM A	DIM P	PCB THK
12	45984-1211	71.5	4.50	3.18
16	45984-1221	74.0		
20	45984-1231	76.6		
24	45984-1241	79.1		
28	45984-1251	81.6		
32	45984-1261	84.2	3.60	2.36
36	45984-1271	86.7		
40	45984-1281	89.3		
12	45984-1212	71.5		
16	45984-1222	74.0		
20	45984-1232	76.6	2.90	1.57
24	45984-1242	79.1		
28	45984-1252	81.6		
32	45984-1262	84.2		
36	45984-1272	86.7		
40	45984-1282	89.3	2.90	1.57
12	45984-1213	71.5		
16	45984-1223	74.0		
20	45984-1233	76.6		
24	45984-1243	79.1	2.90	1.57
28	45984-1253	81.6		
32	45984-1263	84.2		
36	45984-1273	86.7		
40	45984-1283	89.3		



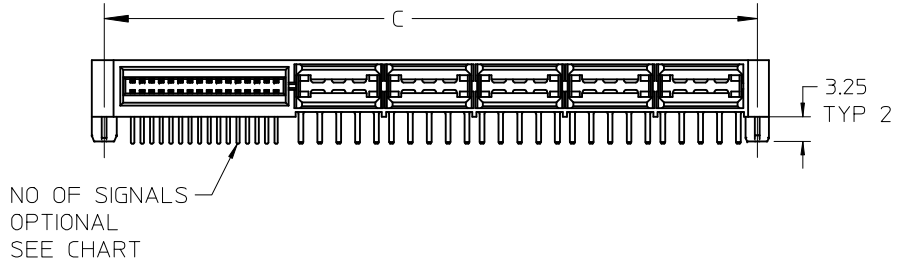
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REVISED	EC NO: UCP2009-0971	2008/11/13	DRWN:MBANDURA	2008/11/14	CHKD: 2008/11/14	APPR:APATEL	2008/11/17
REV	DESCRIPTION						

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		

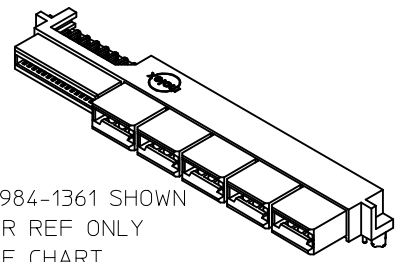
DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
SAMIEC	2005/05/13
CHECKED BY	DATE
SAMIEC	2005/05/13
APPROVED BY	DATE
MARGULIS	2005/05/13
MATERIAL NO.	
SEE CHART	
SIZE	
A	

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
1:1	METRIC		
TITLE			
LPH RECEPTACLE ASSEMBLY RT ANGLE 10 CIRCUIT POWER CONNECTOR			
MOLEX INCORPORATED			
DOCUMENT NO.			SHEET NO.
SD-45984-100			2 OF 5
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			



MOUNTING PEG OPTIONS

NO OF SIGNAL	MATERIAL NUMBER	DIM A	DIM C	DIM P	PCB THK
12	45984-1311	71.5	73.90	4.50	3.18
16	45984-1321	74.0	76.44		
20	45984-1331	76.6	78.98		
24	45984-1341	79.1	81.52		
28	45984-1351	81.6	84.06		
32	45984-1361	84.2	86.60		
36	45984-1371	86.7	89.14	3.60	2.36
40	45984-1381	89.3	91.68		
12	45984-1312	71.5	73.90		
16	45984-1322	74.0	76.44		
20	45984-1332	76.6	78.98		
24	45984-1342	79.1	81.52		
28	45984-1352	81.6	84.06	2.90	1.57
32	45984-1362	84.2	86.60		
36	45984-1372	86.7	89.14		
40	45984-1382	89.3	91.68		
12	45984-1313	71.5	73.90		
16	45984-1323	74.0	76.44		
20	45984-1333	76.6	78.98		
24	45984-1343	79.1	81.52		
28	45984-1353	81.6	84.06		
32	45984-1363	84.2	86.60		
36	45984-1373	86.7	89.14		
40	45984-1383	89.3	91.68		



45984-1361 SHOWN FOR REF ONLY SEE CHART

REVISED	EC NO: UCP2009-0971	2008/11/13	DRWN:MBANDURA	2008/11/14	CHKD:	2008/11/14	APPR:APATEL	2008/11/17
REV	DESCRIPTION							

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		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
MM ONLY		1:1	METRIC	
DRAWN BY	DATE	TITLE		
SAMIEC	2005/05/13	LPH RECEPTACLE ASSEMBLY		
CHECKED BY	DATE	RT ANGLE 10 CIRCUIT		
SAMIEC	2005/05/13	POWER CONNECTOR		
APPROVED BY	DATE	MOLEX INCORPORATED		
MARGULIS	2005/05/13	DOCUMENT NO. SD-45984-100		
MATERIAL NO.	SEE CHART	SHEET NO. 3 OF 5		

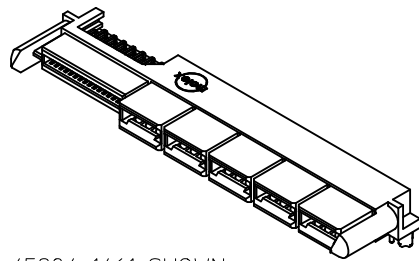
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NO OF SIGNALS  
OPTIONAL  
SEE CHART

### GUIDE POST & MOUNTING PEG OPTIONS

NO OF SIGNAL	MATERIAL NUMBER	DIM A	DIM C	DIM P	PCB THK
12	45984-1411	71.5	73.90	4.50	3.18
16	45984-1421	74.0	76.44		
20	45984-1431	76.6	78.98		
24	45984-1441	79.1	81.52		
28	45984-1451	81.6	84.06		
32	45984-1461	84.2	86.60		
36	45984-1471	86.7	89.14	3.60	2.36
40	45984-1481	89.3	91.68		
12	45984-1412	71.5	73.90		
16	45984-1422	74.0	76.44		
20	45984-1432	76.6	78.98		
24	45984-1442	79.1	81.52		
28	45984-1452	81.6	84.06	2.90	1.57
32	45984-1462	84.2	86.60		
36	45984-1472	86.7	89.14		
40	45984-1482	89.3	91.68		
12	45984-1413	71.5	73.90		
16	45984-1423	74.0	76.44		
20	45984-1433	76.6	78.98		
24	45984-1443	79.1	81.52		
28	45984-1453	81.6	84.06		
32	45984-1463	84.2	86.60		
36	45984-1473	86.7	89.14		
40	45984-1483	89.3	91.68		



45984-1461 SHOWN  
FOR REF ONLY  
SEE CHART

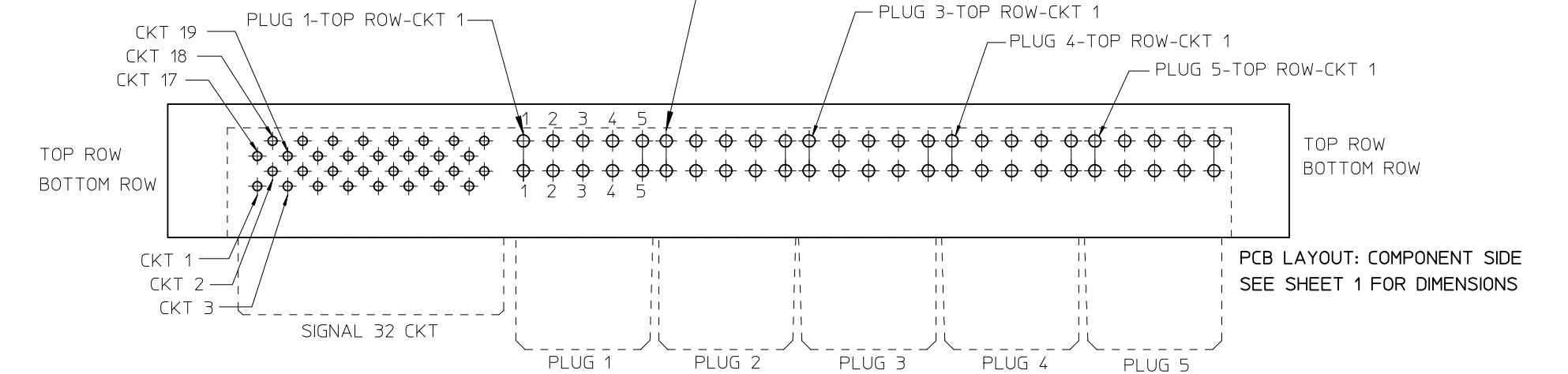
REVISED EC NO: UCP2009-0971 DRWN:MBANDURA 2008/11/13 CHKD: 2008/11/14 APPR:APATEL 2008/11/17 DESCRIPTION REV	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE <b>MM ONLY</b>		SCALE <b>1:1</b>	DESIGN UNITS <b>METRIC</b>	THIRD ANGLE PROJECTION		
		mm	INCH	DRAWN BY SAMIEC	DATE 2005/05/13	TITLE <b>LPH RECEPTACLE ASSEMBLY          RT ANGLE 10 CIRCUIT          POWER CONNECTOR</b>			
	4 PLACES	± ---	± ---	CHECKED BY SAMIEC	DATE 2005/05/13				
	3 PLACES	± ---	± ---	APPROVED BY MARGULIS	DATE 2005/05/13	MOLEX INCORPORATED DOCUMENT NO. <b>SD-45984-100</b>			
2 PLACES	± 0.25	± ---	MATERIAL NO. SEE CHART		SHEET NO. <b>4 OF 5</b>				
1 PLACE	± ---	± ---	ANGULAR ±1/2°		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			SIZE <b>A</b>						



NO. OF SIGNAL	DIM. D
12	8.00
16	10.54
20	13.08
24	15.62
28	18.16
32	20.70
36	23.24
40	25.78



RECOMMENDED  
EDGE CARD LAYOUT  
THICKNESS: 1.57/0.62



REVISED	EC NO:	DRWN:	CHKD:	APPR:	DESCRIPTION
5	UCP2009-0971	MBANDURA		APATEL	

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
SAMIEC	2005/05/13
CHECKED BY	DATE
SAMIEC	2005/05/13
APPROVED BY	DATE
MARGULIS	2005/05/13
MATERIAL NO.	

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
2:1	METRIC	
TITLE		
LPH RECEPTACLE ASSEMBLY RT ANGLE 10 CIRCUIT POWER CONNECTOR		
MOLEX INCORPORATED		
DOCUMENT NO.	SHEET NO.	
SD-45984-100	5 OF 5	