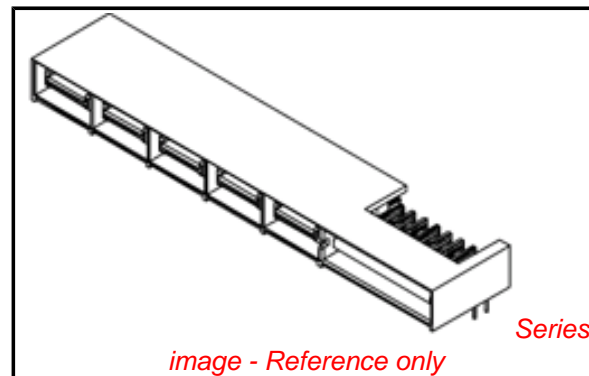


**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** **0459851143**  
**Status:** **Active**  
**Overview:** extreme\_lphpower  
**Description:** 1.27mm (.050"), 12.00mm (.472") Pitch, EXTreme LPHPower™ Header, Right Angle, 10 Power Contacts, 24 Signal Contacts, Select Gold (Au) Plating, for 1.57mm (.062") 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         | <u>45985</u>            |
| Application    | Board-to-Board          |
| Overview       | <u>extreme_lphpower</u> |
| Product Name   | EXTreme LPHPower™       |

**Physical**

|                                |                                     |
|--------------------------------|-------------------------------------|
| Breakaway                      | No                                  |
| Circuits (Loaded)              | 34                                  |
| Circuits (maximum)             | 34                                  |
| Circuits Detail                | 10 Power, 24 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)            | 0.114 In                            |
| PC Tail Length (mm)            | 2.90 mm                             |
| PCB Locator                    | No                                  |
| PCB Retention                  | None                                |
| PCB Thickness Recommended (in) | 0.062 In                            |
| PCB Thickness Recommended (mm) | 1.57 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**

**China RoHS**



**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**

[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                    |

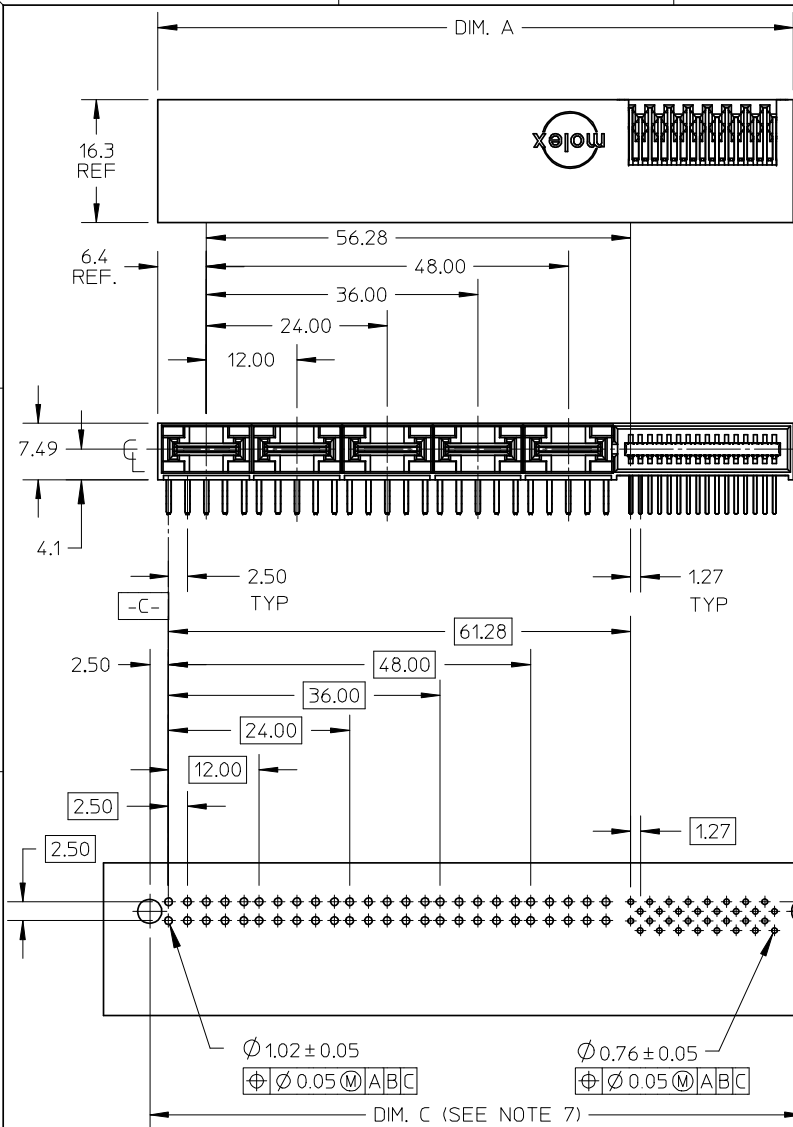
### **Material Info**

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

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

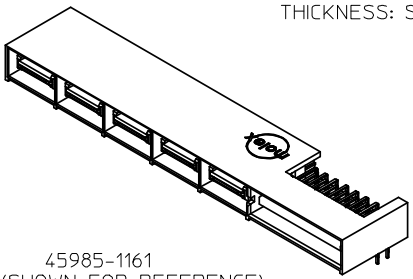
This document was generated on 05/25/2010

**PLEASE CHECK [WWW.MOLEX.COM](http://WWW.MOLEX.COM) FOR LATEST PART INFORMATION**



- 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     |       |         |

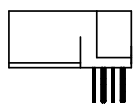
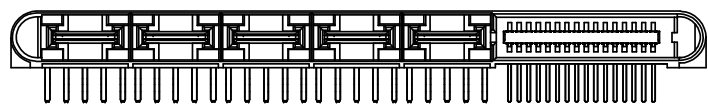
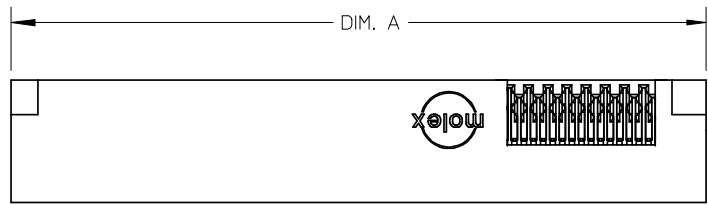


| REVISED             | DESCRIPTION |
|---------------------|-------------|
| EC NO: UCP2007-3140 | 2008/03/03  |
| DRWN:MBANDURA       | 2008/03/04  |
| CHKD:               | 2008/03/06  |
| APPR:APATEL         |             |

| GENERAL TOLERANCES (UNLESS SPECIFIED)                |        |
|--|--------|
|  | mm     |
| 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      |            |

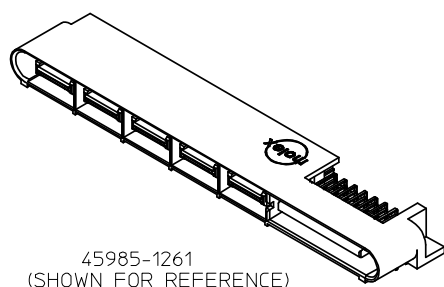
| SCALE   | DESIGN UNITS | THIRD ANGLE PROJECTION |
|---|--------------|------------------------|
| 1:1   | METRIC       |                        |
| TITLE   |              |                        |
| LPH PLUG ASSEMBLY<br>RT ANGLE 10 CIRCUIT<br>POWER CONNECTOR   |              |                        |
| 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.

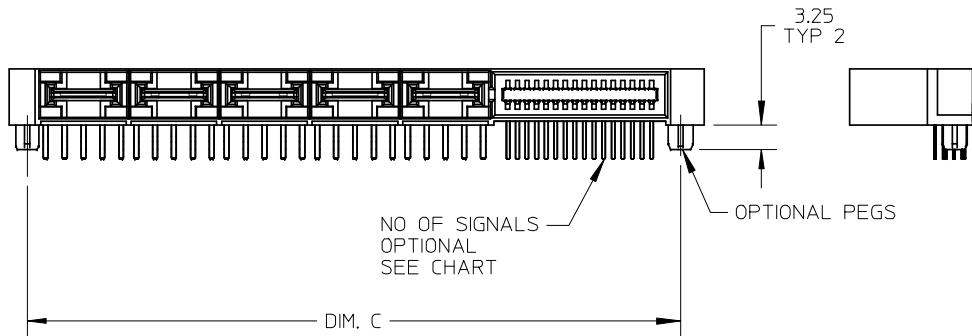
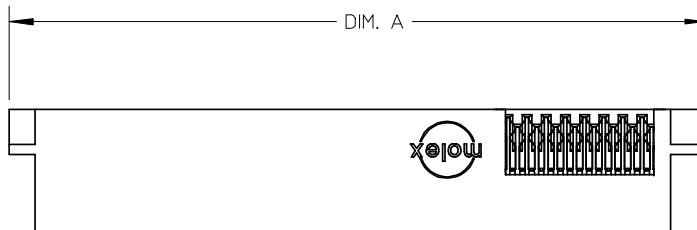


|                          |             |
|--------------------------|-------------|
| REVISED                  | DESCRIPTION |
| EC NO: UCP2007-3140      |             |
| DRWN:MBANDURA 2008/03/03 |             |
| CHKD: 2008/03/04         |             |
| APPR:APATEL 2008/03/06   |             |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

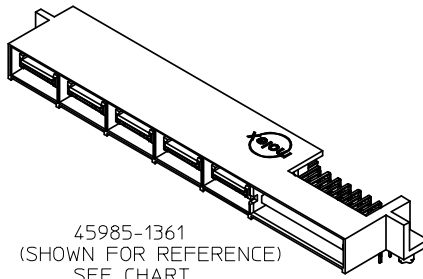
|   |              |                        |
|---|--------------|------------------------|
| SCALE   | DESIGN UNITS | THIRD ANGLE PROJECTION |
| 1:1   | METRIC       |                        |
| TITLE   |              |                        |
| LPH PLUG ASSEMBLY<br>RT ANGLE 10 CIRCUIT<br>POWER CONNECTOR   |              |                        |
| 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 | 3.90  | 2.36    |
| 36           | 45985-1371      | 94.90     | 89.22 |       |         |
| 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 | 2.90  | 1.57    |
| 24           | 45985-1342      | 87.28     | 81.60 |       |         |
| 28           | 45985-1352      | 89.82     | 84.14 |       |         |
| 32           | 45985-1362      | 92.36     | 86.68 |       |         |
| 36           | 45985-1372      | 94.90     | 89.22 |       |         |
| 40           | 45985-1382      | 97.44     | 91.76 | 2.90  | 1.57    |
| 12           | 45985-1313      | 79.66     | 73.98 |       |         |
| 16           | 45985-1323      | 82.20     | 76.52 |       |         |
| 20           | 45985-1333      | 84.74     | 79.06 |       |         |
| 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 |       |         |
| 40           | 45985-1383      | 97.44     | 91.76 |       |         |

MOUNTING PEG OPTIONS

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

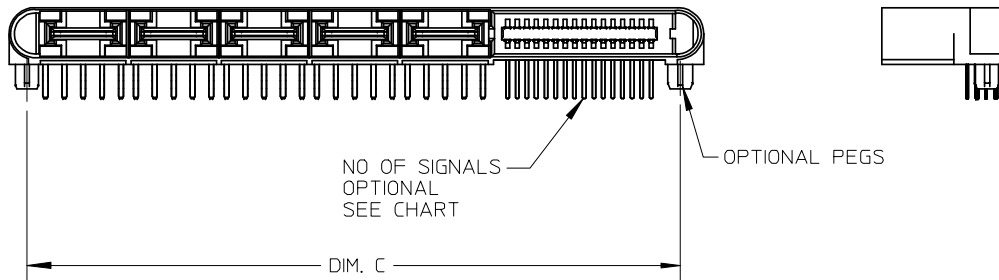
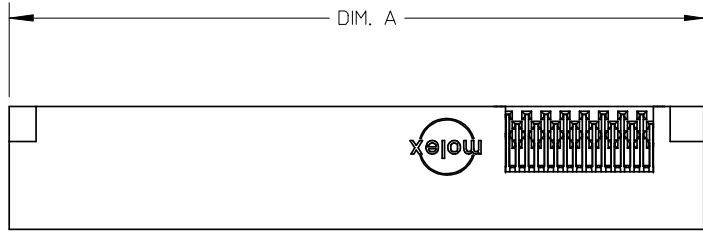


|                     |             |
|---------------------|-------------|
| REVISED             | DESCRIPTION |
| EC NO: UCP2007-3140 |             |
| DRWN:MBANDURA       |             |
| CHKD:               |             |
| APPR:APATEL         |             |
| REV                 |             |

|  |              |
|--|--------------|
| 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       |
| SCHAFER         | 2005/06/20 |
| CHECKED BY      | DATE       |
| SAMIEC          | 2005/06/21 |
| APPROVED BY     | DATE       |
| MARGULIS        | 2005/06/22 |
| MATERIAL NO.    |            |
| SEE CHART       |            |

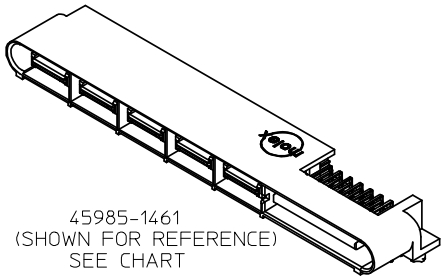
|   |              |                        |
|---|--------------|------------------------|
| SCALE   | DESIGN UNITS | THIRD ANGLE PROJECTION |
| 1:1   | METRIC       |                        |
| TITLE   |              |                        |
| LPH PLUG ASSEMBLY<br>RT ANGLE 10 CIRCUIT<br>POWER CONNECTOR   |              |                        |
| MOLEX INCORPORATED  |              |                        |
| DOCUMENT NO.  |              | SHEET NO.              |
| SD-45985-100  |              | 3 OF 5                 |
| THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |              |                        |



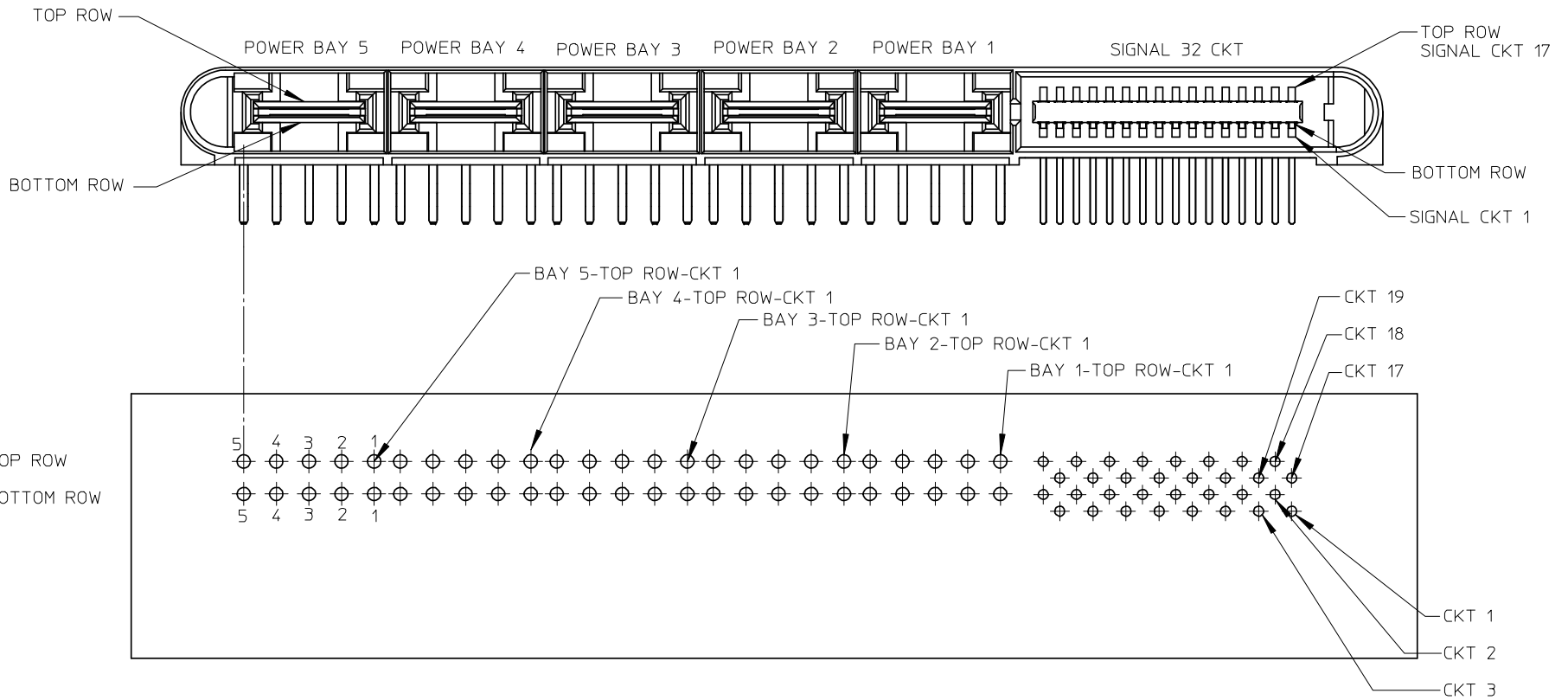
GUIDE & MOUNTING PEG OPTIONS

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



PCB LAYOUT: COMPONENT SIDE

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