

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

**Part Number:** **0459851913**  
**Status:** **Active**  
**Overview:** extreme\_lphpower  
**Description:** 12.00mm (0.472") Pitch, EXTreme LPHPower™ Header, Right Angle, 10 Power Contacts, Select Gold (Au) Plating, for 3.18mm (.125") Thick PC Board, with Press-fit Plastic Pegs

**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          |
| Comments       | 10 Power Blades         |
| Overview       | <u>extreme_lphpower</u> |
| Product Name   | EXTreme LPHPower™       |

**Physical**

|                                |                                |
|--------------------------------|--------------------------------|
| Breakaway                      | No                             |
| Circuits (Loaded)              | 10                             |
| Circuits (maximum)             | 10                             |
| Circuits Detail                | 10 Power, No 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               | 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)            | 0.177 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)  | 0.472 In                       |
| Pitch - Mating Interface (mm)  | 12.00 mm                       |
| Pitch - Term. Interface (in)   | 0.079 In, 0.098 In             |
| Pitch - Term. Interface (mm)   | 2.00 mm, 2.50 mm               |
| Plating min: Mating (µin)      | 30                             |
| Plating min: Mating (µm)       | 0.75                           |

**EU RoHS**  
**ELV and RoHS**  
**Compliant**  
**REACH SVHC**  
 Not Reviewed  
**Halogen-Free**  
**Status**  
**Not Reviewed**

**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

|                                      |                 |
|--------------------------------------|-----------------|
| Plating min: Termination ( $\mu$ in) | 150             |
| Plating min: Termination ( $\mu$ m)  | 3.75            |
| Polarized to Mating Part             | Yes             |
| Polarized to PCB                     | No              |
| Shrouded                             | Closed Ends     |
| 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) | 15                           |
| Lead-free Process Capability                   | SMC & Wave Capable (TH only) |
| Max. Cycles at Max. Process Temperature        | 3                            |
| Process Temperature max. C                     | 230                          |

### **Material Info**

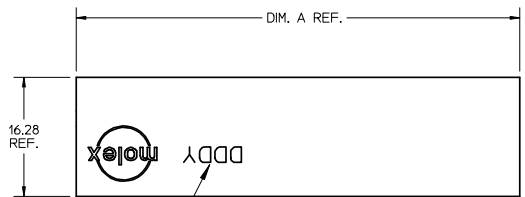
#### **Reference - Drawing Numbers**

|                         |              |
|-------------------------|--------------|
| Packaging Specification | PK-45984-001 |
| Product Specification   | PS-45984-001 |
| Sales Drawing           | SD-45985-102 |

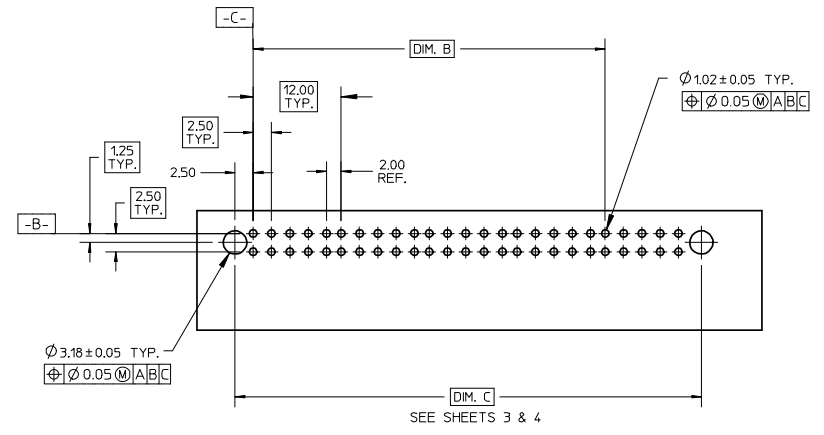
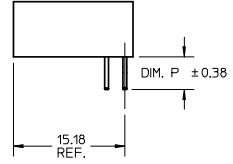
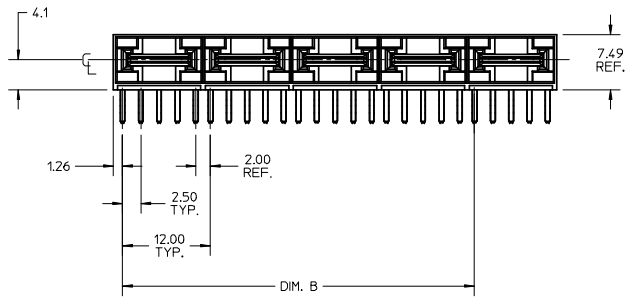
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SEE NOTE 10



PCB LAYOUT: COMPONENT SIDE  
THICKNESS: SEE CHART

| CKT SIZE | MATERIAL NUMBER | DIM. A REF | DIM B | DIM P |
|----------|-----------------|------------|-------|-------|
| 4        | 45985-4911      | 24.60      | 12.00 | 4.50  |
| 6        | 45985-6911      | 36.60      | 24.00 |       |
| 8        | 45985-8911      | 48.60      | 36.00 |       |
| 10       | 45985-1911      | 60.60      | 48.00 | 3.90  |
| 4        | 45985-4921      | 24.60      | 12.00 |       |
| 6        | 45985-6921      | 36.60      | 24.00 |       |
| 8        | 45985-8921      | 48.60      | 36.00 | 2.90  |
| 10       | 45985-1921      | 60.60      | 48.00 |       |
| 4        | 45985-4931      | 24.60      | 12.00 |       |
| 6        | 45985-6931      | 36.60      | 24.00 |       |
| 8        | 45985-8931      | 48.60      | 36.00 |       |
| 10       | 45985-1931      | 60.60      | 48.00 |       |

- NOTES:
- MATERIAL: LCP, 94V-0, BLACK  
MATERIAL: TERMINAL: COPPER ALLOY
  - FINISH: SELECT GOLD: 0.76 µM/30 MI MIN. IN CONTACT AREA,  
SELECT TIN: 3.81 µM/150 MI MIN. IN PC TAIL AREA  
BOTH OVER NICKEL: 1.27 µM/50 MI MIN.
  - PRODUCT SPECIFICATION: PS-45984-001
  - PACKAGING SPECIFICATION: TRAY PER PK-45984-001
  - SEE SHEET 5 FOR CIRCUIT IDENTIFICATION.
  - PARTS ARE RoHS COMPLIANT.
  - PEG HOLES ARE OPTIONAL. SEE SHEET 3 & 4.
  - MATES TO MOLEX 45984 SERIES RECEPTACLE.
  - PARTS CONFORM TO CLASS B REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.
  - DATE CODE (3-DIGIT DAY, 1-DIGIT YEAR) TO BE LOCATED AND PRINTED AS SHOWN.

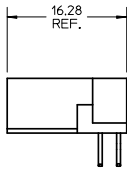
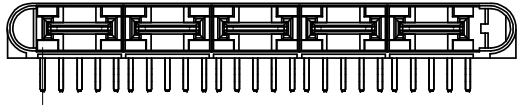
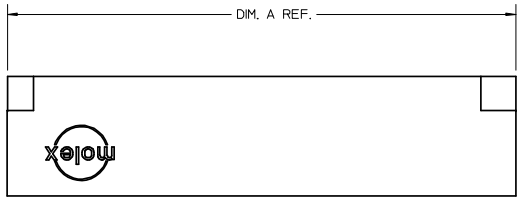
|          |                     |            |            |
|----------|---------------------|------------|------------|
| RELEASED | EC NO: UCP2007-3140 | 2008/03/03 | 2008/03/04 |
|          | DRW:MBANDURA        | 2008/03/03 | 2008/03/04 |
|          | CHKD:               |            |            |
|          | APPR:APATEL         |            |            |
| REV      | DESCRIPTION         |            |            |

| GENERAL TOLERANCES (UNLESS SPECIFIED)                      |       | DIMENSION STYLE |   | SCALE   | DESIGN UNITS | THIRD ANGLE PROJECTION |  |
|--|-------|-----------------|---|---|--------------|------------------------|--|
| mm   | INCH  | MM ONLY         |   | 1:1   | METRIC       |                        |  |
| 4 PLACES ± ---   | ± --- | DRAWN BY        | DATE  | TITLE   |              |                        |  |
| 3 PLACES ± ---   | ± --- | BANDURA         | 5/16/2006   |   |              |                        |  |
| 2 PLACES ± 0.25  | ± --- | CHECKED BY      | DATE  | LPH PLUG ASSEMBLY<br>RIGHT ANGLE<br>POWER CONNECTOR |              |                        |  |
| 1 PLACE ± ---  | ± --- | BANDURA         | 5/27/2006   |   |              |                        |  |
| ANGULAR ± 1/2°   |       | APPROVED BY     | DATE  | MOLEX INCORPORATED                                  |              |                        |  |
| DRAFT WHERE APPLICABLE<br>MUST REMAIN<br>WITHIN DIMENSIONS |       | PATEL           |   |   |              |                        |  |
|  |       | MATERIAL NO.    | DOCUMENT NO.  | SHEET NO.   |              |                        |  |
|  |       | SEE CHART       | SD-45985-102  |   |              |                        |  |
|  |       | SIZE B          | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |   |              |                        |  |

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| CKT SIZE | MATERIAL NUMBER | DIM. A REF | DIM B | DIM P |
|----------|-----------------|------------|-------|-------|
| 4        | 45985-4912      | 33.36      | 12.00 | 4.50  |
| 6        | 45985-6912      | 45.36      | 24.00 |       |
| 8        | 45985-8912      | 57.36      | 36.00 |       |
| 10       | 45985-1912      | 69.36      | 48.00 | 3.90  |
| 4        | 45985-4922      | 33.36      | 12.00 |       |
| 6        | 45985-6922      | 45.36      | 24.00 |       |
| 8        | 45985-8922      | 57.36      | 36.00 | 2.90  |
| 10       | 45985-1922      | 69.36      | 48.00 |       |
| 4        | 45985-4932      | 33.36      | 12.00 |       |
| 6        | 45985-6932      | 45.36      | 24.00 |       |
| 8        | 45985-8932      | 57.36      | 36.00 |       |
| 10       | 45985-1932      | 69.36      | 48.00 |       |

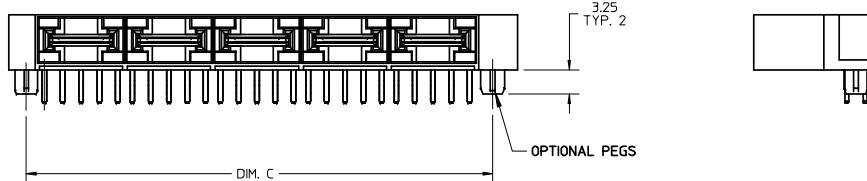
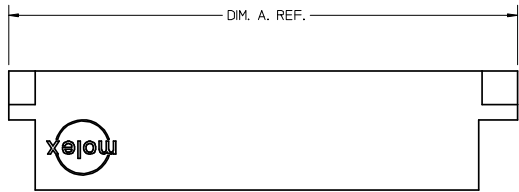


NOTE:  
1. SEE SHEET 1 FOR DIMENSIONS NOT SHOWN.

|   |                    |                                       |                           |                            |                              |   |  |                        |  |  |
|---|--------------------|---------------------------------------|---------------------------|----------------------------|------------------------------|---|--|------------------------|--|--|
| RELEASED<br>EC NO: UCP2007-3140<br>DRAWN: BANDURA 2008/03/03<br>CHKD: 2008/03/04<br>APPR: APATEL 2008/03/06 | 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>BANDURA          | DATE<br>5/16/2006   | TITLE<br>LPH PLUG ASSEMBLY<br>RIGHT ANGLE<br>POWER CONNECTOR |                        |  |  |
|   |                    | 4 PLACES                              | ± ---                     | ± ---                      | CHECKED BY                   | DATE  |  |                        |  |  |
|   |                    | 3 PLACES                              | ± ---                     | ± ---                      | BANDURA                      | 5/27/2006   | MOLEX INCORPORATED   |                        |  |  |
|   |                    | 2 PLACES                              | ± 0.25                    | ± ---                      | APPROVED BY<br>PATEL         | DATE  |  |                        |  |  |
| 1 PLACE   | ± ---              | ± ---                                 | MATERIAL NO.<br>SEE CHART |                            | DOCUMENT NO.<br>SD-45985-102 | SHEET NO.<br>2 OF 5   |  |                        |  |  |
| DRAFT WHERE APPLICABLE<br>MUST REMAIN<br>WITHIN DIMENSIONS  |                    | ANGULAR ±1/2°                         |                           | SIZE<br>B                  |                              | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |  |                        |  |  |

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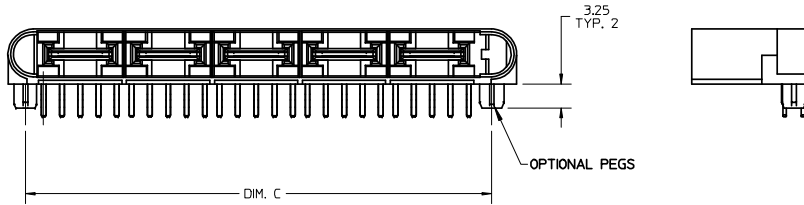
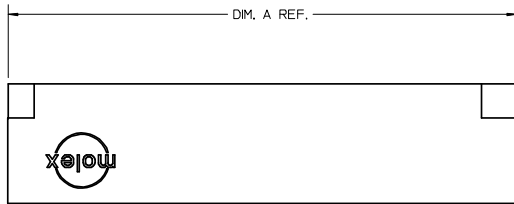
| CKT SIZE | MATERIAL NUMBER | DIM. A REF | DIM B | DIM C | DIM P |
|----------|-----------------|------------|-------|-------|-------|
| 4        | 45985-4913      | 33.36      | 12.00 | 27.60 | 4.50  |
| 6        | 45985-6913      | 45.36      | 24.00 | 39.60 |       |
| 8        | 45985-8913      | 57.36      | 36.00 | 51.60 |       |
| 10       | 45985-1913      | 69.36      | 48.00 | 63.60 | 3.90  |
| 4        | 45985-4923      | 33.36      | 12.00 | 27.60 |       |
| 6        | 45985-6923      | 45.36      | 24.00 | 39.60 |       |
| 8        | 45985-8923      | 57.36      | 36.00 | 51.60 | 2.90  |
| 10       | 45985-1923      | 69.36      | 48.00 | 63.60 |       |
| 4        | 45985-4933      | 33.36      | 12.00 | 27.60 |       |
| 6        | 45985-6933      | 45.36      | 24.00 | 39.60 |       |
| 8        | 45985-8933      | 57.36      | 36.00 | 51.60 |       |
| 10       | 45985-1933      | 69.36      | 48.00 | 63.60 |       |

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

|  |             |  |             |                            |                              |   |  |                        |  |  |
|--|-------------|--|-------------|----------------------------|------------------------------|---|--|------------------------|--|--|
| RELEASED<br>EC NO: UCP2007-3140<br>DRWN: BANDURA 2008/03/03<br>CHKD: 2008/03/04<br>APPR: APATEL 2008/03/06 | DESCRIPTION | GENERAL TOLERANCES (UNLESS SPECIFIED)                      |             | DIMENSION STYLE<br>MM ONLY |                              | SCALE<br>1:1  | DESIGN UNITS<br>METRIC                                       | THIRD ANGLE PROJECTION |  |  |
|  |             |  | mm          | INCH                       | DRAWN BY                     | DATE  | TITLE<br>LPH PLUG ASSEMBLY<br>RIGHT ANGLE<br>POWER CONNECTOR |                        |  |  |
|  |             | 4 PLACES   | ± ---       | ± ---                      | BANDURA                      | 5/16/2006   |  |                        |  |  |
|  |             | 3 PLACES   | ± ---       | ± ---                      | CHECKED BY                   | DATE  | MOLEX INCORPORATED   |                        |  |  |
|  |             | 2 PLACES   | ± 0.25      | ± ---                      | BANDURA                      | 5/27/2006   |  |                        |  |  |
| 1 PLACE  | ± ---       | ± ---  | APPROVED BY | DATE                       | DOCUMENT NO.<br>SD-45985-102 |   | SHEET NO.<br>3 OF 5  |                        |  |  |
|  |             | ANGULAR ±1/2°  |             | MATERIAL NO.<br>SEE CHART  |                              |   |  |                        |  |  |
|  |             | DRAFT WHERE APPLICABLE<br>MUST REMAIN<br>WITHIN DIMENSIONS |             | SIZE<br>B                  |                              | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |  |                        |  |  |

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| CKT SIZE | MATERIAL NUMBER | DIM. A REF | DIM B | DIM C | DIM P |
|----------|-----------------|------------|-------|-------|-------|
| 4        | 45985-4914      | 33.36      | 12.00 | 27.60 | 4.50  |
| 6        | 45985-6914      | 45.36      | 24.00 | 39.60 |       |
| 8        | 45985-8914      | 57.36      | 36.00 | 51.60 |       |
| 10       | 45985-1914      | 69.36      | 48.00 | 63.60 |       |
| 4        | 45985-4924      | 33.36      | 12.00 | 27.60 | 3.90  |
| 6        | 45985-6924      | 45.36      | 24.00 | 39.60 |       |
| 8        | 45985-8924      | 57.36      | 36.00 | 51.60 |       |
| 10       | 45985-1924      | 69.36      | 48.00 | 63.60 |       |
| 4        | 45985-4934      | 33.36      | 12.00 | 27.60 | 2.90  |
| 6        | 45985-6934      | 45.36      | 24.00 | 39.60 |       |
| 8        | 45985-8934      | 57.36      | 36.00 | 51.60 |       |
| 10       | 45985-1934      | 69.36      | 48.00 | 63.60 |       |

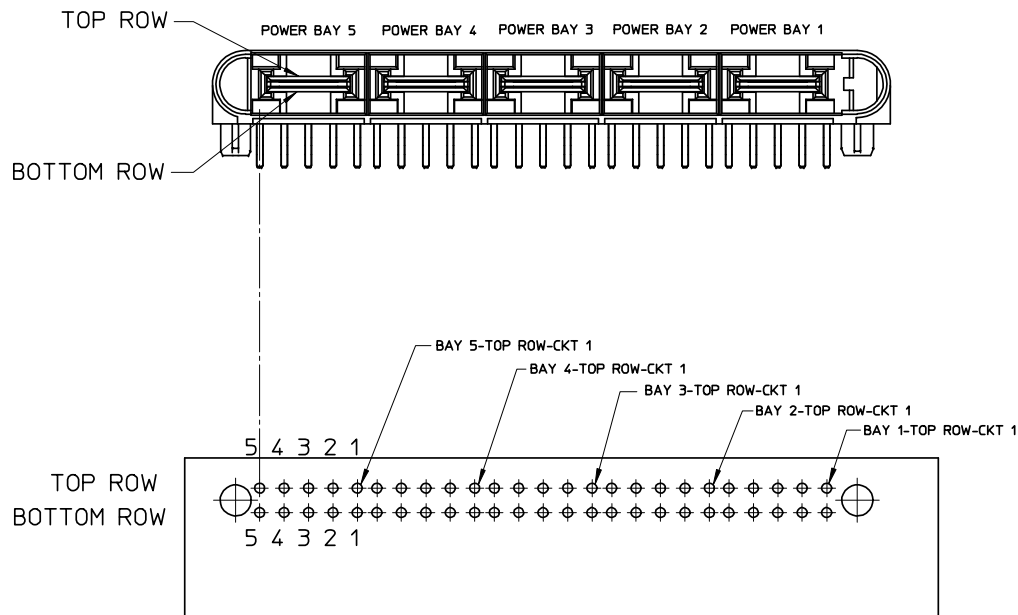
NOTE:  
1. SEE SHEET 1 FOR DIMENSIONS NOT SHOWN.

|   |  |  |       |                              |                   |  |                        |                        |  |
|---|--|--|-------|------------------------------|-------------------|--|------------------------|------------------------|--|
| RELEASED<br>EC NO: UCP2007-3140<br>DRWN: BANDURA 2008/03/03<br>CHKD: 2008/03/04<br>APPR: APATEL 2008/03/06<br>REV B | DESCRIPTION<br>LPH PLUG ASSEMBLY<br>RIGHT ANGLE<br>POWER CONNECTOR | 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>BANDURA          | DATE<br>5/16/2006 | TITLE<br>LPH PLUG ASSEMBLY<br>RIGHT ANGLE<br>POWER CONNECTOR |                        |                        |  |
|   |  | 4 PLACES ± ---   | ± --- | CHECKED BY<br>BANDURA        | DATE<br>5/27/2006 |  |                        |                        |  |
|   |  | 3 PLACES ± ---   | ± --- | APPROVED BY<br>PATEL         |                   | MATERIAL NO.<br>SEE CHART                                    |                        |                        |  |
|   |  | 2 PLACES ± 0.25  | ± --- | DATE                         |                   |  |                        |                        |  |
| 1 PLACE ± ---   | ± ---  | ANGULAR ± 1/2°   |       | DOCUMENT NO.<br>SD-45985-102 |                   | SHEET NO.<br>4 OF 5  |                        |                        |  |
| 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 |       |                              |                   |  |                        |                        |  |

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CIRCUIT IDENTIFICATION



PCB LAYOUT: COMPONENT SIDE

|   |  |  |              |                            |   |  |                        |                        |                    |                              |                     |
|---|--|--|--------------|----------------------------|---|--|------------------------|------------------------|--------------------|------------------------------|---------------------|
| RELEASED<br>EC NO: UCP2007-3140<br>DRWN: BANDURA 2008/03/03<br>CHKD: 2008/03/04<br>APPR: APATEL 2008/03/06<br>REV B | DESCRIPTION<br>LPH PLUG ASSEMBLY<br>RIGHT ANGLE<br>POWER CONNECTOR | GENERAL TOLERANCES (UNLESS SPECIFIED)                      |              | DIMENSION STYLE<br>MM ONLY |   | SCALE<br>1:1   | DESIGN UNITS<br>METRIC | THIRD ANGLE PROJECTION |                    |                              |                     |
|   |  | 4 PLACES ± --- ± ---                                       | mm INCH      | DRAWN BY<br>BANDURA        | DATE<br>5/16/2006   | TITLE<br>LPH PLUG ASSEMBLY<br>RIGHT ANGLE<br>POWER CONNECTOR |                        |                        |                    |                              |                     |
|   |  | 3 PLACES ± --- ± ---                                       | ± 0.25 ± --- | CHECKED BY<br>BANDURA      | DATE<br>5/27/2006   |  |                        |                        |                    |                              |                     |
|   |  | 2 PLACES ± 0.25 ± ---                                      | ± --- ± ---  | APPROVED BY<br>PATEL       |   | MATERIAL NO. SEE CHART                                       |                        |                        |                    |                              |                     |
| 1 PLACE ± --- ± ---   | ANGULAR ±1/2°  | DRAFT WHERE APPLICABLE<br>MUST REMAIN<br>WITHIN DIMENSIONS |              | SIZE<br>B                  | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |  |                        |                        | MOLEX INCORPORATED | DOCUMENT NO.<br>SD-45985-102 | SHEET NO.<br>5 OF 5 |

9 8 7 6 5 4 3 2 1