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Jameco Part Number 883704

FEATURES AND SPECIFICATIONS

Features and Benefits

- Snap-in peg locks header to PCB for optimum retention
- Fully polarized to mating receptacle
- Surface Mount Compatible

Reference Information

Product Specification: PS-43045

Packaging: Tray

UL File No.: E29179

CSA File No.: LR19980

TUV License No.: R95107

Mates With: [43025](#)

Designed In: Millimeters



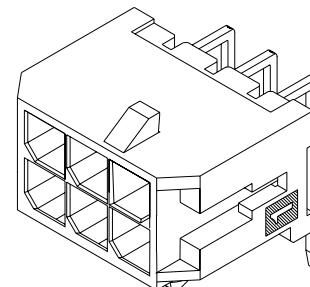
3.00mm (.118") Pitch

Micro-Fit 3.0™

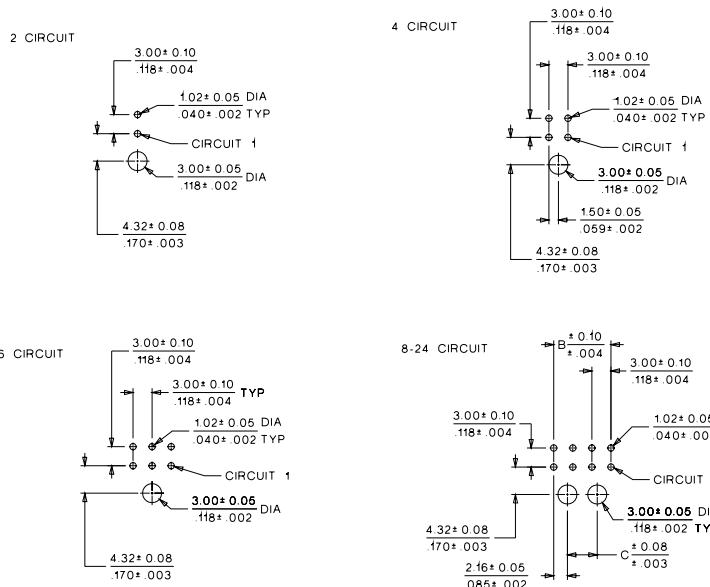
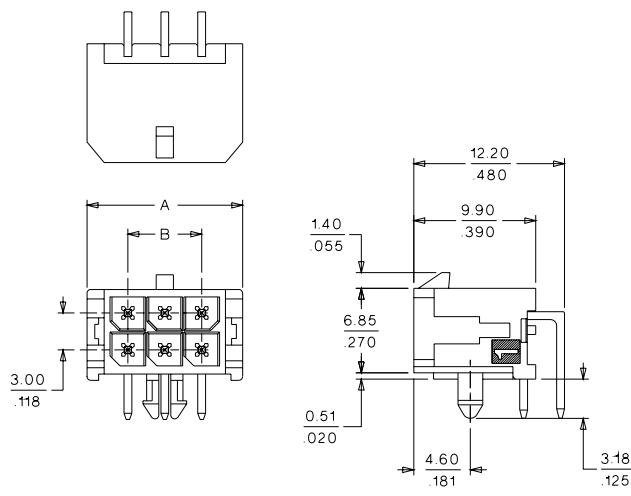
Wire-to-Board

Header

43045

Dual Row
Right Angle

CATALOG DRAWING (FOR REFERENCE ONLY)



ORDERING INFORMATION AND DIMENSIONS

| Circuits | Order No. | | | Dimension | | |
|----------|--------------|------------|--------------|---------------|---------------|---------------|
| | Tin | 15μ" Gold | 30μ" Gold | A | B | C |
| 2 | • 43045-0200 | 43045-0201 | • 43045-0202 | 6.65 (.262) | | |
| 4 | • 43045-0400 | 43045-0401 | • 43045-0402 | 9.65 (.380) | 3.00 (.118) | |
| 6 | • 43045-0600 | 43045-0601 | • 43045-0602 | 12.65 (.498) | 6.00 (.236) | |
| 8 | • 43045-0800 | 43045-0801 | • 43045-0802 | 15.65 (.616) | 9.00 (.354) | 4.70 (.185) |
| 10 | • 43045-1000 | 43045-1001 | • 43045-1002 | 18.65 (.734) | 12.00 (.472) | 7.70 (.303) |
| 12 | • 43045-1200 | 43045-1201 | • 43045-1202 | 21.65 (.852) | 15.00 (.591) | 10.70 (.421) |
| 14 | • 43045-1400 | 43045-1401 | • 43045-1402 | 24.65 (.970) | 18.00 (.709) | 13.70 (.539) |
| 16 | • 43045-1600 | 43045-1601 | • 43045-1602 | 27.65 (1.088) | 21.00 (.827) | 16.70 (.657) |
| 18 | • 43045-1800 | 43045-1801 | • 43045-1802 | 30.65 (1.206) | 24.00 (.945) | 19.70 (.776) |
| 20 | • 43045-2000 | 43045-2001 | • 43045-2002 | 33.65 (1.325) | 27.00 (1.063) | 22.70 (.894) |
| 22 | • 43045-2200 | 43045-2201 | • 43045-2202 | 36.65 (1.443) | 30.00 (1.181) | 25.70 (1.012) |
| 24 | • 43045-2400 | 43045-2401 | • 43045-2402 | 39.65 (1.561) | 33.00 (1.299) | 28.70 (1.130) |

• US Standard Product, available through Molex franchised distributors



PRODUCT SPECIFICATION

MICRO-FIT

1.0 SCOPE

This Product Specification covers the 3.00 mm (.118 inch) centerline (pitch) square pin headers when mated with either printed circuit board (PCB) connector or connectors terminated with 20 to 30 AWG wire using crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBERS

Receptacle: 43025 Terminal: 43030

Plug: 43020 Terminal: 43031

Headers: 43045, 44914

Test Plug: 44242 (recommended for continuity testing only)

Other products conforming to this specification are noted on the individual drawings.

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Housings: Polyester or LCP

Terminal: Phosphor Bronze

Pins: Brass, Modified Tin/Brass

2.3 SAFETY AGENCY APPROVALS

UL File Number: E29179

CSA: LR19980

TUV: 72040445

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Test Summary: TS-43045-001

4.0 RATINGS

4.1 VOLTAGE

UL: 250 Volts AC (MAX) {or 176 Volts DC}

TUV: 250 Volts

4.2 CURRENT AND APPLICABLE WIRES (Current is dependent on connector size, contact material, plating, ambient temperature, printed circuit board characteristics and related factors. Actual current rating is application dependent and should be evaluated for each application.)

| AWG | Amps | Max. Outside Insulation Diameter |
|-----|------|----------------------------------|
| 20 | 5 | 1.85 mm (.073 inch) |
| 22 | 5 | 1.85 mm (.073 inch) |
| 24 | 4 | 1.85 mm (.073 inch) |
| 26 | 3 | 1.27 mm (.050 inch) |
| 28 | 2 | 1.27 mm (.050 inch) |
| 30 | 1 | 1.27 mm (.050 inch) |

4.2.1 CURRENT FOR TEST PLUG 44242

2.5 Amps Maximum (Pogo pin current capacity)

(Test plugs are for testing purposes only and not intended for continuous use.)

4.3 TEMPERATURE

Operating: - 40°C to + 105°C (Including Terminal Temperature Rise)

Nonoperating: - 40°C to + 105°

| | | | |
|--|--|---|---------------------------------------|
| <u>REVISION:</u> K | <u>ECR/ECN INFORMATION:</u> EC No: UCP2007-0365 DATE: 2006/08/08 | <u>TITLE:</u> PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS | <u>SHEET No.</u> 1 of 5 |
| <u>DOCUMENT NUMBER:</u> PS-43045 | <u>CREATED / REVISED BY:</u> M.KIPPER | <u>CHECKED BY:</u> S.SOUSEK | <u>APPROVED BY:</u> F.SMITH |



PRODUCT SPECIFICATION

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

| DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|--------------------------------------|
| Contact Resistance (Low Level) | Mate connectors: apply a maximum voltage of 20 mV and a current of 100 mA. (Does not include wire resistance) | 10 milliohms MAXIMUM [initial] |
| Contact Resistance @ Rated Current | Mate connectors: apply a maximum voltage of 20 mV at rated current. | 30 milliohms MAXIMUM [initial] |
| Contact Resistance of Wire Termination (Low Level) | Terminate the applicable wire to the terminal and measure wire using a voltage of 20 mV and a current of 100 mA. | 5 milliohms MAXIMUM [initial] |
| Insulation Resistance | Unmate & unmount connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground. | 1000 Megohms MINIMUM |
| Dielectric Withstanding Voltage | Unmate connectors: apply a voltage of {two times the rated voltage plus 1000 volts} VAC for 1 minute between adjacent terminals and between terminals to ground. | No breakdown; current leakage < 5 mA |
| Capacitance | Measure between adjacent terminals at 1 MHz. | 2 picofarads MAXIMUM |
| Temperature Rise (via Current Cycling) | Mate connectors: measure the temperature rise at the rated current after: 1) 96 hours (steady state) 2) 240 hours (45 minutes ON and 15 minutes OFF per hour) 3) 96 hours (steady state) | Temperature rise: +30°C MAXIMUM |

5.2 MECHANICAL REQUIREMENTS

| DESCRIPTION | TEST CONDITION | REQUIREMENT |
|--|---|---|
| Connector Mate and Unmate Forces | Mate and unmate connector (male to female) at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. (Per circuit) | 8.0 N (1.8 lbf) MAXIMUM insertion force & 3.7 N (0.8 lbf) MINIMUM withdrawal force |
| Terminal Retention Force (in Housing) | Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. | 24.5 N (5.5 lbf) MINIMUM retention force |
| Terminal Insertion Force (into Housing) | Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch). | 14.7 N (3.3 lbf) MAXIMUM insertion force |

| | | | | |
|------------------|----------------------|-----------------------|---|--------------|
| REVISION: | ECR/ECN INFORMATION: | TITLE: | PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS | SHEET No. |
| K | EC No: UCP2007-0365 | | | 2 of 5 |
| DATE: | 2006/08/08 | | | |
| DOCUMENT NUMBER: | | CREATED / REVISED BY: | CHECKED BY: | APPROVED BY: |
| PS-43045 | | M.KIPPER | S.SOUSEK | F.SMITH |



PRODUCT SPECIFICATION

5.2 MECHANICAL REQUIREMENTS

| | | |
|---|--|--|
| Durability | Mate connectors up to 30 cycles at a maximum rate of 10 cycles per minute prior to Environmental Tests. | 20 milliohms MAXIMUM (change from initial) |
| Vibration (Random) | Mate connectors and vibrate per EIA 364-28, test condition VII. | 20 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond |
| Shock (Mechanical) | Mate connectors and shock at 50 g's with $\frac{1}{2}$ sine wave (11 milliseconds) shocks in the $\pm X, \pm Y, \pm Z$ axes (18 shocks total). | 20 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond |
| Wire Pullout Force (Axial) (Wire from Terminal) | Apply an axial pullout force on the wire at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch). | MINIMUM pullout force 20 awg: 57.8 N (13.0 lbf) 22 awg: 35.6 N (8.0 lbf) 24 awg: 22.2 N (5.0 lbf) 26 awg: 13.3 N (3.0 lbf) 28 awg: 8.9 N (2.0 lbf) 30 awg: 6.6 N (1.5 lbf) |
| Normal Force | Apply a perpendicular force. | 2.7 N (275 grams) MINIMUM |
| Pin to Header Retention | Apply axial push force to pin at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. | 13.7 N (3.1 lbf) MINIMUM pushout force |
| Thumb Latch to Ramp Yield Strength | Full mate and then Unmate the connectors at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. | 68.4 N (15.4 lbf) MINIMUM Yield Strength |
| Panel Mount Retention | Full mate and then Unmate the connectors at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. | 155.7 N (35 lbf) MINIMUM pushout force |
| Compliant Pin Insertion Force into PCB Hole (44914 Series) | Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch). | 106.7 N (24 lbf) MAXIMUM Insertion force (Per Terminal) |
| Compliant Pin Retention Force in PCB Hole (44914 Series) | Apply an axial extraction force on the terminal at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch). | 35.6 N (8 lbf) MINIMUM Retention force (Per Terminal) |

| | | | |
|---|--|---|---------------------------------------|
| <u>REVISION:</u> K | <u>ECR/ECN INFORMATION:</u> <u>EC No:</u> UCP2007-0365 <u>DATE:</u> 2006/08/08 | <u>TITLE:</u> PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS | <u>SHEET No.</u> 3 of 5 |
| <u>DOCUMENT NUMBER:</u> PS-43045 | <u>CREATED / REVISED BY:</u> M.KIPPER | <u>CHECKED BY:</u> S.SOUSEK | <u>APPROVED BY:</u> F.SMITH |
| <i>TEMPLATE FILENAME: PRODUCT_SPEC(SIZE_A)(V.1).DOC</i> | | | |



PRODUCT SPECIFICATION

5.3 ENVIRONMENTAL REQUIREMENTS

| DESCRIPTION | TEST CONDITION | REQUIREMENT |
|--|--|--|
| Thermal Aging | Mate connectors; expose to: 240 hours at $105 \pm 2^\circ\text{C}$ OR 500 hours at $85 \pm 2^\circ\text{C}$ | 20 milliohms MAXIMUM (change from initial]) |
| Humidity (Steady State) | Mate connectors: expose to a temperature of $40 \pm 2^\circ\text{C}$ with a relative humidity of 90-95% for 96 hours. Note: Remove surface moisture and air dry for 1 hour prior to measurements. | 20 milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at 500 VAC & Insulation Resistance: 1000 Megohms MINIMUM |
| Solderability | Per SMES-152 | Solder coverage: 95% MINIMUM (per SMES-152) |
| Solder Resistance | A) Wave Solder Process Dip connector terminal tails in solder; Solder Duration: 5 ± 0.5 seconds; Solder Temperature: 260°C MAX B) Convection Reflow Solder Process 235°C MAX Per SMES-152 | Visual: No Damage to insulator material |
| Cold Resistance | Mate connectors: Duration: 96 hours; Temperature: $-40 \pm 3^\circ\text{C}$ | 20 milliohms MAXIMUM (change from initial) |
| Corrosive Atmosphere: Sulfur Dioxide Gas (SO₂) | Mate connectors: Duration: 24 hours exposure; Atmosphere: 50 parts per million (ppm) SO ₂ gas; Temperature: $40 \pm 3^\circ\text{C}$ | 20 milliohms MAXIMUM (change from initial) |
| Corrosive Atmosphere: Ammonia Gas (NH₃) | Mate connectors: Duration: 40 minutes exposure; Atmosphere: NH ₃ gas evaporating from a 28% Ammonia solution | 20 milliohms MAXIMUM (change from initial) |

| | | | |
|--|--|---|---------------------------------------|
| <u>REVISION:</u> K | <u>ECR/ECN INFORMATION:</u> <u>EC No:</u> UCP2007-0365 <u>DATE:</u> 2006/08/08 | <u>TITLE:</u> PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS | <u>SHEET No.</u> 4 of 5 |
| <u>DOCUMENT NUMBER:</u> PS-43045 | <u>CREATED / REVISED BY:</u> M.KIPPER | <u>CHECKED BY:</u> S.SOUSEK | <u>APPROVED BY:</u> F.SMITH |



PRODUCT SPECIFICATION

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage per the packaging specifications listed below:

Receptacle: PK-43025-001

Plug: PK-43020-001

Headers: PK-70873-0313, PK-70873-0314, PK-70873-05**.

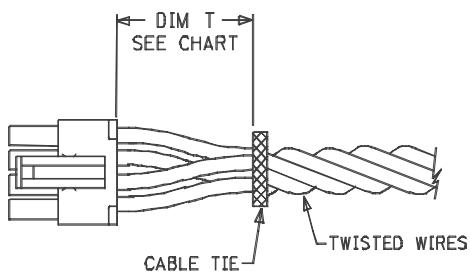
7.0 GAGES AND FIXTURES

It is recommended that test plugs (Series 44242) be used for continuity testing of receptacles. Standard mating parts should not be used for harness testing.

8.0 OTHER INFORMATION

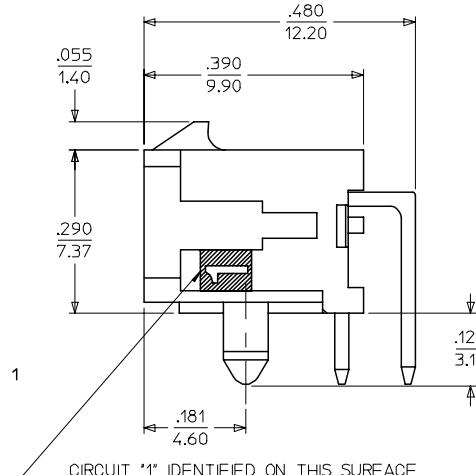
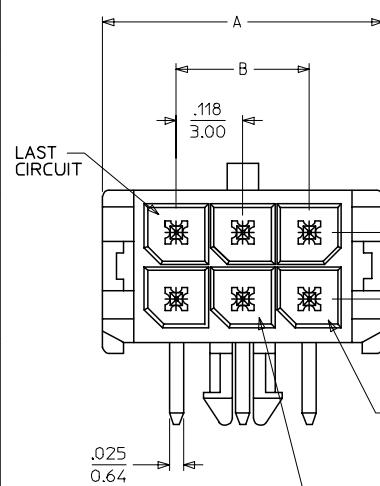
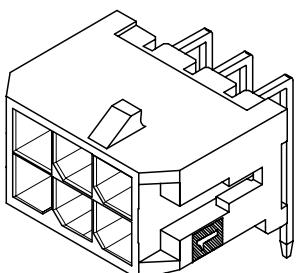
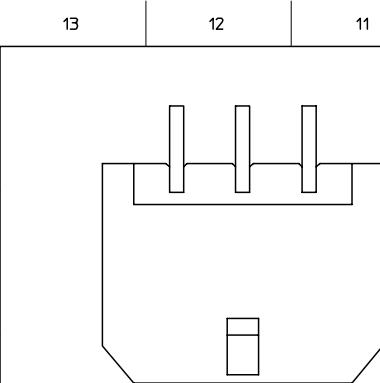
8.1 CABLE TIE AND OR WIRE TWIST LOCATION

| CKT Sizes | Dim T Min. |
|-----------|---------------|
| 2-8 | .500 (12.70) |
| 10-16 | .750 (19.10) |
| 18-24 | 1.000 (25.40) |



| | | | |
|--|---|---|---------------------------------------|
| <u>REVISION:</u> K | <u>ECR/ECN INFORMATION:</u> EC No: UCP2007-0365 <u>DATE:</u> 2006/08/08 | <u>TITLE:</u> PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS | <u>SHEET No.</u> 5 of 5 |
| <u>DOCUMENT NUMBER:</u> PS-43045 | <u>CREATED / REVISED BY:</u> M.KIPPER | <u>CHECKED BY:</u> S.SOUSEK | <u>APPROVED BY:</u> F.SMITH |

| CKTS | A | B | C |
|------|-----------------------|-----------------------|-----------------------|
| 02 | <u>.262</u> 6.65 | NA | NA |
| 04 | <u>.380</u> 9.65 | <u>.118</u> 3.00 | NA |
| 06 | <u>.498</u> 12.65 | <u>.236</u> 6.00 | NA |
| 08 | <u>.616</u> 15.65 | <u>.354</u> 9.00 | <u>.185</u> 4.70 |
| 10 | <u>.734</u> 18.65 | <u>.472</u> 12.00 | <u>.303</u> 7.70 |
| 12 | <u>.852</u> 21.65 | <u>.591</u> 15.00 | <u>.421</u> 10.70 |
| 14 | <u>.970</u> 24.65 | <u>.709</u> 18.00 | <u>.539</u> 13.70 |
| 16 | <u>1.088</u> 27.65 | <u>.827</u> 21.00 | <u>.657</u> 16.70 |
| 18 | <u>1.206</u> 30.65 | <u>.945</u> 24.00 | <u>.776</u> 19.70 |
| 20 | <u>1.325</u> 33.65 | <u>1.063</u> 27.00 | <u>.894</u> 22.70 |
| 22 | <u>1.443</u> 36.65 | <u>1.181</u> 30.00 | <u>1.012</u> 25.70 |
| 24 | <u>1.561</u> 39.65 | <u>1.299</u> 33.00 | <u>1.130</u> 28.70 |



NOTES:

1. HOUSING MATERIAL: GLASS FILLED LIQUID CRYSTAL POLYMER,
UL94V-0, COLOR: BLACK

TERMINAL MATERIAL: BRASS ALLOY

2. FINISH:

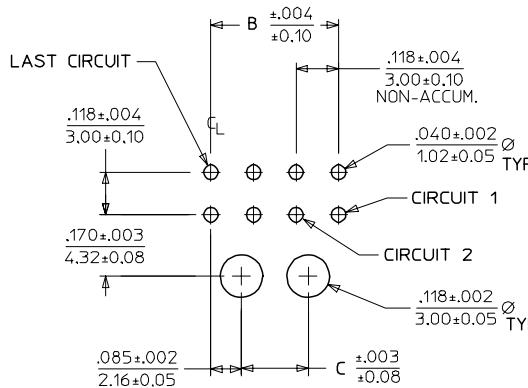
A = .000100/(0.00254) MIN. TIN OVER
.000050/(0.00127) MIN. NICKEL PL

B = $.000015/(.00038)$ MIN. SELECT GOLD IN CONTACT AREA;
 $.000100/(.00254)$ MIN. SELECT TIN ON SOLDER TAILS;
BOTH OVER $.000050/(.00127)$ MIN. NICKEL PLATE.

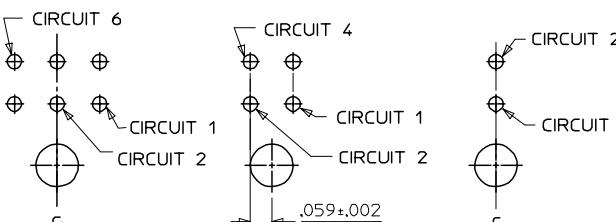
C = .000030/(0.00076) MIN. SELECT GOLD IN CONTACT AREA;
.000100/(0.00254) MIN. SELECT TIN ON SOLDER TAILS;
BOTH OVER .000050/(0.00127) MIN. NICKEL PLATE.

* THE PRIMARY SHIPPING CARTON WILL BE LABELED 'COMPLIANT TO
RoHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OF DIRECTIVE 2000/53/EC.'
CARTONS WITHOUT THIS LABEL MAY CONTAIN PRODUCT WITH TIN/LEAD
IN THE PC TAIL AREA.

3. PRODUCT SPECIFICATION: PS-43045
4. MATES WITH MICRO FIT (3.0) RECEPTACLE SERIES 43025
5. TRAY PACKAGED : SEE MOLEX DRAWING PK-70873-0313



PCB LAYOUT: COMPONENT SIDE
RECOMMEND PCB THICKNESS: .062/1.57



PCB LAYOUT: 6 CKT HEADER

PCB LAYOUT: 4 CKT HEADER

PCB LAYOUT: 2 CKT HEADER

| CKTS | FINISH A MATERIAL NO: |
|------|--------------------------|
| 02 | 43045-0200 |
| 04 | 43045-0400 |
| 06 | 43045-0600 |
| 08 | 43045-0800 |
| 10 | 43045-1000 |
| 12 | 43045-1200 |
| 14 | 43045-1400 |
| 16 | 43045-1600 |
| 18 | 43045-1800 |
| 20 | 43045-2000 |
| 22 | 43045-2200 |
| 24 | 43045-2400 |

| |
|--------------|
| FINISH B |
| MATERIAL NO: |
| 43045-0201 |
| 43045-0401 |
| 43045-0601 |
| 43045-0801 |
| 43045-1001 |
| 43045-1201 |
| 43045-1401 |
| 43045-1601 |
| 43045-1801 |
| 43045-2001 |
| 43045-2201 |
| 43045-2401 |

INISH C
TERIAL NO:
43045-0202
43045-0402
43045-0602
43045-0802
43045-1002
43045-1202
43045-1402
43045-1602
43045-1802
43045-2002
43045-2202
43045-2402

| | | | | | | | | | | | |
|--|---|--|--|--|--------------------------------------|--|----------|--|-------------------------------------|----------------------------|--|
| CHANGED "1" LOCATION EC NO.: UCP2006-1962 DRWNR: PRD004 2006/03/30 CHKD: SS002E 2006/03/31 APPR: ES001 2006/04/03 DESCRIPTION D1 REV | QUALITY SYMBOLS  4 PLACES 3 PLACES 2 PLACES 1 PLACE DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | GENERAL TOLERANCES (UNLESS SPECIFIED) | | SCALE --- INCH | DESIGN UNITS METRIC |  THIRD ANGLE PROJECTION | | REVISE ON CAD ONLY | | | |
| | | | | DIMENSION STYLE IN/MM | | | | | | | |
| | | | | DRAWN BY SAMIEC | | DATE 2000/03/15 | | | | | |
| | | | | CHECKED BY MUELLER | | DATE 2000/03/15 | |  MOLEX INCORPORATED | | | |
| | | | | APPROVED BY EDGLEY | | DATE 2000/03/15 | | MATERIAL NO. SEE CHART | DOCUMENT NO. SD-43045-001 | SHEET NO. 1 OF 1 | |
| | | | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | | | |
| | | | | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |