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Jameco Part Number 884070

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-43650

Packaging: Tray

UL File No.: E29179

CSA File No.: LR19980

TUV License No.: R95107

Mates With: [43645](#)

Designed In: Millimeters

Electrical

Voltage: 250V

Current: 5.0A max.

Contact Resistance: 10mΩ max.

Dielectric Withstanding Voltage: 1500V AC

Insulation Resistance: 1000 MΩ min.

Physical

Housing: High temperature LCP, UL 94V-0

Contact: Brass

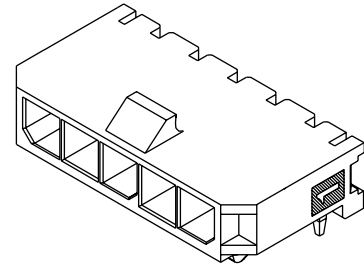
Plating: Tin or Gold



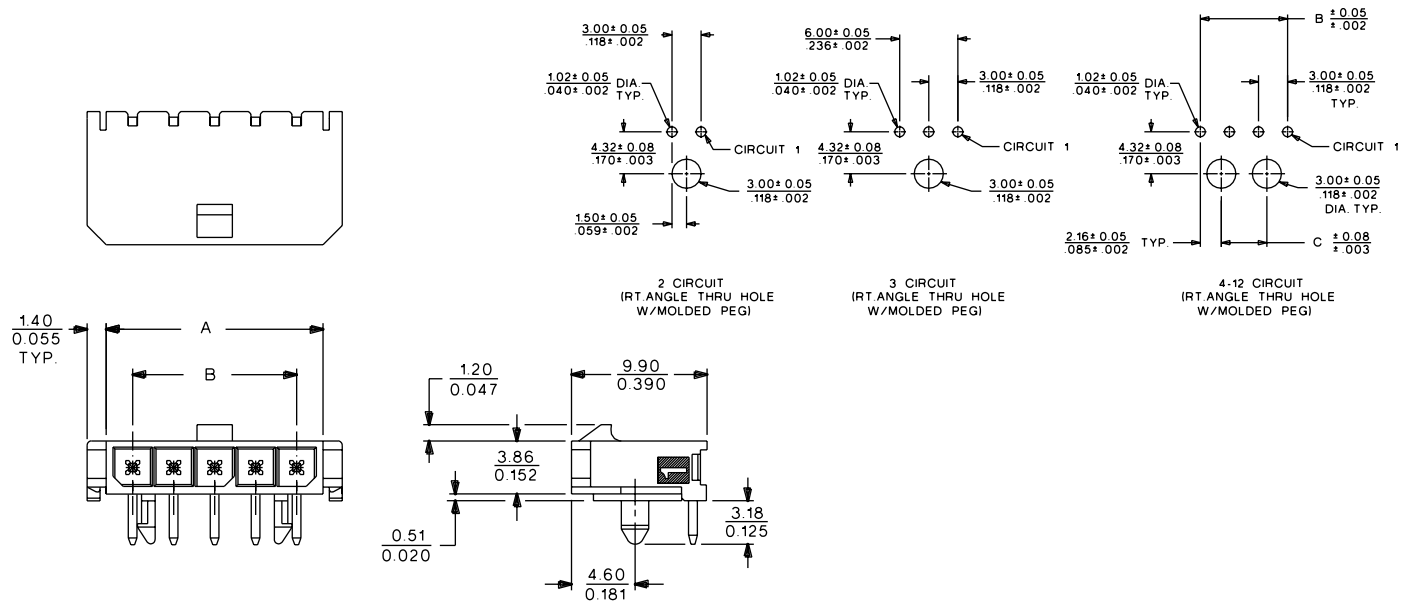
3.00mm (.118") Pitch Micro-Fit 3.0™ Wire-to-Board Header

43650

Single 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	43650-0200	43650-0201	43650-0202	6.85 (.270)	3.00 (.118)	
3	43650-0300	43650-0301	43650-0302	9.85 (.388)	6.00 (.236)	
4	43650-0400	43650-0401	43650-0402	12.85 (.506)	9.00 (.354)	4.70 (.185)
5	43650-0500	43650-0501	43650-0502	15.85 (.624)	12.00 (.472)	7.70 (.303)
6	43650-0600	43650-0601	43650-0602	18.85 (.742)	15.00 (.591)	10.70 (.421)
7	43650-0700	43650-0701	43650-0702	21.85 (.860)	18.00 (.709)	13.70 (.539)
8	43650-0800	43650-0801	43650-0802	24.85 (.978)	21.00 (.827)	16.70 (.657)
9	43650-0900	43650-0901	43650-0902	27.85 (1.096)	24.00 (.945)	19.70 (.775)
10	43650-1000	43650-1001	43650-1002	30.85 (1.215)	27.00 (1.063)	22.70 (.893)
11	43650-1100	43650-1101	43650-1102	33.85 (1.333)	30.00 (1.181)	25.70 (1.011)
12	43650-1200	43650-1201	43650-1202	36.85 (1.451)	33.00 (1.299)	28.70 (1.129)



PRODUCT SPECIFICATION

MICRO-FIT SINGLE ROW CONNECTOR SYSTEM

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: 43645 Female Crimp Terminal: 43030

Plug: 43640 Male Crimp Terminal: 43031

Headers: 43650

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: Receptacle and Plug - Polyester; Headers - LCP

Crimp Terminals: Phosphor Bronze

Pins: 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	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°C

REVISION: J	ECR/ECN INFORMATION: EC No: UCP2007-0365 DATE: 2006/08/08	TITLE: PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS	SHEET No. 1 of 5
DOCUMENT NUMBER: PS-43650	CREATED / REVISED BY: M.KIPPER	CHECKED BY: S.SOUSEK	APPROVED BY: 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

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
J	EC No: UCP2007-0365 DATE: 2006/08/08	PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS	2 of 5
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-43650	M.KIPPER	S.SOUSEK	F.SMITH



PRODUCT SPECIFICATION

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
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)	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 (0.6 lbf) 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

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
J	EC No: UCP2007-0365 DATE: 2006/08/08	PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS	3 of 5
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
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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)

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DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-43650	M.KIPPER	S.SOUSEK	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-43645-001

Plug: PK-43640-001

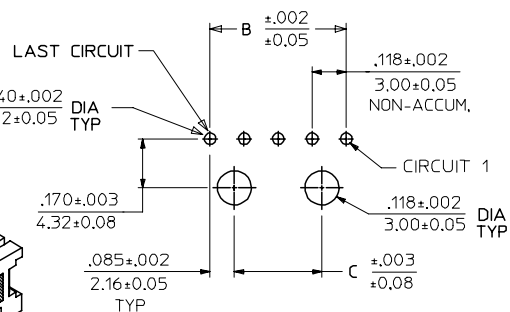
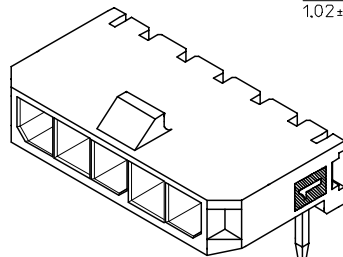
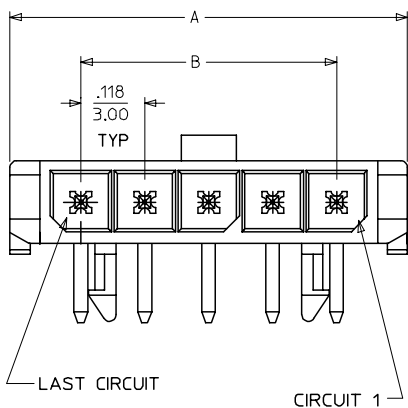
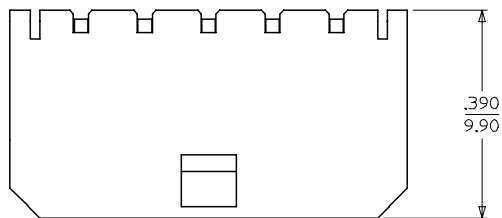
Headers: PK-70873-0321, PK-70873-0811, PK-70873-07**

7.0 GAGES AND FIXTURES

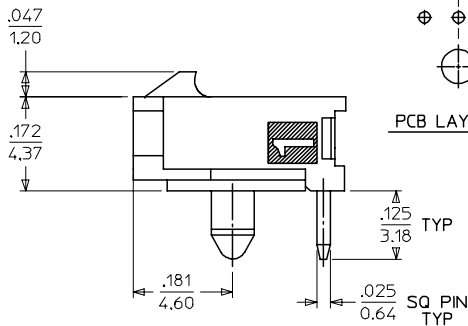
It is recommended that test plugs (Series 44242) be used for continuity testing of receptacles. Standard mating parts should not be used for harness testing.

8.0 OTHER INFORMATION

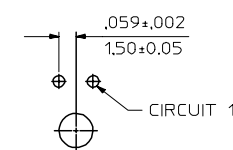
<u>REVISION:</u> J	<u>ECR/ECN INFORMATION:</u> <u>EC No:</u> UCP2007-0365 <u>DATE:</u> 2006/08/08	<u>TITLE:</u> PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS	<u>SHEET No.</u> 5 of 5
<u>DOCUMENT NUMBER:</u> PS-43650	<u>CREATED / REVISED BY:</u> M.KIPPER	<u>CHECKED BY:</u> S.SOUSEK	<u>APPROVED BY:</u> F.SMITH



PCB LAYOUT: COMPONENT SIDE
RECOMMENDED PCB THICKNESS: .062/1.57
4-12 CIRCUIT HEADERS

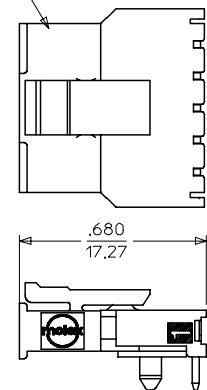


PCB LAYOUT: 3 CKT



PCB LAYOUT: 2 CKT

RECEPTACLE #43645



MATED MICRO FIT CONNECTOR

NOTES:

- HOUSING MATERIAL: LIQUID CRYSTAL POLYMER, GLASS FILLED, UL94V-0, COLOR - BLACK
TERMINAL MATERIAL: BRASS ALLOY
- FINISH:
A = .000100/(0.00254) MIN. TIN OVER
.000050/(0.00127) MIN. NICKEL
B = .000015/(0.00038) MIN. SELECT GOLD IN CONTACT AREA
.000100/(0.00254) MIN. SELECT TIN ON SOLDER TAILS
BOTH OVER .000050/(0.00127) NICKEL OVERALL
C = .000030/(0.00076) MIN. SELECT GOLD IN CONTACT AREA
.000100/(0.00254) MIN. SELECT TIN ON SOLDER TAILS
BOTH OVER .000050/(0.00127) NICKEL OVERALL
* 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.
- PRODUCT SPECIFICATION: PS-43650
- MATES WITH MICRO FIT (3.0) RECEPTACLE SERIES 43645
- TRAY PACKAGED : SEE MOLEX DRAWING PK-70873-0321

	FINISH A	FINISH B	FINISH C
CKTS	MATERIAL NO:	MATERIAL NO:	MATERIAL NO:
02	43650-0200	43650-0201	43650-0202
03	43650-0300	43650-0301	43650-0302
04	43650-0400	43650-0401	43650-0402
05	43650-0500	43650-0501	43650-0502
06	43650-0600	43650-0601	43650-0602
07	43650-0700	43650-0701	43650-0702
08	43650-0800	43650-0801	43650-0802
09	43650-0900	43650-0901	43650-0902
10	43650-1000	43650-1001	43650-1002
11	43650-1100	43650-1101	43650-1102
12	43650-1200	43650-1201	43650-1202

LEAD FREE EC NO: UCP2004-1276 DRAWN: JERNY 2004/03/12 CHKD: 2004/03/31 APPR: F. SMITH 2004/04/05	QUALITY SYMBOLS ▽ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .010 2 PLACES ± 0.25 ± .014 1 PLACE ± 0.35 ± --- ANGULAR ±1/2° DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	SCALE --- DESIGN UNITS METRIC DIMENSION STYLE IN/MM DRAWN BY SAMIEC DATE 2000/07/07 CHECKED BY DATE MUELLER 2000/07/07 APPROVED BY DATE EDGLEY 2000/07/07	THIRD ANGLE PROJECTION REVISE ON CAD ONLY TITLE MICRO-FIT (3.0) SINGLE ROW / RIGHT ANGLE THRU HOLE / PEGS / TRAY MOLEX MOLEX INCORPORATED MATERIAL NO. SEE CHART DOCUMENT NO. SD-43650-001 SHEET NO. 1 OF 1