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ELECTRONICS

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Jameco Part Number 883368

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- "Offset Terminal Retention" for optimum retention to PC board during wave soldering
- Fully polarized to mating receptacle
- Peg feature provides polarization to PCB
- 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

### Electrical

Voltage: 250V

Current: 5.0A max.

Contact Resistance: 10mΩ max.

Dielectric Withstanding Voltage: 1500V AC

Insulation Resistance: 1000 MΩ min.

### Mechanical

Insertion Force to PCB: 7.5kgf max. (16.5 lb)

### Physical

Housing: High temperature LCP, UL 94V-0

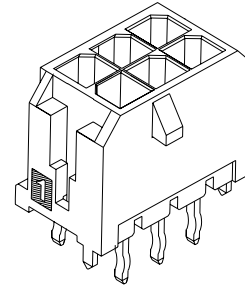
Contact: Brass

Plating: Tin or Gold



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

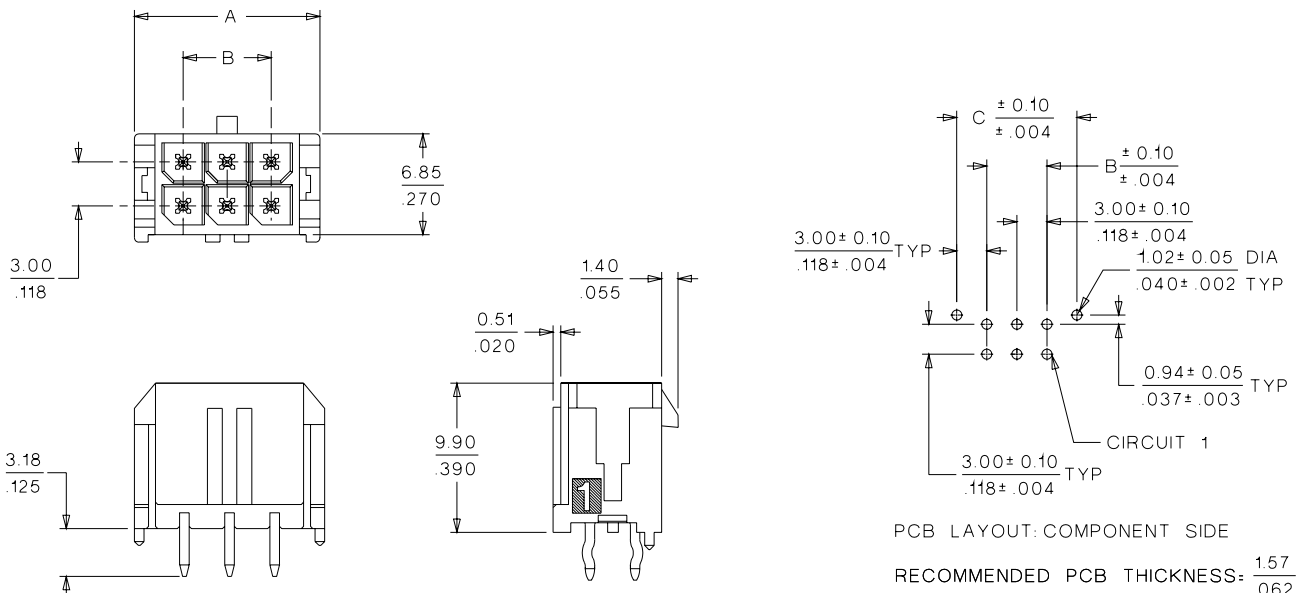
### 43045 Dual Row Vertical



Power Connectors

F

## CATALOG DRAWING (FOR REFERENCE ONLY)



## ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.						Dimension		
	Standard "OTR" Version			Straight Tail Version			A	B	C
	Tin	15μ" Gold	30μ" Gold	Tin	15μ" Gold	30μ" Gold			
2	• 43045-0212	• 43045-0213	• 43045-0214	43045-0227	43045-0228	43045-0229	6.65 (.262)		6.00 (.236)
4	• 43045-0412	• 43045-0413	• 43045-0414	43045-0427	43045-0428	43045-0429	9.65 (.380)	3.00 (.118)	9.00 (.354)
6	• 43045-0612	• 43045-0613	• 43045-0614	43045-0627	43045-0628	43045-0629	12.65 (.498)	6.00 (.236)	12.00 (.472)
8	• 43045-0812	• 43045-0813	• 43045-0814	43045-0827	43045-0828	43045-0829	15.65 (.616)	9.00 (.354)	15.00 (.591)
10	• 43045-1012	• 43045-1013	• 43045-1014	43045-1027	43045-1028	43045-1029	18.65 (.734)	12.00 (.472)	18.00 (.709)
12	• 43045-1212	• 43045-1213	• 43045-1214	43045-1227	43045-1228	43045-1229	21.65 (.852)	15.00 (.591)	21.00 (.827)
14	• 43045-1412	• 43045-1413	• 43045-1414	43045-1427	43045-1428	43045-1429	24.65 (.970)	18.00 (.709)	24.00 (.945)
16	• 43045-1612	• 43045-1613	• 43045-1614	43045-1627	43045-1628	43045-1629	27.65 (1.088)	21.00 (.827)	27.00 (1.063)
18	• 43045-1812	• 43045-1813	• 43045-1814	43045-1827	43045-1828	43045-1829	30.65 (1.206)	24.00 (.945)	30.00 (1.181)
20	• 43045-2012	• 43045-2013	• 43045-2014	43045-2027	43045-2028	43045-2029	33.65 (1.325)	27.00 (1.063)	33.00 (1.299)
22	• 43045-2212	• 43045-2213	• 43045-2214	43045-2227	43045-2228	43045-2229	36.65 (1.443)	30.00 (1.181)	36.00 (1.417)
24	• 43045-2412	• 43045-2413	• 43045-2414	43045-2427	43045-2428	43045-2429	39.65 (1.561)	33.00 (1.299)	39.00 (1.535)

• 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°

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<b>L</b>	EC No: <b>UCP2007-1024</b> DATE: <b>2006/10/24</b>	<b>PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS</b>	<b>1 of 5</b>
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
<b>PS-43045</b>	<b>M.KIPPER</b>	<b>S.SOUSEK</b>	<b>F.SMITH</b>



# PRODUCT SPECIFICATION

## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
<b>Contact Resistance (Low Level)</b>	Mate connectors: apply a maximum voltage of 20 mV and a current of 100 mA. (Does not include wire resistance)	10 milliohms MAXIMUM [initial]
<b>Contact Resistance @ Rated Current</b>	Mate connectors: apply a maximum voltage of 20 mV at rated current.	30 milliohms MAXIMUM [initial]
<b>Contact Resistance of Wire Termination (Low Level)</b>	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]
<b>Insulation Resistance</b>	Unmate & unmount connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	1000 Megohms MINIMUM
<b>Dielectric Withstanding Voltage</b>	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
<b>Capacitance</b>	Measure between adjacent terminals at 1 MHz.	2 picofarads MAXIMUM
<b>Temperature Rise (via Current Cycling)</b>	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
<b>Connector Mate and Unmate Forces</b>	Mate and unmate connector (male to female) at a rate of $25 \pm 6$ 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
<b>Terminal Retention Force (in Housing)</b>	Axial pullout force on the terminal in the housing at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute.	24.5 N (5.5 lbf) MINIMUM retention force
<b>Terminal Insertion Force (into Housing)</b>	Apply an axial insertion force on the terminal at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute.	14.7 N (3.3 lbf) MAXIMUM insertion force

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## 5.2 MECHANICAL REQUIREMENTS

<b>Durability</b>	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)
<b>Vibration (Random)</b>	Mate connectors and vibrate per EIA 364-28, test condition VII.	20 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
<b>Shock (Mechanical)</b>	Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total).	20 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
<b>Wire Pullout Force (Axial)</b> (Wire from Terminal)	Apply an axial pullout force on the wire at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	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)
<b>Normal Force</b>	Apply a perpendicular force.	2.7 N (275 grams) MINIMUM
<b>Pin to Header Retention</b>	Apply axial push force to pin at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	13.7 N (3.1 lbf) MINIMUM pushout force
<b>Thumb Latch to Ramp Yield Strength</b>	Full mate and then Unmate the connectors at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	68.4 N (15.4 lbf) MINIMUM Yield Strength
<b>Panel Mount Retention</b>	Full mate and then Unmate the connectors at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	155.7 N (35 lbf) MINIMUM pushout force
<b>Compliant Pin Insertion Force into PCB Hole (44914 Series)</b>	Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	106.7 N (24 lbf) MAXIMUM Insertion force (Per Terminal)
<b>Compliant Pin Retention Force in PCB Hole (44914 Series)</b>	Apply an axial extraction force on the terminal at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	35.6 N (8 lbf) MINIMUM Retention force (Per Terminal)

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## 5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
<b>Thermal Aging</b>	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)]
<b>Humidity (Steady State)</b>	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
<b>Solderability</b>	Per SMES-152	Solder coverage: 95% MINIMUM (per SMES-152)
<b>Solder Resistance</b>	A) Wave Solder Process Dip connector terminal tails in solder; Solder Duration: $5 \pm 0.5$ seconds; Solder Temperature: $260^{\circ}\text{C}$ MAX  B) Convection Reflow Solder Process $235^{\circ}\text{C}$ MAX Per SMES-152	Visual: No Damage to insulator material
<b>Cold Resistance</b>	Mate connectors: Duration: 96 hours; Temperature: $-40 \pm 3^{\circ}\text{C}$	20 milliohms MAXIMUM (change from initial)

## 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\*\*.

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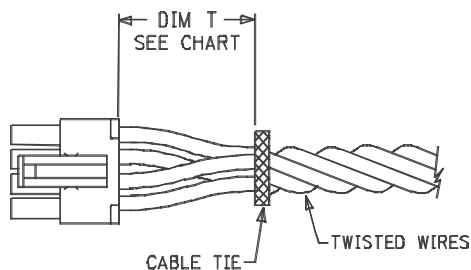
## 7.0 GAGES AND FIXTURES

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)



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