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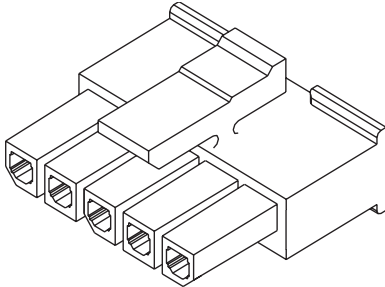
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Jameco Part Number 883991

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

**43645**  
Single Row



### Features and Benefits

- Positive latching to mating headers or plugs
- Fully isolated contacts
- Fully polarized to mating headers and plugs
- Integral pull tabs for ease in unmating

### Reference Information

Product Specification: PS-43650  
 Packaging: Bag  
 UL File No.: E29179  
 CSA File No.: LR19980  
 TUV License No.: R72040445  
 Mates With: 43640 and 43650  
 Use With: 43030  
 Designed In: Millimeters

### Physical

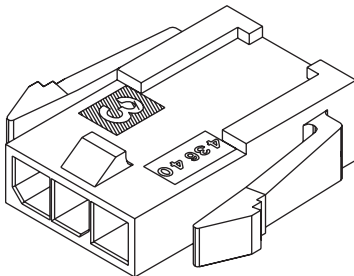
Housing: Polyester, UL 94V-0

Circuits	Order No.
2	<a href="#">43645-0200</a>
3	<a href="#">43645-0300</a>
4	<a href="#">43645-0400</a>
5	<a href="#">43645-0500</a>
6	<a href="#">43645-0600</a>
7	<a href="#">43645-0700</a>

Circuits	Order No.
8	<a href="#">43645-0800</a>
9	<a href="#">43645-0900</a>
10	<a href="#">43645-1000</a>
11	<a href="#">43645-1100</a>
12	<a href="#">43645-1200</a>

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

**43640**  
Single Row, with or without  
Panel Mount Ears



### Features and Benefits

- Fully isolated contacts
- Fully polarized to mating receptacle
- Integral pull tabs for ease in unmating
- Optional panel mount ears

### Reference Information

Product Specification: PS-43650  
 Packaging: Bag  
 UL File No.: E29179  
 CSA File No.: LR19980  
 TUV License No.: R72040445  
 Mates With: 43645  
 Use With: 43031  
 Designed In: Millimeters

### Physical

Housing: Polyester, UL 94V-0

Circuits	Order No.	
	Panel Mount	Free Hanging
2	<a href="#">43640-0200</a>	<a href="#">43640-0201</a>
3	<a href="#">43640-0300</a>	<a href="#">43640-0301</a>
4	<a href="#">43640-0400</a>	<a href="#">43640-0401</a>
5	<a href="#">43640-0500</a>	<a href="#">43640-0501</a>
6	<a href="#">43640-0600</a>	<a href="#">43640-0601</a>
7	<a href="#">43640-0700</a>	<a href="#">43640-0701</a>

Circuits	Order No.	
	Panel Mount	Free Hanging
8	<a href="#">43640-0800</a>	<a href="#">43640-0801</a>
9	<a href="#">43640-0900</a>	<a href="#">43640-0901</a>
10	<a href="#">43640-1000</a>	<a href="#">43640-1001</a>
11	<a href="#">43640-1100</a>	<a href="#">43640-1101</a>
12	<a href="#">43640-1200</a>	<a href="#">43640-1201</a>



# 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: 43650 and 43645 series: 600 Volts AC RMS or DC

43640 series: 250 Volts AC RMS or 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°C

<b>REVISION:</b>  <b>L</b>	<b>EGR/ECN INFORMATION:</b> <b>EC No: UCP2007-2450</b> <b>DATE: 2007/09/06</b>	<b>TITLE:</b> <b>PRODUCT SPECIFICATION</b> <b>MICRO-FIT</b> <b>SINGLE ROW CONNECTORS</b>	<b>SHEET No.</b>  <b>1 of 5</b>
<b>DOCUMENT NUMBER:</b> <b>PS-43650</b>		<b>CREATED / REVISED BY:</b> <b>M.KIPPER</b>	<b>CHECKED BY:</b> <b>S.SOUSEK</b>
		<b>APPROVED BY:</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

<b>REVISION:</b>  <b>L</b>	<b>EGR/ECN INFORMATION:</b> EC No: <b>UCP2007-2450</b> DATE: <b>2007/09/06</b>	<b>TITLE:</b>  <b>PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS</b>	<b>SHEET No.</b>  <b>2 of 5</b>
<b>DOCUMENT NUMBER:</b>  <b>PS-43650</b>		<b>CREATED / REVISED BY:</b>  <b>M.KIPPER</b>	<b>CHECKED BY:</b>  <b>S.SOUSEK</b>
		<b>APPROVED BY:</b>  <b>F.SMITH</b>	



# PRODUCT SPECIFICATION

## 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 ± 6 mm (1 ± ¼ 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 ± 6 mm (1 ± ¼ 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 ± 6 mm (1 ± ¼ inch) per minute.	14.7 N (3.3 lbf) MAXIMUM insertion force
<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>	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 (0.6 lbf) 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

REVISION: <b>L</b>	EGR/ECN INFORMATION: EC No: <b>UCP2007-2450</b> DATE: <b>2007/09/06</b>	TITLE: <b>PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS</b>	SHEET No. <b>3 of 5</b>
DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>M.KIPPER</b>	CHECKED BY: <b>S.SOUSEK</b>	APPROVED BY: <b>F.SMITH</b>



# PRODUCT SPECIFICATION

## 5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
<b>Thermal Aging</b>	Mate connectors; expose to: 240 hours at 105 ± 2°C OR 500 hours at 85 ± 2°C	20 milliohms MAXIMUM (change from initial)
<b>Humidity (Steady State)</b>	Mate connectors: expose to a temperature of 40 ± 2°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>	<b>A) Wave Solder Process</b> Dip connector terminal tails in solder; Solder Duration: 10 seconds MAX Solder Temperature: 260°C MAX Per ES-40000-5013  <b>B) Convection Reflow Solder Process</b> 235°C MAX Per ES-40000-5013  Parts identified with a blue dot on the primary shipping carton label and all parts with a manufacturing date after 9/1/2007: 260°C MAX Per ES-40000-5013	Visual: No Damage to insulator material
<b>Cold Resistance</b>	Mate connectors: Duration: 96 hours; Temperature: -40 ± 3°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 and Plug: Bulk Packaged

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

<b>REVISION:</b>  <b>L</b>	<b>EGR/ECN INFORMATION:</b> <b>EC No: UCP2007-2450</b> <b>DATE: 2007/09/06</b>	<b>TITLE:</b> <b>PRODUCT SPECIFICATION</b> <b>MICRO-FIT</b> <b>SINGLE ROW CONNECTORS</b>	<b>SHEET No.</b>  <b>4 of 5</b>
<b>DOCUMENT NUMBER:</b> <b>PS-43650</b>	<b>CREATED / REVISED BY:</b> <b>M.KIPPER</b>	<b>CHECKED BY:</b> <b>S.SOUSEK</b>	<b>APPROVED BY:</b> <b>F.SMITH</b>



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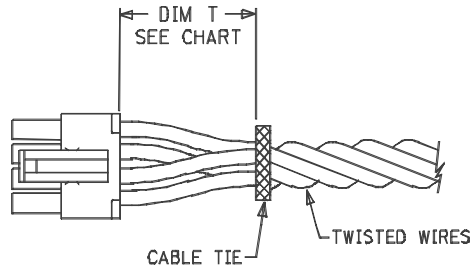
## 7.0 GAGES AND FIXTURES

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

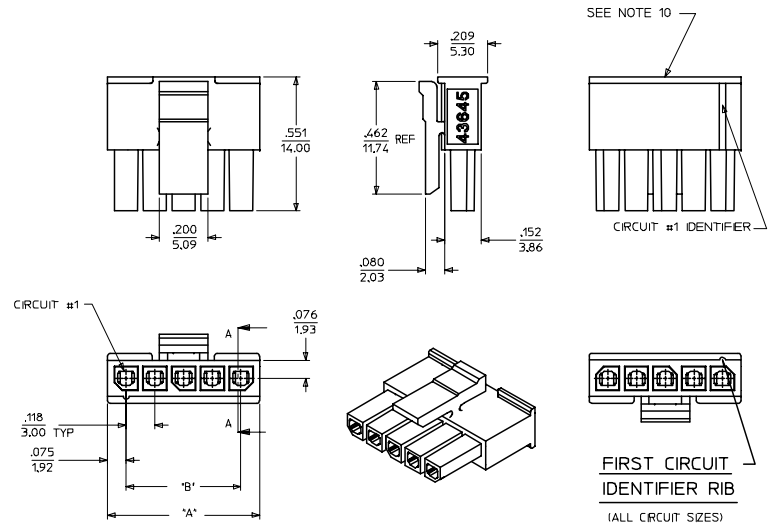
### 8.1 CABLE TIE AND OR WIRE TWIST LOCATION

CKT Sizes	Dim T	Min.
2-4	.500	(12.70)
5-8	.750	(19.10)
9-12	1.000	(25.40)

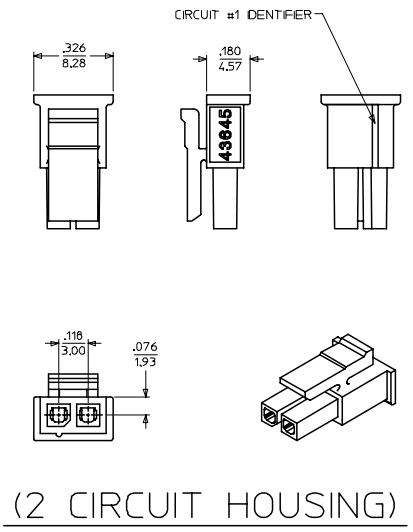


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DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>M.KIPPER</b>	CHECKED BY: <b>S.SOUSEK</b>	APPROVED BY: <b>F.SMITH</b>

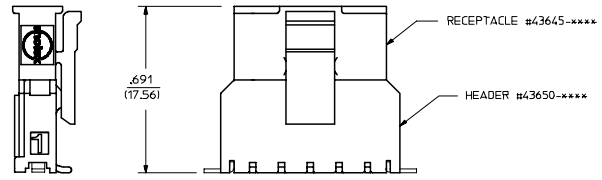
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



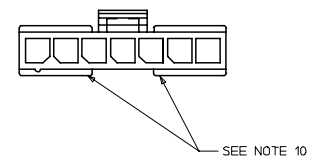
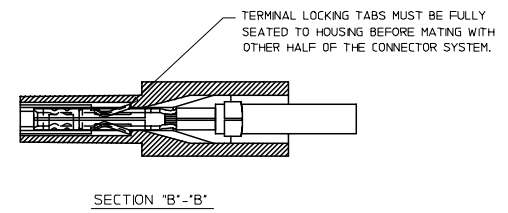
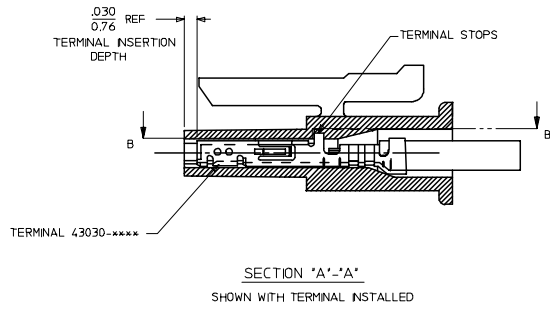
(3-12 CIRCUIT HOUSING)



ITEM NUMBER	NUMBER OF CIRCUIT	DM. "A"	DM. "B"
43645-0200	02	SEE DETAIL	.118/(3.00)
43645-0300	03	.388/(9.85)	.236/(6.00)
43645-0400	04	.506/(12.85)	.354/(9.00)
43645-0500	05	.624/(15.85)	.472/(12.00)
43645-0600	06	.742/(18.85)	.591/(15.00)
43645-0700	07	.860/(21.85)	.709/(18.00)
43645-0800	08	.978/(24.85)	.827/(21.00)
43645-0900	09	1.096/(27.85)	.945/(24.00)
43645-1000	10	1.215/(30.85)	1.063/(27.00)
43645-1100	11	1.333/(33.85)	1.181/(30.00)
43645-1200	12	1.451/(36.85)	1.299/(33.00)



MATED MICRO-FIT CONNECTOR



- NOTES:**
- MATERIAL : POLYESTER (PBT), UL94V-0, COLOR - BLACK
  - FINISH : N/A
  - PRODUCT SPECIFICATION : PS-43650
  - THIS RECEPTACLE ACCEPTS MOLEX MICRO FIT FEMALE CRIMP TERMINALS ONLY. SEE MOLEX DRAWING SD-43030-XXXX FOR SPECIFICATIONS.
  - SEE SECTION 'A'-A' FOR TERMINAL ORIENTATION IN HOUSING.
  - FOR OVERMOLDING PARAMETERS SEE ENGINEERING SPECIFICATION #SDES-43025-1000.
  - THIS RECEPTACLE MATES WITH MOLEX PCB HEADER 43650 SERIES AND MOLEX PLUG 43640 SERIES (WIRE TO WIRE APPLICATIONS).
  - SOME HOUSINGS MAY HAVE A SMALL GATE BLEMISH NEAR THE GATE LOCATION THAT DOES NOT AFFECT FUNCTIONALITY.
  - MOLEX RECOMMENDS THE USE OF MICRO-FIT TEST PLUG, SERIES 44242-XXXX WHENEVER CONTINUITY TESTING IS PERFORMED. TEST PLUGS MUST NOT BE USED TO MAKE OR BREAK UNDER LOAD. MOLEX DOES NOT RECOMMEND USING STANDARD MATING COMPONENTS FOR HARNESS TESTING PURPOSES.
  - THIS RIB IS DISCONTINUOUS ON CIRCUIT SIZES 7 THROUGH 12.
  - PART CONFORMS TO CLASS 'B' REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.

<b>UPDATE NOTE 8</b> DEC NO. UCP2008-0920 DRAWN BY: J.P.P. 2007/10/23 CHKD BY: S.M. 2007/10/26 APPR BY: S.M. 2007/10/29	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE IN/MM		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
			mm	INCH	4:1	METRIC		
		4 PLACES ±	±	A. F. G.	DATE	TITLE		
		3 PLACES ±	±.010	B. A. P.	1995/11/15	MICRO-FIT (3.0) 2 THRU 12 SINGLE ROW RECEPTACLE		
	2 PLACES ±	±.014	APPROVED BY	DATE	MOLEX INCORPORATED	DOCUMENT NO. SDA-43645-XXXX	SHEET NO. 1 OF 1	
	1 PLACE ±	±.035	R. J. F.	1995/11/15				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE CHART		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				