

Distributed by:

JAMECO[®]
ELECTRONICS

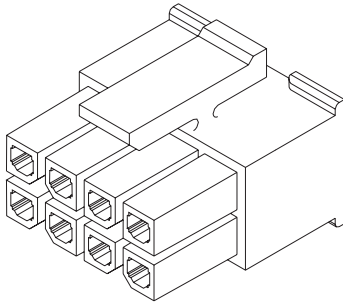
www.Jameco.com ♦ 1-800-831-4242

The content and copyrights of the attached
material are the property of its owner.

Jameco Part Number 1300064

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

43025 Dual 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-43045

Packaging: Bag

UL File No.: E29179

CSA File No.: LR19980

TUV License No.: R72040445

Mates With: 43020, 43045 and 44914

Use With: 43030

Designed In: Millimeters

Physical

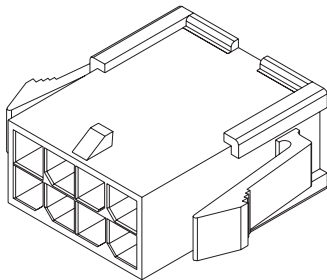
Housing: Polyester, UL 94V-0

Circuits	Order No.
2	43025-0200
4	43025-0400
6	43025-0600
8	43025-0800
10	43025-1000
12	43025-1200

Circuits	Order No.
14	43025-1400
16	43025-1600
18	43025-1800
20	43025-2000
22	43025-2200
24	43025-2400

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

43020 Dual 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-43045

Packaging: Bag

UL File No.: E29179

CSA File No.: LR19980

TUV License No.: R72040445

Mates With: 43025

Use With: 43031

Designed In: Millimeters

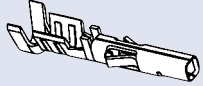
Physical

Housing: Polyester, UL 94V-0

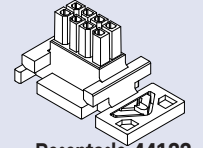
Circuits	Order No.	
	Panel Mount	Free Hanging
2	43020-0200	43020-0201
4	43020-0400	43020-0401
6	43020-0600	43020-0601
8	43020-0800	43020-0801
10	43020-1000	43020-1001
12	43020-1200	43020-1201

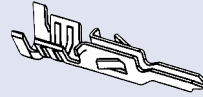
Circuits	Order No.	
	Panel Mount	Free Hanging
14	43020-1400	43020-1401
16	43020-1600	43020-1601
18	43020-1800	43020-1801
20	43020-2000	43020-2001
22	43020-2200	43020-2201
24	43020-2400	43020-2401

Wire-to-Wire BMI Connector System

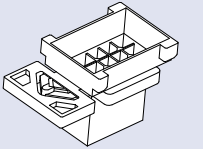
**Female Terminal 43030**

and

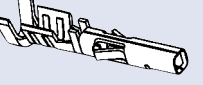
**Receptacle 44133**

Mate to: **Male Terminal 43031**

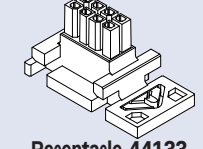
and

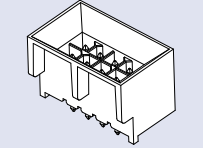
**Plug 44300**

Wire-to-Board BMI Connector System

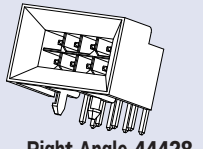
**Female Terminal 43030**

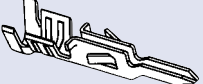
and

**Receptacle 44133**

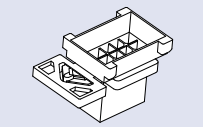
Mate to: **Vertical 44432 / 45280**

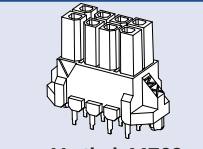
or

**Right Angle 44428**

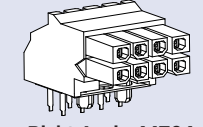
**Male Terminal 43031**

and

**Plug 44300**

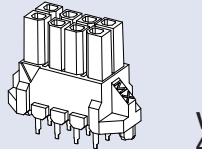
Mate to: **Vertical 44769**

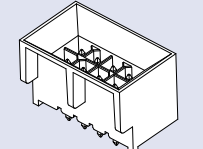
or

**Right Angle 44764**

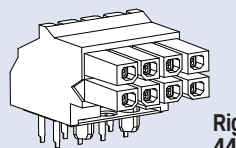
Board-to-Board BMI Connector System

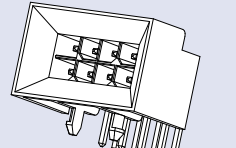
Horizontal Boards

**Vertical 44769**

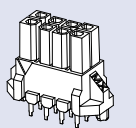
Mate to: **Vertical 44432 / 45280**

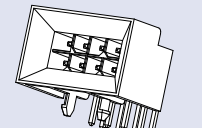
Coplanar Boards

**Right Angle 44764**

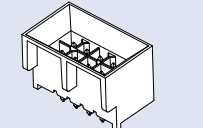
Mate to: **Right Angle 44428**

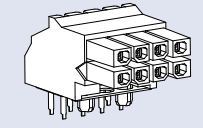
Right Angle Boards

**Vertical 44769**

Mate to: **Right Angle 44428**

OR

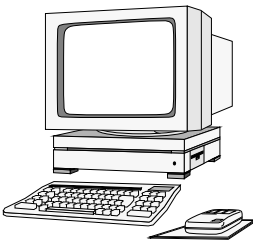
**Vertical 44432 / 45280**

Mate to: **Right Angle 44764**

MICRO-FIT 3.0 FAMILY APPLICATION EXAMPLES



- Personal Computers
- Mainframe Computers
- Handheld Computers
- Notebook PCs
- Fan Tray Assemblies
- Power Supplies



- Work Stations
- Satellites
- Cellular Telephones
- AC Power Line Cords
- Coffeemakers
- Fax Machines



- Vending Machines
- Pin Ball Machines
- Slot Machines
- Exercise Equipment
- Backplane Applications

Americas Headquarters

Lisle, Illinois 60532 U.S.A.
Tel: 1-800-78MOLEX
Fax: 630-969-1352

Far East North Headquarters

Yamato, Kanagawa, Japan
Tel: 81-462-65-2324
Fax: 81-462-65-2366

Far East South Headquarters

Jurong, Singapore
Tel: 65-6-268-6868
Fax: 65-6-265-2985

European Headquarters

Munich, Germany
Tel: 49-89-413092-0
Fax: 49-89-401527

Corporate Headquarters

2222 Wellington Ct.
Lisle, IL 60532 U.S.A.
Tel: 630-969-4550
Fax: 630-969-1352

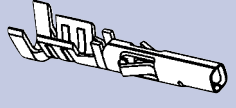
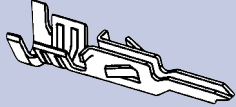
Visit our Web site at <http://www.molex.com>

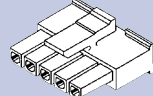
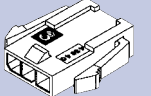
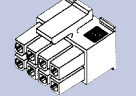
Order No. USA-106 Rev. 3

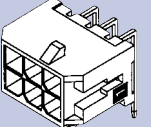
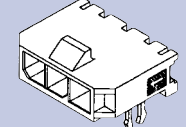
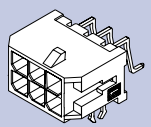
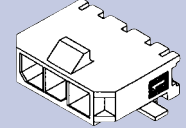
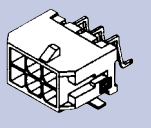
Printed in USA/5K/J1/J1/2006.01

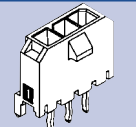
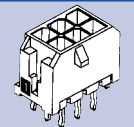
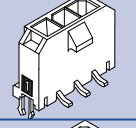
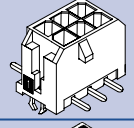
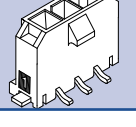
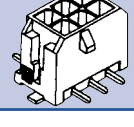
©2006, Molex

- Fully isolated contacts
 - Full polarization
 - Positive locks
- Up to 5.0A per circuit
 - 250V AC rating
 - UL 94V-0, CSA, TUV approved

	Description	Order No.		Wire Gauge	Plating
		Reel	Bag		
	Female Terminal	43030-0001	43030-0007	20 - 24	Tin
		43030-0004	43030-0010	26 - 30	
		43030-0002	43030-0008	20 - 24	15µ" Gold
		43030-0005	43030-0011	26 - 30	
		43030-0003	43030-0009	20 - 24	30µ" Gold
		43030-0006	43030-0012	26 - 30	
	Male Terminal	43031-0001	43031-0007	20 - 24	Tin
		43031-0004	43031-0010	26 - 30	
		43031-0002	43031-0008	20 - 24	15µ" Gold
		43031-0005	43031-0011	26 - 30	
		43031-0003	43031-0009	20 - 24	30µ" Gold
		43031-0006	43031-0012	26 - 30	

Description		Order No.	Material	Description		Order No.	Material
Receptacles (Use with 43030 terminals)				Plugs (Use with 43031 terminals)			
	Single Row	43645-XX00	Black Polyester		Single Row, Free Hanging	43640-XX01	Black Polyester
					Single Row, Panel Mount	43640-XX00	
	Dual Row	43025-XX00	Black Polyester		Dual Row, Free Hanging	43020-XX01	Black Polyester
					Dual Row, Panel Mount	43020-XX00	

Single Row	Description	Order No.	Plating	Material	Dual Row	Description	Order No.	Plating	Material
	Surface Mount Compatible with Pegs	43650-XX00	Tin	High Temperature, Black LCP		Surface Mount Compatible with Pegs	43045-XX00	Tin	High Temperature, Black LCP
		43650-XX01	15µ" Gold				43045-XX01	15µ" Gold	
		43650-XX02	30µ" Gold				43045-XX02	30µ" Gold	
	SMT with Solderable Retention Clip	43650-XX09	Tin	High Temperature, Black LCP		SMT with Solderable Retention Clip	43045-XX06	Tin	High Temperature, Black LCP
		43650-XX10	15µ" Gold				43045-XX07	15µ" Gold	
		43650-XX11	30µ" Gold				43045-XX08	30µ" Gold	
	SMT with Solder Tabs	43650-XX12	Tin	High Temperature, Black LCP		SMT with Solder Tabs	43045-XX09	Tin	High Temperature, Black LCP
		43650-XX13	15µ" Gold				43045-XX10	15µ" Gold	
		43650-XX14	30µ" Gold				43045-XX11	30µ" Gold	

Single Row	Description	Order No.	Plating	Material	Dual Row	Description	Order No.	Plating	Material
	Surface Mount Compatible with Pegs	43650-XX15	Tin	High Temperature, Black LCP		Surface Mount Compatible with Pegs	43045-XX12	Tin	High Temperature, Black LCP
		43650-XX16	15µ" Gold				43045-XX13	15µ" Gold	
		43650-XX17	30µ" Gold				43045-XX14	30µ" Gold	
	SMT with Solderable Retention Clip	43650-XX21	Tin	High Temperature, Black LCP		SMT with Solderable Retention Clip	43045-XX15	Tin	High Temperature, Black LCP
		43650-XX22	15µ" Gold				43045-XX16	15µ" Gold	
		43650-XX23	30µ" Gold				43045-XX17	30µ" Gold	
	SMT with Solder Tabs	43650-XX24	Tin	High Temperature, Black LCP		SMT with Solder Tabs	43045-XX18	Tin	High Temperature, Black LCP
		43650-XX25	15µ" Gold				43045-XX19	15µ" Gold	
		43650-XX26	30µ" Gold				43045-XX20	30µ" Gold	

Replace XX with number of circuits, 02 to 24

MICRO-FIT 3.0

 3.00mm (.118") Pitch
Micro-Fit 3.0™ Family

The Micro-Fit 3.0 is a unique connector system that incorporates many of the features previously found only on large power connectors. These connectors are the perfect choice when you need compact connectors that can carry up to 5.0A of current. Micro-Fit 3.0 is available in circuit sizes 2 to 24 for wire-to-board and wire-to-wire applications. With more than 500 part numbers and still growing, this expansive product line offers through hole and SMT options. SMT versions are available in tape and reel packaging for robotic placement on the PCB.

Wire-to-Wire Single Row Connector System



Wire-to-Board Single Row Connector System



Wire-to-Wire Dual Row Connector System



Wire-to-Board Dual Row Connector System

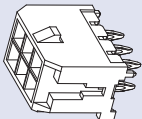


MICRO-FIT 3.0, CPI AND MICRO-FIT 3.0, BMI CPI

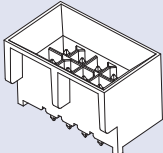
The Micro-Fit 3.0, CPI (Compliant Pin Interface) and Micro-Fit 3.0, BMI CPI (Blind Mate Version with Compliant Pin Interface) are vertical header product extensions featuring press-fit PC tails.

- CPI style (Press-Fit) pins require no soldering to the PCB
- 2.36mm (.093") minimum PCB thickness

Standard CPI

	Description	Order No.	Plating	Material
	Standard Vertical CPI	44914-XX01	Tin	High Temperature, Black LCP
		44914-XX02	12μ" Gold	
		44914-XX03	30μ" Gold	

BMI CPI

	Blind Mate Vertical CPI	45280-XX01	Tin	High Temperature, Black Glass-Filled Nylon
		45280-XX02	12μ" Gold	
		45280-XX03	30μ" Gold	

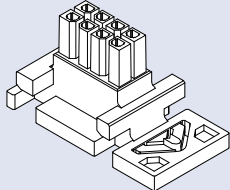
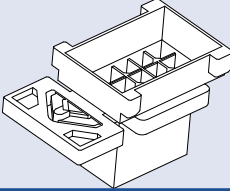
MICRO-FIT 3.0, BMI

Micro-Fit 3.0, BMI™ (Blind Mate Interface) features an innovative panel mounting design that securely locks the plugs and receptacles in place in the panel cutout, while allowing for removal. The plugs and headers feature a funnel entry to guide the mating receptacle or receptacle header into place. Micro-Fit 3.0, BMI housings and headers mate exclusively with the BMI components shown here.

- Full polarization
- Fully isolated contacts
- Dual row
- Sizes 4 to 24 circuits
- Up to 5.0A per circuit
- Up to 1500V AC dielectric withstand voltage
- UL 94V-0, CSA, TUV approved

Crimp Housings

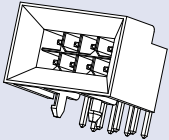
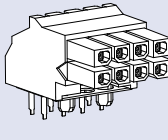
- Use standard Micro-Fit terminals
- Receptacle floats in panel cutout up to 1.27mm (.050") in any direction
- Can be utilized with BMI board-to-board connectors
- Panel thickness: 1.57mm (.062")

	Description	Order No.	Material
	Panel Mount Receptacle	44133-XX00	Black, Polyester
Use with 43031 terminal			
	Panel Mount Plug	44300-XX00	Black, Polyester
Use with 43031 terminal			

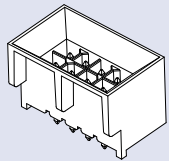
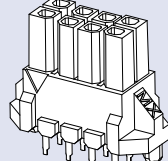
Headers

- Can be utilized with BMI wire-to-wire connectors
- 1.57mm (.062") PCB thickness
- Surface mount compatible (SMC)
- Black, glass filled nylon housings

Right Angle

	Description	Order No.	Plating		Description	Order No.	Plating
	Right Angle Header with Pegs	44428-XX01	Tin		Right Angle Receptacle	44764-XX01	Tin
		44428-XX02	15μ" Gold			44764-XX02	15μ" Gold
		44428-XX03	30μ" Gold			44764-XX03	30μ" Gold

Vertical

	Vertical Header with Pegs	44432-XX01	Tin		Vertical Receptacle	44769-XX01	Tin
		44432-XX02	15μ" Gold			44769-XX02	15μ" Gold
		44432-XX03	30μ" Gold			44769-XX03	30μ" Gold

Replace XX with number of circuits, 04 to 24



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°

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
L	EC No: UCP2007-1024 DATE: 2006/10/24	PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS	1 of 5
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-43045	M.KIPPER	S.SOUSEK	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) per minute.	14.7 N (3.3 lbf) MAXIMUM insertion force

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
L	EC No: UCP2007-1024 DATE: 2006/10/24	PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS	2 of 5
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 ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±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 ± 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)
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 ± ¼ 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 ± ¼ 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 ± ¼ 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 ± ¼ inch) per minute.	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 ± ¼ inch) per minute.	35.6 N (8 lbf) MINIMUM Retention force (Per Terminal)

REVISION: L	ECR/ECN INFORMATION: EC No: UCP2007-1024 DATE: 2006/10/24	TITLE: PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS	SHEET No. 3 of 5
DOCUMENT NUMBER: PS-43045	CREATED / REVISED BY: M.KIPPER	CHECKED BY: S.SOUSEK	APPROVED BY: F.SMITH



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)

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**.

REVISION: L	ECR/ECN INFORMATION: EC No: UCP2007-1024 DATE: 2006/10/24	TITLE: PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS	SHEET No. 4 of 5
DOCUMENT NUMBER: PS-43045	CREATED / REVISED BY: M.KIPPER	CHECKED BY: S.SOUSEK	APPROVED BY: F.SMITH



PRODUCT SPECIFICATION

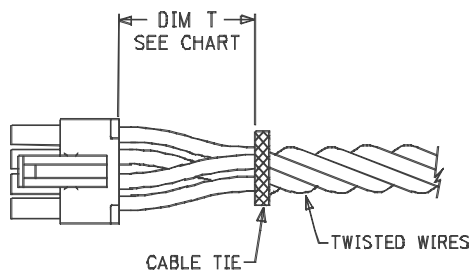
7.0 GAGES AND FIXTURES

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)



REVISION: L	ECR/ECN INFORMATION: EC No: UCP2007-1024 DATE: 2006/10/24	TITLE: PRODUCT SPECIFICATION MICRO-FIT DUAL ROW CONNECTORS	SHEET No. 5 of 5
DOCUMENT NUMBER: PS-43045	CREATED / REVISED BY: M.KIPPER	CHECKED BY: S.SOUSEK	APPROVED BY: F.SMITH

