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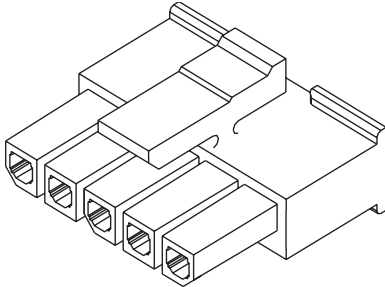
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Jameco Part Number 1970711

# 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

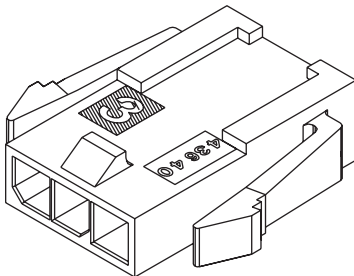
Housing: Polyester, UL 94V-0

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

REVISION: <b>L2</b>	ECR/ECN INFORMATION: EC No: <b>UCP2009-0508</b> DATE: <b>2008/08/26</b>	TITLE: <b>PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS</b>	SHEET No. <b>1 of 7</b>
DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>GAVERRILL</b>	CHECKED BY: <b>SSOUSEK</b>	APPROVED BY: <b>FSMITH</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

REVISION: <b>L2</b>	ECR/ECN INFORMATION: EC No: <b>UCP2009-0508</b> DATE: <b>2008/08/26</b>	TITLE: <b>PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS</b>	SHEET No. <b>2 of 7</b>
DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>GAVERRILL</b>	CHECKED BY: <b>SSOUSEK</b>	APPROVED BY: <b>FSMITH</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 $25 \pm 6$ 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
<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, Letter D. Test Duration: 15 minutes each axis.	20 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
<b>Shock (Mechanical)</b>	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
<b>Wire Pullout Force (Axial)</b>	Apply an axial pullout force on the wire at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ 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 $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ 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 $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute.	68.4 N (15.4 lbf) MINIMUM Yield Strength

REVISION: <b>L2</b>	ECR/ECN INFORMATION: EC No: <b>UCP2009-0508</b> DATE: <b>2008/08/26</b>	TITLE: <b>PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS</b>	SHEET No. <b>3 of 7</b>
DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>GAVERILL</b>	CHECKED BY: <b>SSOUSEK</b>	APPROVED BY: <b>FSMITH</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\*\*

REVISION: <b>L2</b>	ECR/ECN INFORMATION: EC No: <b>UCP2009-0508</b> DATE: <b>2008/08/26</b>	TITLE: <b>PRODUCT SPECIFICATION MICRO-FIT SINGLE ROW CONNECTORS</b>	SHEET No. <b>4 of 7</b>
DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>GAVERILL</b>	CHECKED BY: <b>SSOUSEK</b>	APPROVED BY: <b>FSMITH</b>



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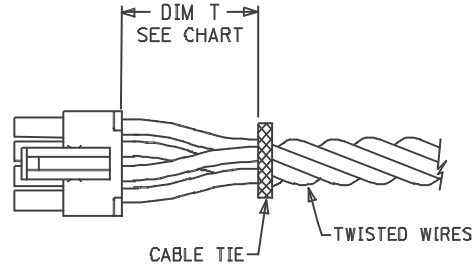
## 7.0 GAGES AND FIXTURES

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)

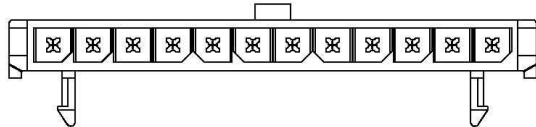


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DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>GAVERILL</b>	CHECKED BY: <b>SSOUSEK</b>	APPROVED BY: <b>FSMITH</b>

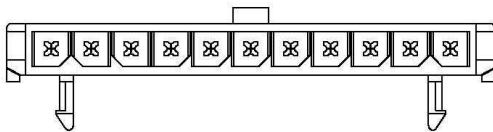


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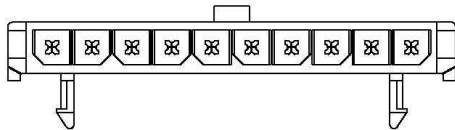
## 8.2 STANDARD POLARIZATION FOR HEADERS AND PLUGS (HEADERS ARE SHOWN)



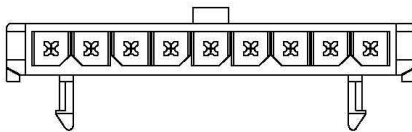
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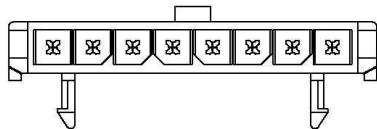
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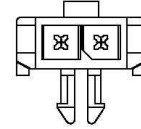
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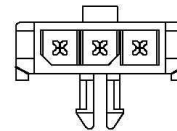
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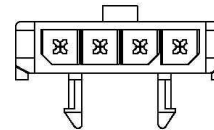
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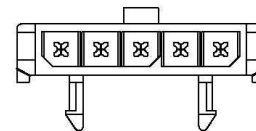
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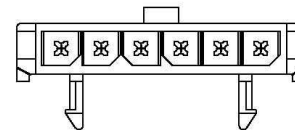
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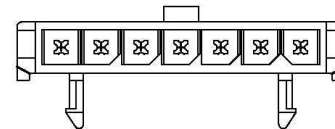
4-CKT.



5-CKT.



6-CKT.



7-CKT.

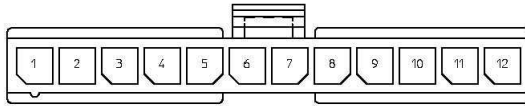
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DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>GAVERILL</b>	CHECKED BY: <b>SSOUSEK</b>	APPROVED BY: <b>FSMITH</b>



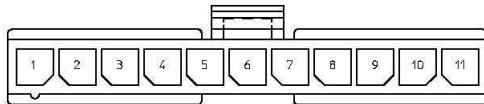


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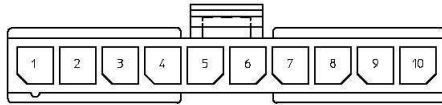
## 8.2 STANDARD POLARIZATION FOR RECEPTACLES



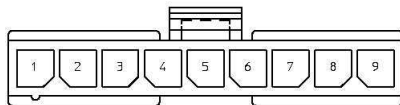
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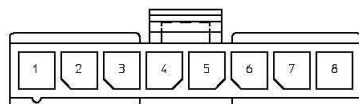
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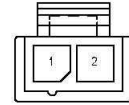
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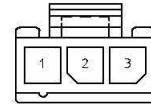
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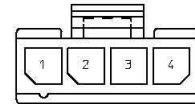
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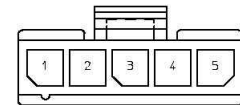
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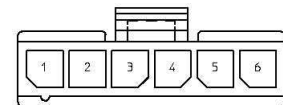
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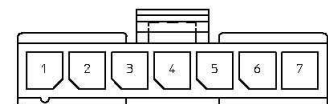
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5-CKT.



6-CKT.



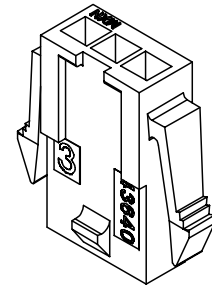
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DOCUMENT NUMBER: <b>PS-43650</b>	CREATED / REVISED BY: <b>GAVERILL</b>	CHECKED BY: <b>SSOUSEK</b>	APPROVED BY: <b>FSMITH</b>

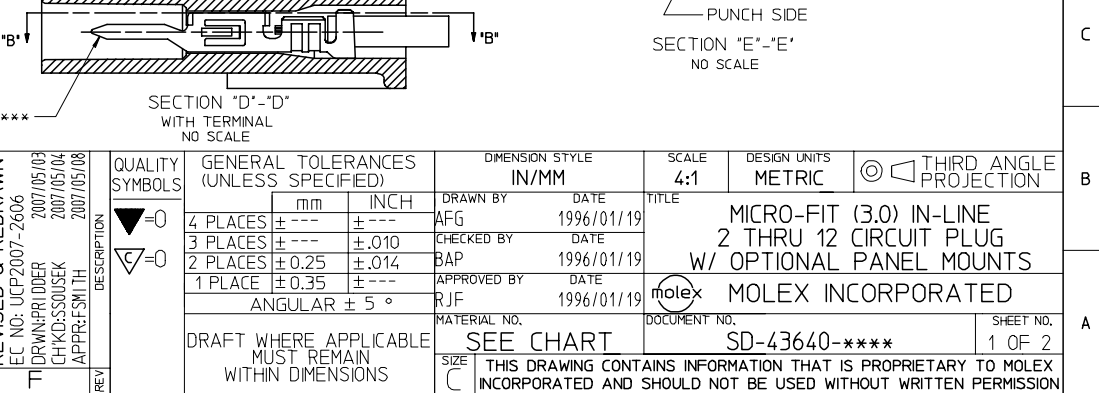
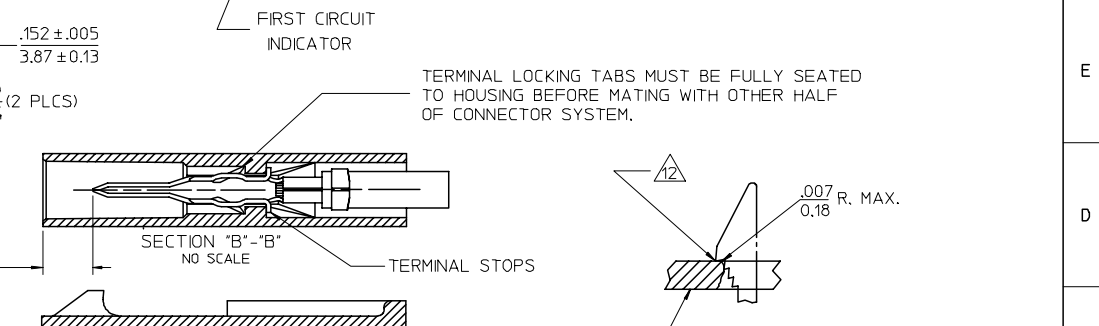
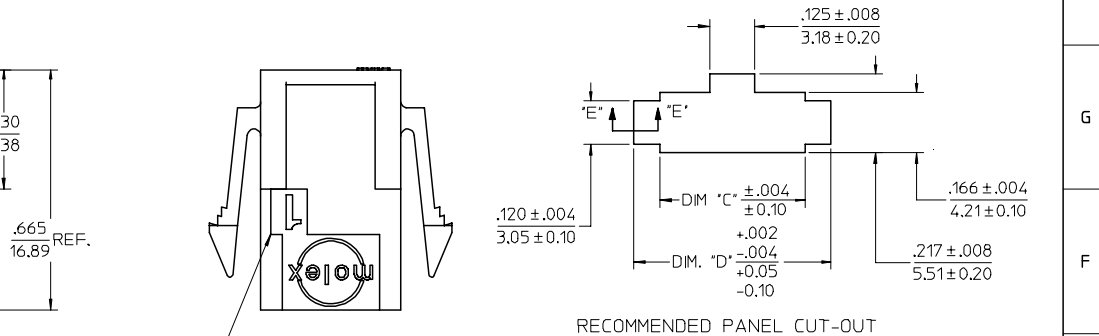
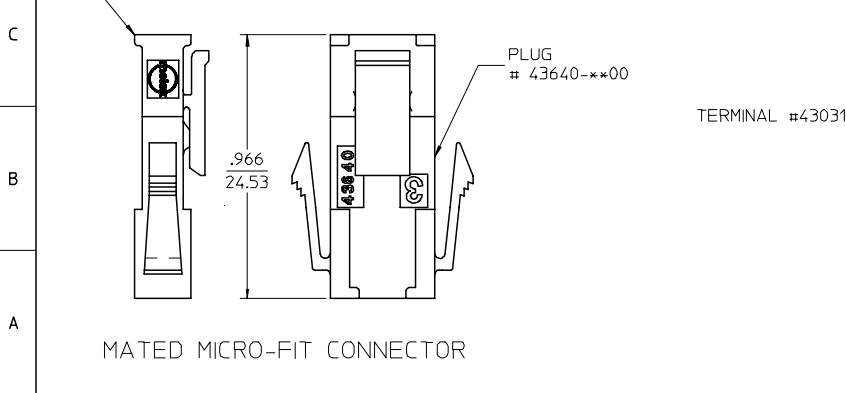
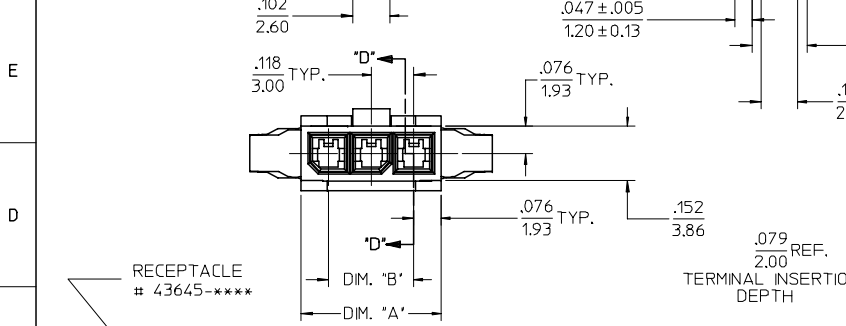
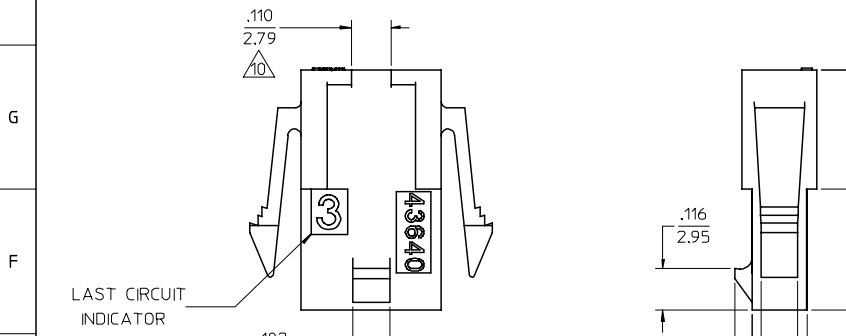
X-CONTACT FACTORY	ASSEMBLY ITEM NUMBER	PART CHARACTERISTICS NUMBER OF POSITION
43640-0300	03	
43640-0400	04	
43640-0500	05	
43640-0600	06	
X 43640-0700	07	
X 43640-0800	08	
X 43640-0900	09	
X 43640-1000	10	
X 43640-1100	11	
X 43640-1200	12	

CKT. NO.	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"
2	.270/6.85	.118/3.00	.284/7.21	.429/10.90
3	.388/9.85	.236/6.00	.402/10.21	.547/13.89
4	.506/12.85	.354/9.00	.520/13.21	.665/16.89
5	.624/15.85	.472/12.00	.638/16.21	.783/19.89
6	.742/18.85	.591/15.00	.756/19.21	.901/22.89
7	.860/21.85	.709/18.00	.874/22.20	1.019/25.88
8	.978/24.85	.827/21.00	.992/25.20	1.137/28.88
9	1.096/27.85	.945/24.00	1.110/28.20	1.255/31.88
10	1.215/30.85	1.063/27.00	1.229/31.22	1.373/34.87
11	1.333/33.85	1.181/30.00	1.347/34.22	1.491/37.87
12	1.451/36.85	1.299/33.00	1.465/37.22	1.609/40.87

- NOTES:
- HOUSING MATERIAL: UNFILLED POLYESTER, RATED UL94V-0  
COLOR IS BLACK
  - FINISH: NONE
  - PRODUCT SPECIFICATION: PS-43650
  - PACKAGING SPECIFICATION: NONE
  - THIS HOUSING MATES WITH MICRO-FIT RECEPTACLE #43645-\*\*\*\*.
  - THIS HOUSING IS DESIGNED IN METRIC
  - THIS HOUSING TO BE USED WITH MOLEX MALE TERMINAL #43031-\*\*\*\*.
  - PLUG DESIGNED FOR .062/1.57 TO .090/2.30 THICK STAMPED PANEL OR P.C. BOARD.
  - SEE SECTION "D"- "D" FOR TERMINAL ORIENTATION IN HOUSING.
  - THIS DIMENSION APPLIES TO PLUG CKT. SIZES 2 THRU 12 ONLY.
  - SEE SHEET 2 FOR PLUG WITHOUT PANEL MOUNTS.
  - PANEL MOUNT FEATURES MUST LOCK ON SIDE OPPOSITE PUNCH SIDE FOR OPTIMUM RETENTION.
  - THIS PART CONFORMS TO CLASS B REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.



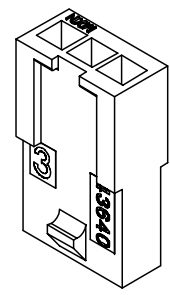
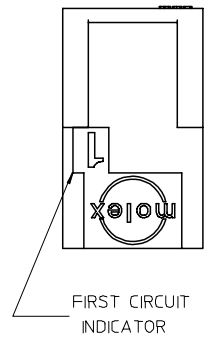
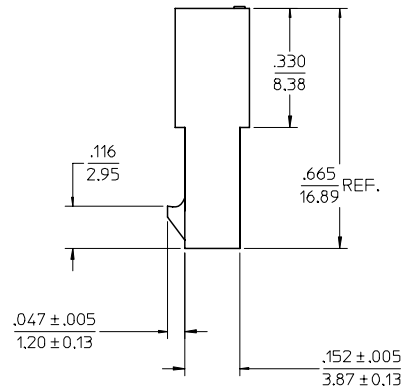
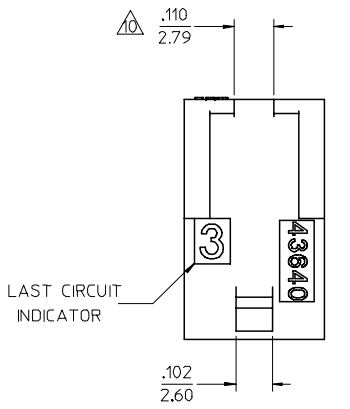
PLUG WITH PANEL MOUNTS



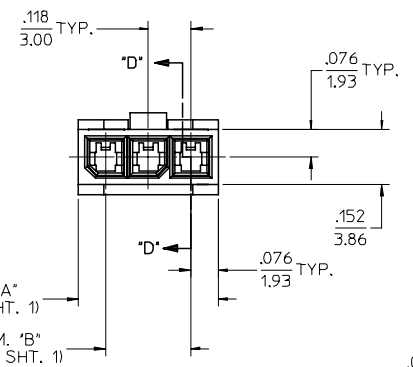
REVISED & REDRAWN EC NO: UCP2007-2606 DRAWN/PRI/DER 2007/05/03 CHKD:SSOUSEK 2007/05/04 APPR:FSM TH 2007/05/08	QUALITY SYMBOLS =0 =0	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
		4 PLACES ± .010 ± .010 3 PLACES ± .010 ± .010 2 PLACES ± 0.25 ± .014 1 PLACE ± 0.35 ± .014 ANGULAR ± 5 °	IN/MM	4:1	METRIC	⊙
MATERIAL NO.	DOCUMENT NO.	DRAWN BY DATE AFG 1996/01/19		TITLE		SHEET NO. 1 OF 2
SEE CHART	SD-43640-****	CHECKED BY DATE BAP 1996/01/19		MICRO-FIT (3.0) IN-LINE 2 THRU 12 CIRCUIT PLUG W/ OPTIONAL PANEL MOUNTS		
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		APPROVED BY DATE R/JF 1996/01/19		MOLEX MOLEX INCORPORATED		
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION						

13 12 11 10 9 8 7 6 5 4 3 2 1

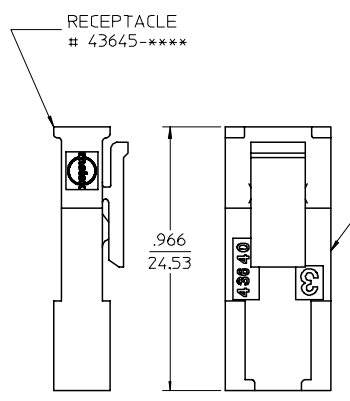
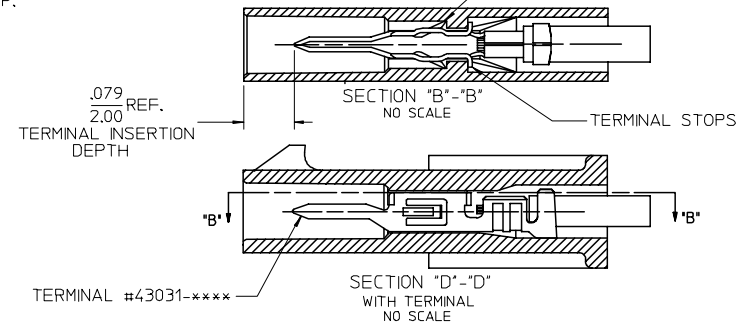
X-CONTACT FACTORY	ASSEMBLY ITEM NUMBER	PART CHARACTERISTICS NUMBER OF POSITION
43640-0301	03	
43640-0401	04	
43640-0501	05	
43640-0601	06	
X 43640-0701	07	
X 43640-0801	08	
X 43640-0901	09	
X 43640-1001	10	
X 43640-1101	11	
X 43640-1201	12	



PLUG WITHOUT PANEL MOUNTS



TERMINAL LOCKING TABS MUST BE FULLY SEATED TO HOUSING BEFORE MATING WITH OTHER HALF OF CONNECTOR SYSTEM.



MATED MICRO-FIT CONNECTOR

REVISED & REDRAWN FC NO: UCP2007-2606 DRAWN: P. RIDER 2007/05/03 CHKD: S. SOUSEK 2007/05/04 APPR: F. SMITH 2007/05/08	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE IN/MM		SCALE 4:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		4 PLACES ± .005 ± .005	3 PLACES ± .010 ± .010	2 PLACES ± 0.25 ± .014	1 PLACE ± 0.35 ± .014	ANGULAR ± 5 °	DRAWN BY AFG	DATE 1996/01/19	TITLE MICRO-FIT (3.0) IN-LINE 2 THRU 12 CIRCUIT PLUG W/ OPTIONAL PANEL MOUNTS
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE CHART		MATERIAL NO. SD-43640-****		DOCUMENT NO. SD-43640-****		SHEET NO. 2 OF 2	
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION									

fb\_frame\_C\_P\_AM\_T Rev. E 2006/04/15 12 11 10 9 8 7 6 5 4 3 2 1