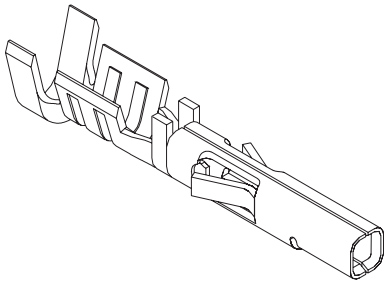
Jameco Part Number 1969913

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

43030
Female



Features and Benefits
- 4 points of contact for optimum reliability
- Box-type spring contact for high normal force
- Locking tang secures terminal in housing

Reference Information
Product Specification: PS-43045/PS-43650
Packaging: Bag or reel
UL File No.: E29179
CSA File No.: LR19980
TUV License No.: R72040445
Use With: 43025, 43645 and 44133 receptacles
Designed In: Millimeters

Electrical
Voltage: 250V
Current: 5.0A max.
Contact Resistance: 10 milliohms max.

Mechanical
Contact Insertion Force: 1.5kgf max. (3.30 lb)
Contact Retention to Housing: 2.5kgf min. (5.50 lb)
Crimping Pull-Out Force:

Wire Gauge (AWG)	Kgf min. (lb)
20	6.0 (13.2)
22	4.5 (9.9)
24	3.6 (7.9)
26	2.7 (5.9)
28	1.8 (3.9)
30	1.4 (3.0)

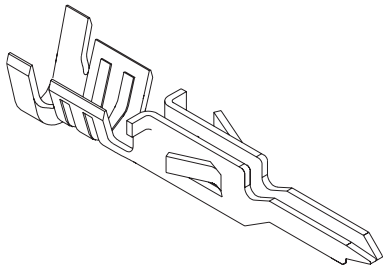
Mating Force: 1.0kgf max. (2.2 lb) per contact
Normal Force: 375gf max. (0.32 lb)

Physical
Contact: Phosphor Bronze
Plating: Tin or Gold

Wire Size AWG	Plating	Order No.		Lead-free
		Reel	Bag	
20-24	Tin	43030-0001	43030-0007	Yes
26-30		43030-0004	43030-0010	
20-24	15µ" Gold	43030-0002	43030-0008	
26-30		43030-0005	43030-0011	
20-24	30µ" Gold	43030-0003	43030-0009	
26-30		43030-0006	43030-0012	

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

43031
Male



Features and Benefits
- Box-type spring contact for high normal force
- Locking tang secures terminal in housing

Reference Information
Product Specification: PS-43045/PS-43650
Packaging: Bag or reel
UL File No.: E29179
CSA File No.: LR19980
TUV License No.: R72040445
Use With: 43020, 43640 and 44300 plugs
Designed In: Millimeters

Electrical
Voltage: 250V
Current: 5.0A max.
Contact Resistance: 10 milliohms max.

Mechanical
Contact Insertion Force: 1.5kgf max. (3.30 lb)
Contact Retention to Housing: 2.5kgf min. (5.50 lb)
Crimping Pull-Out Force:

Wire Gauge	Kgf min. (lb)
20	6.0 (13.2)
22	4.5 (9.9)
24	3.6 (7.9)
26	2.7 (5.9)
28	1.8 (3.9)
30	1.4 (3.0)

Physical
Contact: Phosphor Bronze
Plating: Tin or Gold

Wire Size AWG	Plating	Order No.		Lead-free
		Reel	Bag	
20-24	Tin	43031-0001	43031-0007	Yes
26-30		43031-0004	43031-0010	
20-24	15µ" Gold	43031-0002	43031-0008	
26-30		43031-0005	43031-0011	
20-24	30µ" Gold	43031-0003	43031-0009	
26-30		43031-0006	43031-0012	

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: 43025, 43045, and 44914 series: 600 Volts AC RMS or DC.
43020 series: 350 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℃ to + 105℃ (Including Terminal Temperature Rise)
Non-operating: - 40℃ to + 105℃

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℃ 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 ± ¼ 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 ± ¼ 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 ± ¼ inch) per minute.	14.7 N (3.3 lbf) MAXIMUM insertion force

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, Letter D. Test Duration: 15 minutes each axis.	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 (0.6 lbf) 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)

5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Thermal Aging	Mate connectors; expose to: 240 hours at 105 ± 2℃ OR 500 hours at 85 ± 2℃	20 milliohms MAXIMUM (change from initial])
Humidity (Steady State)	Mate connectors: expose to a temperature of 40 ± 2℃ 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: 10 seconds MAX Solder Temperature: 260℃ MAX Per ES-40000-5013 **B) Convection Reflow Solder Process** 235℃ MAX Per ES-40000-5013 Parts identified with a green dot on the primary shipping carton label and all parts with a manufacturing date after 11/1/2007: 260℃ MAX Per ES-40000-5013	Visual: No Damage to insulator material
Cold Resistance	Mate connectors: Duration: 96 hours; Temperature: -40 ± 3℃	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-70873-0313, PK-70873-0314, PK-70873-05**.

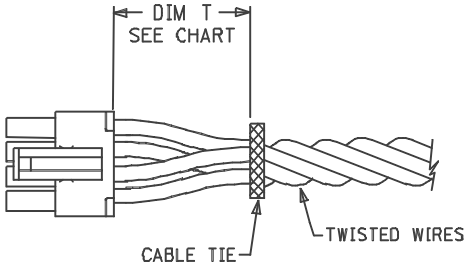
7.0 GAGES AND FIXTURES

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.

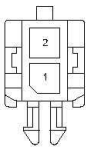
8.0 OTHER INFORMATION

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)



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



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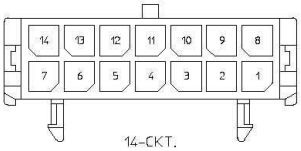

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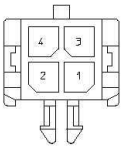

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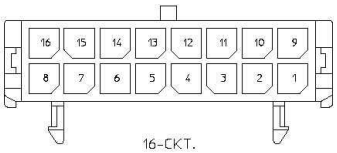

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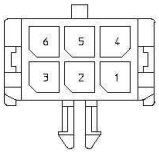

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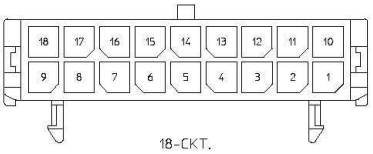

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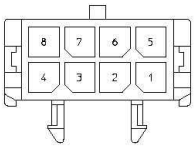

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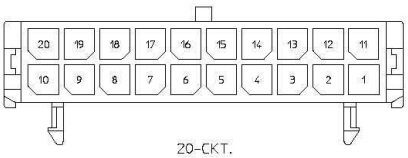

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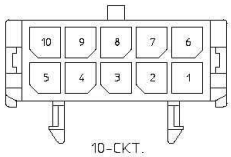

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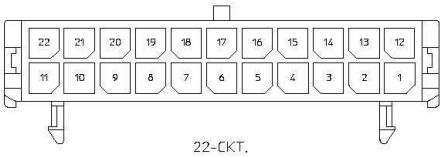

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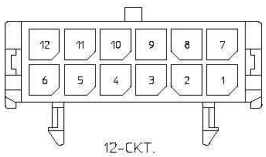

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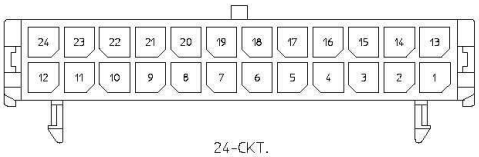
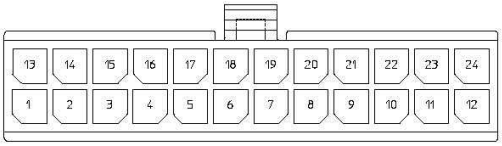


24-CKT.

8.3 STANDARD POLARIZATION FOR RECEPTACLES



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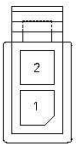

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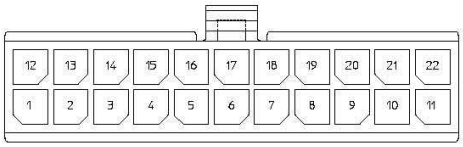

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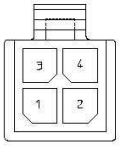

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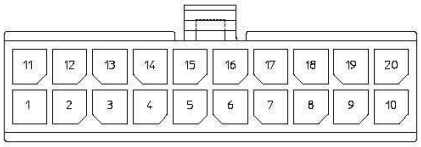

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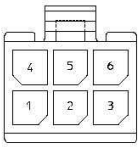

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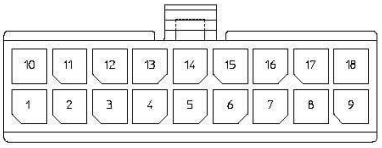

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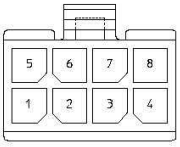

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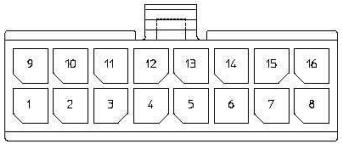

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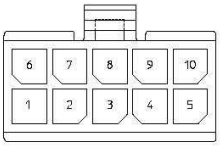

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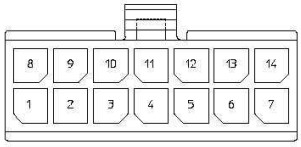

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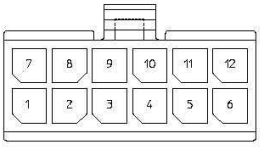
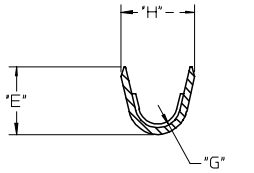


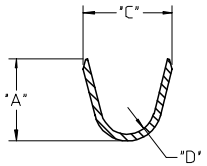
12-CKT.

WIRE SIZE	MAX INSULATION	"A" ±.012 ±0.30	"C" ±.012 ±0.30	"D" ±.005 ±0.13	"E" ±.012 ±0.30	"G" ±.005 ±0.13	"H" ±.012 ±0.30
20-24	.073/1.85	.090/2.29	.100/2.54	.030/0.76	.075/1.91	.025/0.64	.082/2.08
26-30	.050/1.27	.075/1.91	.083/2.10	.025/0.64	.058/1.47	.020/0.51	.065/1.65

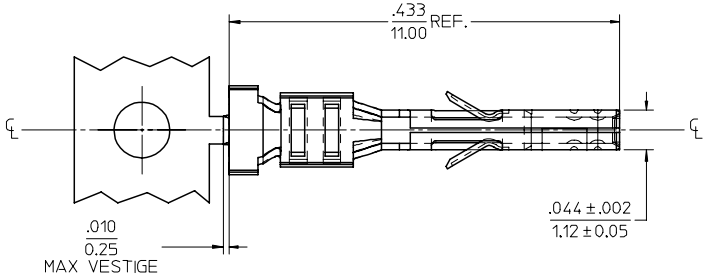
MATERIAL NUMBER	PLATING	WIRE SIZE	FORM
43030-0001	A	20-24	CHAIN
43030-0002	B	20-24	CHAIN
43030-0003	C	20-24	CHAIN
43030-0004	A	26-30	CHAIN
43030-0005	B	26-30	CHAIN
43030-0006	C	26-30	CHAIN
43030-0007	A	20-24	LOOSE
43030-0008	B	20-24	LOOSE
43030-0009	C	20-24	LOOSE
43030-0010	A	26-30	LOOSE
43030-0011	B	26-30	LOOSE
43030-0012	C	26-30	LOOSE

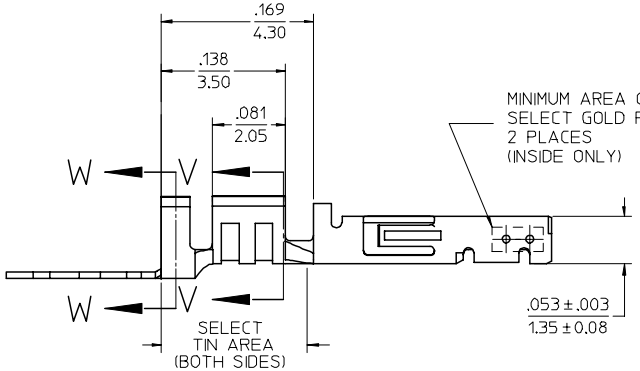


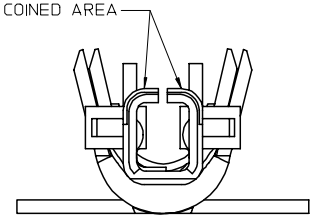
SECTION V-V



SECTION W-W







(SCALE 20:1)

NOTES

1) MATERIAL: PHOSPHOR BRONZE ALLOY
2) TERMINAL PLATING:
   "A" - HOT TIN DIP: .000040/0.00102 MIN.
   "B" - .000015/0.00038 MIN. SELECT GOLD
   .000100/0.00254 MIN. SELET TIN
   ALL OVER .000050/0.00127 MIN. NICKEL OVERALL.
   "C" - .000030/0.00076 MIN. SELECT GOLD
   .000100/0.00254 MIN. SELECT TIN
   ALL OVER .000050/0.00127 MIN. 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.
   MATERIAL NUMBERS WITH SELECT PLATING ARE POST PLATED.
3) PRODUCT SPECIFICATION: PS-43045, PS-43650, PS-44300-001.
4) PACKAGING SPECIFICATION: PK-43030-001
5) TERMINAL FOR USE IN A MICRO FIT RECEPTACLE #43025-****, 43645-****, AND 44133-****.
6) FOR TERMINAL ORIENTATION IN RECEPTACLE SEE DRAWING #SDA-43025 OR SDA-43645.
7) THIS TERMINAL IS DESIGNED IN METRIC.
8) MOLEX RECOMMENDS THE USE OF MICRO-FIT TEST PLUG (SERIES 44242) 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 (SERIES 43020, 43045, 43640, 43650, OR 43031) FOR HARNESS TESTING PURPOSES.

REDRAWN
EC NO: UCP2007-1159 2007/05/03
DRWN:PRIDDER 2007/05/04
CHKD:SSOUSEK 2007/05/08
APPR:FSMITH
DESCRIPTION
REV
N

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

DIMENSION STYLE: IN/MM
SCALE: 10:1
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY	MUELLER	DATE 2002/08/03
CHECKED BY	MUELLER	DATE 2002/08/03
APPROVED BY	MARGULIS	DATE 2002/08/03

TITLE: MICRO-FIT (3.0) FEMALE CRIMP TERMINAL

MOLEX INCORPORATED

MATERIAL NO.: SEE CHART
DOCUMENT NO.: SD-43030-****
SHEET NO.: 1 OF 1
SIZE: C