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ELECTRONICS

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Jameco Part Number 882470

FEATURES AND SPECIFICATIONS

Features and Benefits

- Pegs provide increased board retention
- Ideal for low profile power applications
- Positive housing locks to mate with Mini-Fit, Jr. single row receptacles 5557
- Fully isolated terminals to protect contacts from damage

Reference Information

Product Specification: PS-5556-0001
 Packaging: Tray or bag
 UL File No.: E29179
 CSA File No.: LR19980
 Mates With: [5557](#) single row receptacle
 TUV License No.: R75142
 Designed In: Millimeters

Electrical

Voltage: 600V
 Current: (Used with 16 AWG)

Circuits	2-3	4-6	7-10	12-24
Amperes-Jr.	9	8	7	6
Amperes-HCS	12	11	10	9

Electrical (cont'd)

Contact Resistance: 10mΩ max.
 Dielectric Withstanding Voltage: 1500V AC
 Insulation Resistance: 1000 MΩ min.

Mechanical

Insertion Force to PCB: 49N (11.01 lb) max.
 Mating Force: 6.9N (1.54 lb) max.
 Unmating Force: 3.4N (0.7 lb) min.
 Durability: 30 cycles

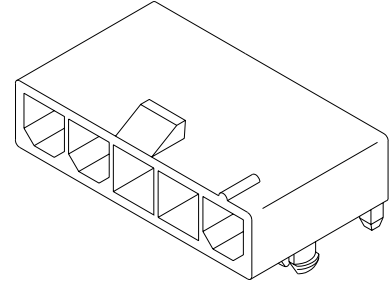
Physical

Housing: 6/6 nylon, UL 94V-2 or 94V-0
 Contact: Brass
 Plating: Tin, select Gold or overall Gold
 Operating Temperature: -40 to +105°C

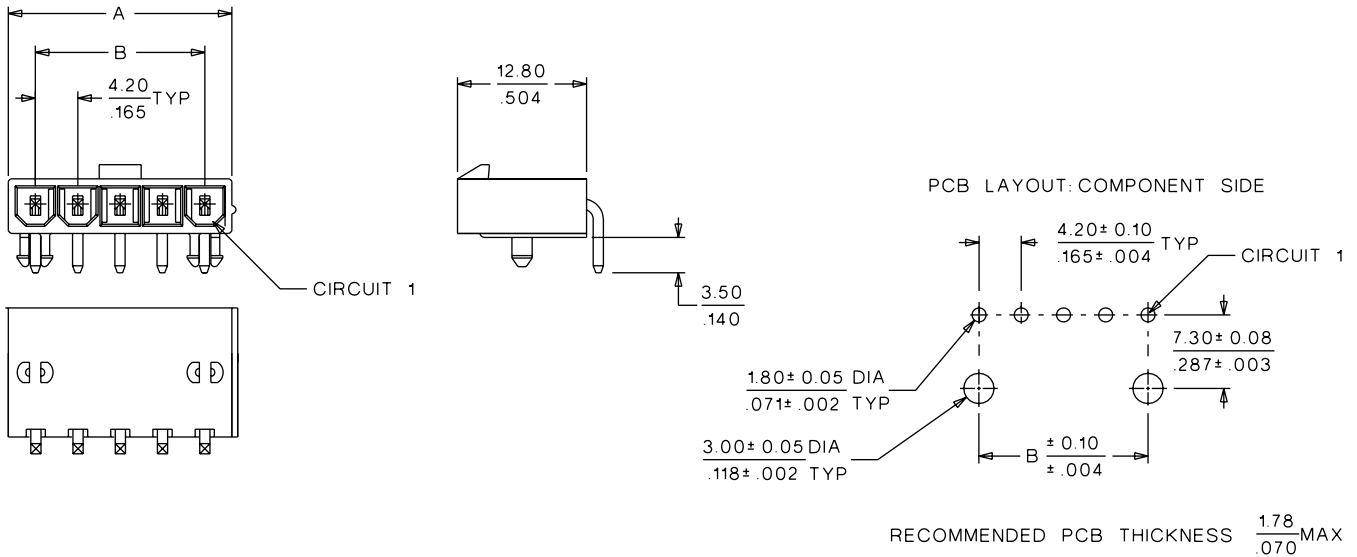
molex® 4.20mm (.165") Pitch Mini-Fit, Jr.™ Header

5569

Right Angle, Single Row With Pegs



CATALOG DRAWING (FOR REFERENCE ONLY)



ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.				Dimension	
	Tin Plated		Gold Plated		A	B
	94V-2	94V-0	94V-2	94V-0		
3	• 39-30-3035	• 39-30-3036	• 39-30-3037	• 39-30-3038	13.80 (.540)	8.40 (.331)
4	• 39-30-3045		• 39-30-3047		18.00 (.709)	12.60 (.496)
5	• 39-30-3055	• 39-30-3056	• 39-30-3057	• 39-30-3058	22.20 (.874)	16.80 (.661)

• US Standard Product, available through Molex franchised distributors



PRODUCT SPECIFICATION

MINI-FIT JR.

1.0 SCOPE

This Product Specification covers performance requirements for the MINI-FIT JR. 4.20 mm (.165 inch) centerline (pitch) printed circuit board (PCB) connector series with Tin or Gold plating, and The MINI-FIT JR. connector series terminated with 16 to 28 AWG wire using Crimp technology with Tin or Gold plating.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER (S)

<u>PRODUCT NAME</u>	<u>PART NUMBER</u>
Female Crimp Terminal	5556-****
Male Crimp Terminal	5558-****
Receptacle Housing	5557-****
Plug Housing	5559-****
Vertical Header Assembly	5566-****
Right Angle Header Assembly	5569-****

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings for the information on dimensions, materials, platings and markings.

2.3 SAFETY AGENCY APPROVALS

UL File: E29179
CSA Certificate: LR 19980
TUV Certificate: R75142-8

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See sales drawings and the other sections of this specification for the necessary referenced documents and specifications

4.0 RATINGS

4.1 VOLTAGE

600 Volts AC (RMS) (or 600 Volts DC)

4.2 CURRENT AND APPLICABLE WIRES

Maximum Insulation Diameter and Applicable Wire Gauges	16 AWG: 3.10/. 122 MAXIMUM
	18-24 AWG: 3.10/. 122 MAXIMUM
	22-28 AWG: 1.80/. 071 MAXIMUM

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PRODUCT SPECIFICATION

4.2 CURRENT AND APPLICABLE WIRES (continued)

MAXIMUM CURRENT RATING (Amperes)									
Brass					Phosphor Bronze				
Wire \ Ckt. Size	2 & 3	4 - 6	7 - 10	12 - 24	Wire \ Ckt. Size	2 & 3	4 - 6	7 - 10	12 - 24
AWG #16	9	8	7	6	AWG #16	8	7	6	5
AWG #18	9	8	7	6	AWG #18	8	7	6	5
AWG #20	7	6	5	5	AWG #20	6	5	4	4
AWG #22	5	4	4	4	AWG #22	4	3	3	3
AWG #24	4	3	3	3	AWG #24	3	2	2	2
AWG #26	3	2	2	2	AWG #26	2	1	1	1
AWG #28	2	1	1	1	AWG #28	1	1	1	1

4.3 TEMPERATURE

Operating: * - 40°C to + 105°C

Nonoperating: - 40°C to + 105°C

*Including 30°C terminal temperature at rated current

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	Mate connectors: apply a maximum voltage of 20 mV and a current of 100 mA. Wire resistance shall be removed from the measured value.	10 milliohms MAXIMUM [initial]
2	Contact Resistance @ Rated Current	Mate connectors: apply a maximum voltage of 20 mV at rated current.	10 milliohms MAXIMUM [initial]
3	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]
4	Insulation Resistance	Mate connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	1000 Megohms MINIMUM

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PRODUCT SPECIFICATION

5.1 ELECTRICAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5	Dielectric Withstanding Voltage	Mate connectors: apply a voltage of 1500 VAC for 1 minute between adjacent terminals and between terminals to ground.	No breakdown. Current leakage < 5 mA
6	Temperature Rise (via Current Cycling)	Mate connectors. Measure the temperature rise at the rated current after 96 hours, during current cycling (45 minutes ON and 15 minutes OFF per hour) for 240 hours, and after final 96-hour steady state.	Temperature rise: +30°C MAXIMUM

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Terminal Insertion and Withdrawal Forces	Insert and withdraw terminal (male to female) at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	14.7 N (3.30 lbf) MAXIMUM insertion force & 1.0 N (0.02 lbf) MINIMUM withdrawal force
2	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.	30 N (6.74 lbf) MINIMUM retention force
3	Durability	Mate connectors up to 30 cycles at a maximum rate of 10 cycles per minute prior to Environmental Tests.	20 milliohms MAXIMUM
4	Vibration (Random)	Mate connectors and vibrate per EIA 364-28, test condition VII.	10 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
5	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 & Discontinuity < 1 microsecond
6	Wire Pullout Force (Axial)	Apply an axial pullout force on the wire at a rate of 25 ± 6 mm (1 ± ¼ inch).	16 Awg = 88.0 N (19.8 lbf) Min. 18 Awg = 88.0 N (19.8 lbf) Min. 20 Awg = 59.0 N (13.3 lbf) Min. 22 Awg = 39.0 N (8.78 lbf) Min. 24 Awg = 29.0 N (6.52 lbf) Min. 26 Awg = 19.0 N (4.27 lbf) Min. 28 Awg = 9.80 N (2.20 lbf) Min.

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PRODUCT SPECIFICATION

5.2 MECHANICAL REQUIREMENTS (continued)

7	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).	15.0 N (3.37 lbf) MAXIMUM insertion force
8	Normal Force	Apply a perpendicular force.	0.49 N (50 grams) MINIMUM [Gold (noble) plating] OR 1.47 N (150 grams) MINIMUM [Tin (non-noble) plating]
9	PCB Engagement and Separation Forces	Engage and separate a connector at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. (Applies to parts with PCB retention features only)	49.0 N (11.0 lbf) MAXIMUM insertion force & 10.0 N (2.24 lbf) MINIMUM withdrawal force
10	Panel Insertion and Withdrawal Forces	Insert and withdraw a connector at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. (Applies to parts with panel retention features only)	225 N (50.7 lbf) MAXIMUM insertion force & 157 N (35.3 lbf) MINIMUM withdrawal force
11	Pin Retention Force	Apply axial push force at the speed rate of 25 ± 3 mm/minute.	1.0 KGF MIN.
12	Thumb latch Operation Force	Depress latch at a speed rate of 25.4 mm/minute.	1.7 KGF MAX.
13	Thumb latch Yield Strength	Mate loaded connectors fully. Pull apart via wires at a speed rate of 25.4 mm/minute.	7.0 KGF MIN.

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PRODUCT SPECIFICATION

5.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Thermal Shock	Mate connectors: expose for 5 cycles Between temperatures -55 and 105° C; Dwell 0.5 hours at each temperature.	20 milliohms MAXIMUM Visual: No Damage Dielectric Strength per 5.1.5 Insulation Resistance per 5.1.4
2	Thermal Aging	Mate connectors; expose to: 96 hours at 105 ± 2°C	20 milliohms MAXIMUM & Visual: No Damage
3	Humidity (Steady State)	Mate connectors: expose to a temperature of 60 ± 2°C with a relative humidity of 90-95% for 96 hours.	20 milliohms MAXIMUM Dielectric Strength per 5.1.5 Insulation Resistance per 5.1.4 Visual: No Damage
4	Solderability	Per SMES-152	Solder coverage: 95% MINIMUM (per SMES-152)
5	Solder Resistance	Dip connector terminals tail in solder: Solder Duration: 5 ± 0.5 seconds; Solder Temperature: 260 ± 5°C	Visual: No Damage to insulator material
6	Cold Resistance	Mate connectors: Duration; 96 hours; Temperature: -40 ± 3°C	20 milliohms MAXIMUM Visual: No Damage
7	Corrosive Atmosphere: Sulfur Dioxide Gas (SO₂)	Mate connectors: Duration; 24 hours exposure. Atmosphere: 50 parts per million (ppm) SO ₂ Gas. Temperature: 40 ± 3°C	20 milliohms MAXIMUM Visual: No Damage

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.

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PRODUCT SPECIFICATION

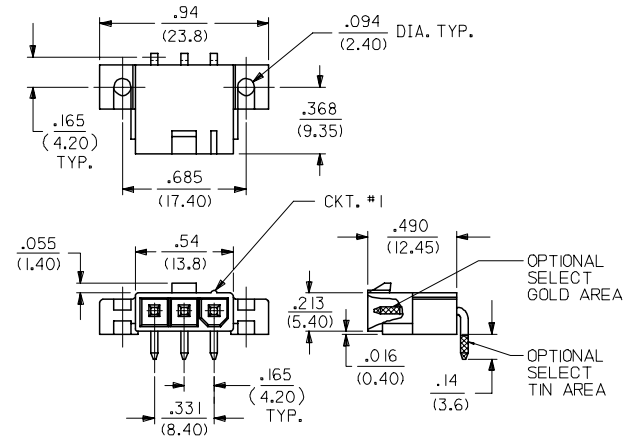
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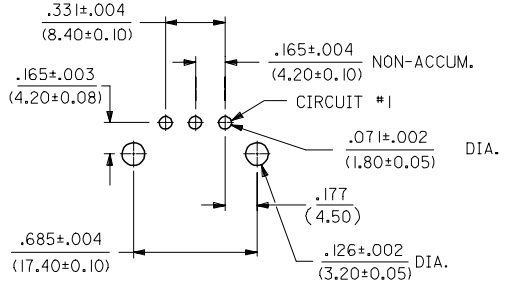
PRODUCT SPECIFICATION

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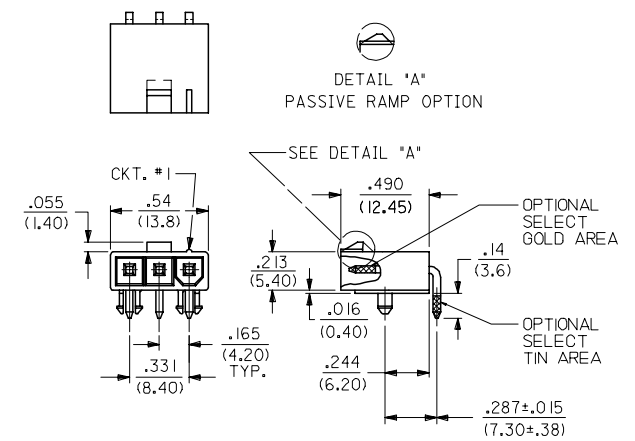
PART NUMBER	ENGINEERING	MOUNT OPTION	PLATING	MAT'L.
39-31-1032	5569-03A4-BL	4	BLANK	BL
39-30-3031	5569-03A3	3	BLANK	BLANK
39-30-4039	5569-03A3GS2	3	15 GOLD	
39-30-4037	5569-03A3GS	3	30 GOLD	
39-30-4035	5569-03A3G2	3	15 GOLD	
39-30-3033	5569-03A3G	3	30 GOLD	
39-30-3035	5569-03A4	4	BLANK	
39-30-4033	5569-03A4GS2	4	15 GOLD	
39-30-4031	5569-03A4GS	4	30 GOLD	
39-30-3039	5569-03A4G2	4	15 GOLD	
39-30-3037	5569-03A4G	4	30 GOLD	
39-30-6039	5569-03A3S	3	TIN/NICKEL	
39-30-7031	5569-03A4S	4	TIN/NICKEL	BLANK
39-30-3032	5569-03A3-210	3	BLANK	210
39-30-5030	5569-03A3GS2-210	3	15 GOLD	
39-30-4038	5569-03A3GS-210	3	30 GOLD	
39-30-4036	5569-03A3G2-210	3	15 GOLD	
39-30-3034	5569-03A3G-210	3	30 GOLD	
39-30-3036	5569-03A4-210	4	BLANK	
39-30-4034	5569-03A4GS2-210	4	15 GOLD	
39-30-4032	5569-03A4GS-210	4	30 GOLD	
39-30-4030	5569-03A4G2-210	4	15 GOLD	
39-30-3038	5569-03A4G-210	4	30 GOLD	
39-30-7030	5569-03A3S-210	3	TIN/NICKEL	
39-30-7032	5569-03A4S-210	4	TIN/NICKEL	210
NO E.D.P.	5569-03A5	5	BLANK	BLANK
NO E.D.P.	5569-03A5GS2	5	15 GOLD	
NO E.D.P.	5569-03A5GS	5	30 GOLD	
NO E.D.P.	5569-03A5G2	5	15 GOLD	
NO E.D.P.	5569-03A5G	5	30 GOLD	
NO E.D.P.	5569-03A5S	5	TIN/NICKEL	BLANK
NO E.D.P.	5569-03A5-210	5	BLANK	210
NO E.D.P.	5569-03A5GS2-210	5	15 GOLD	
NO E.D.P.	5569-03A5GS-210	5	30 GOLD	
NO E.D.P.	5569-03A5G2-210	5	15 GOLD	
NO E.D.P.	5569-03A5G-210	5	30 GOLD	
39-34-3037	5569-03A5S-210	5	TIN/NICKEL	210



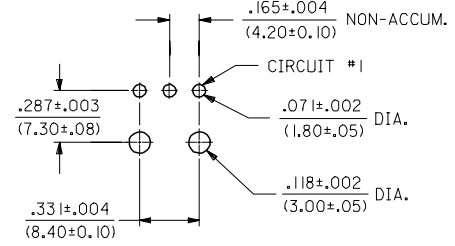
RIGHT ANGLE HEADER (SCREW MOUNT)



RECOMMENDED HOLE LAYOUT FOR .070/(1.78) MAX. THICK P.C. BOARD VIEWED FROM COMPONENT SIDE



RIGHT ANGLE HEADER (PEG MOUNT)



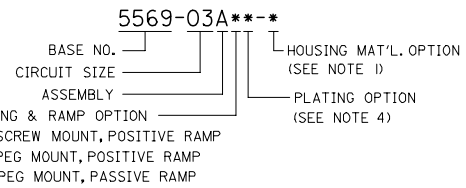
RECOMMENDED HOLE LAYOUT FOR .070/(1.78) MAX. THICK P.C. BOARD VIEWED FROM COMPONENT SIDE

NOTES:

- HOUSING MATERIAL:
 *BLANK = NYLON 6/6, U.L. 94V-2, COLOR: NATURAL.
 210 = NYLON 6/6, U.L. 94V-0, COLOR: NATURAL.
 BL = NYLON 6/6, U.L. 94V-2, COLOR: BLACK.
 - PART MATES WITH MOLEX RECEPTACLE *5557.
 - TERMINAL MATERIAL: BRASS, ALLOY 260.
 - TERMINAL PLATING:
 *BLANK - .000200/(.00508) MIN. TIN OVER .00100/(.00254) MIN. COPPER OVERALL.
 G - .000030/(.00076) MIN. GOLD OVER .000050/(.00127) MIN. NICKEL OVERALL.
 G2 - .000015/(.00038) MIN. GOLD OVER .000030/(.00076) MIN. NICKEL OVERALL.
 S - .000100/(.00254) MIN. TIN OVER .000050/(.00127) MIN. NICKEL OVERALL.
 *GS - .000030/(.00076) MIN. SELECT GOLD, .000100/(.00254) MIN. SELECT MATTE TIN OVER .000050/(.00127) MIN. NICKEL OVERALL.
 *GS2 - .000015/(.00038) MIN. SELECT GOLD, .000100/(.00254) MIN. SELECT MATTE TIN OVER .000050/(.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 PLATING.
- PRODUCT SPECIFICATION AND PROCESSING PARAMETERS: SEE PS-5556-001
 - PART IS DESIGNED FOR USE WITH 4 - 40 OR M3 SCREWS.

- DISCOLORATION IN THE BANDOLIER CARRIER AREA OF THE PIN IS INHERENT TO THE PLATING PROCESS AND IS DUE TO THE MASKING EFFECT OF THE CARRIER. THIS DISCOLORATION IS IN A NON-FUNCTIONAL AREA OF THE PIN AND WILL NOT AFFECT THE PERFORMANCE OF THE HEADER ASSEMBLY.
- CONNECTORS ARE NOT BE MATED OR UNMATED WHILE CIRCUITS ARE LIVE.
- PARTS ARE NOT DESIGNED FOR CURRENT SHARING.
- PART CONFORMS TO CLASS "B" REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.

LEGEND



ADDED NOTES 9 & 10 EC NO: UCP2006-3005 DRAWN: ADRIANOL 2006/07/26 CHKD: SFRY 2006/08/07 APPR: ICOMERCJ 2006/08/07 DESCRIPTION	QUALITY SYMBOLS 	GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <tr><th colspan="2">mm</th><th colspan="2">INCH</th></tr> <tr><td>4 PLACES</td><td>± .010</td><td>± .0004</td><td>± .0001</td></tr> <tr><td>3 PLACES</td><td>± .015</td><td>± .0005</td><td>± .0001</td></tr> <tr><td>2 PLACES</td><td>± .025</td><td>± .0010</td><td>± .0002</td></tr> <tr><td>1 PLACE</td><td>± 0.38</td><td>± .0150</td><td>± .0030</td></tr> </table>	mm		INCH		4 PLACES	± .010	± .0004	± .0001	3 PLACES	± .015	± .0005	± .0001	2 PLACES	± .025	± .0010	± .0002	1 PLACE	± 0.38	± .0150	± .0030	DIMENSION STYLE IN/MM	SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
	mm		INCH																							
	4 PLACES	± .010	± .0004	± .0001																						
	3 PLACES	± .015	± .0005	± .0001																						
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1 PLACE	± 0.38	± .0150	± .0030																							
DRAWN BY: GEP DATE: 9/20/90 CHECKED BY: RJF DATE: 9/20/90 APPROVED BY: RAS DATE: 9/20/90		MATERIAL NO. SEE CHART DOCUMENT NO. SDA-5569-03A**		RIGHT ANGLE HEADER ASSY, 3 CKT., SINGLE ROW, MINI-FIT JR. SERIES		SHEET NO. 1 OF 1																				
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		MOLEX INCORPORATED																						