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ELECTRONICS

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Jameco Part Number 798981

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Peg-mounted for increased board retention
- Low profile for space constraints
- Positive housing locks
- 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

TUV License No.: R75142

Mates With: [5557](#) dual row receptacle

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

Contact Resistance: 10mΩ max.

Dielectric Withstanding Voltage: 1500V

Insulation Resistance: 1000 MΩ min.

### Mechanical

Insertion Force to PCB: 5.0kg max.

Mating Force: 0.7kg (1.54 lb) max.

Unmating Force: 0.35kg (0.7 lb) min.

Normal Force: 200g min.

Durability: 30 cycles

### Physical

Housing: 6/6 nylon, UL 94V-2 or 94V-0

Contact: Brass

Plating: Tin, select Gold or overall Gold

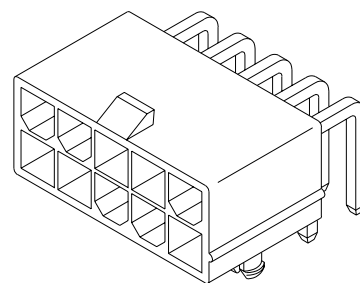
Operating Temperature: -40 to +105°C



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

**5569**

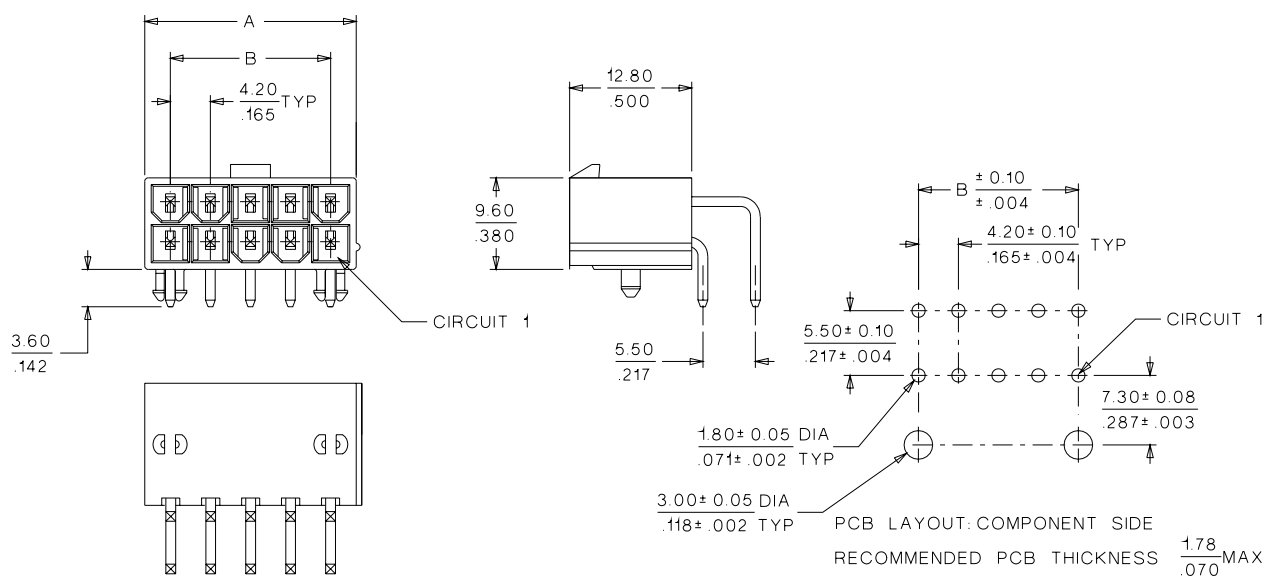
## Right Angle, Dual Row With Pegs



Power Connectors

F

## CATALOG DRAWING (FOR REFERENCE ONLY)



## ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.						Dimension	
	Tin Plated		Gold Plated (30μ")		Select Gold Plated (30μ")		A	B
	94V-2	94V-0	94V-2	94V-0	94V-2	94V-0		
2	• 39-30-1020	• 39-30-0020	39-30-1021	39-30-1022	39-30-0023	39-30-0024	5.40 (.213)	
4	• 39-30-1040	• 39-30-0040	39-30-1041	39-30-1042	39-30-0043	39-30-0044	9.60 (.378)	4.20 (.165)
6	• 39-30-1060	• 39-30-0060	39-30-1061	39-30-1062			13.80 (.543)	8.40 (.331)
8	• 39-30-1080	• 39-30-0080	39-30-1081	39-30-1082			18.00 (.709)	12.60 (.496)
10	• 39-30-1100	• 39-30-0100	39-30-1101	39-30-1102			22.20 (.874)	16.80 (.661)
12	• 39-30-1120	• 39-30-0120	39-30-1121	39-30-1122			26.40 (1.039)	21.00 (.827)
14	• 39-30-1140	• 39-30-0140	39-30-1141	39-30-1142			30.60 (1.205)	25.20 (.992)
16	• 39-30-1160	• 39-30-0160	39-30-1161	39-30-1162			34.80 (1.370)	29.40 (1.158)
18	• 39-30-1180		39-30-1181				39.00 (1.535)	33.60 (1.323)
20	• 39-30-1200	• 39-30-0200	39-30-1201	39-30-1202			43.20 (1.701)	37.80 (1.488)
22	• 39-30-1220		39-30-1221				47.40 (1.866)	42.00 (1.654)
24	• 39-30-1240	• 39-30-0240	39-30-1241	39-30-1242			51.60 (2.031)	46.20 (1.819)

• 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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DOCUMENT NUMBER: <b>PS-5556-001</b>	CREATED / REVISED BY: <b>BANDURA</b>	CHECKED BY: <b>BANDURA</b>	APPROVED BY: <b>MARGULIS</b>



# 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	<b>Dielectric Withstanding Voltage</b>	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	<b>Temperature Rise (via Current Cycling)</b>	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	<b>Terminal Insertion and Withdrawal Forces</b>	Insert and withdraw terminal (male to female) at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute.	14.7 N (3.30 lbf) MAXIMUM insertion force & 1.0 N (0.02 lbf) MINIMUM withdrawal force
2	<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.	30 N (6.74 lbf) MINIMUM retention force
3	<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
4	<b>Vibration (Random)</b>	Mate connectors and vibrate per EIA 364-28, test condition VII.	10 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
5	<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 & Discontinuity < 1 microsecond
6	<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).	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	<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).	15.0 N (3.37 lbf) MAXIMUM insertion force
8	<b>Normal Force</b>	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	<b>PCB Engagement and Separation Forces</b>	Engage and separate a connector at a rate of $25 \pm 6$ 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	<b>Panel Insertion and Withdrawal Forces</b>	Insert and withdraw a connector at a rate of $25 \pm 6$ 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	<b>Pin Retention Force</b>	Apply axial push force at the speed rate of $25 \pm 3$ mm/minute.	1.0 KGF MIN.
12	<b>Thumblatch Operation Force</b>	Depress latch at a speed rate of 25.4 mm/minute.	1.7 KGF MAX.
13	<b>Thumblatch Yield Strength</b>	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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## 5.3 ENVIRONMENTAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	<b>Thermal Shock</b>	Mate connectors: expose for 5 cycles Between temperatures $-55$ and $105^{\circ}\text{C}$ ; 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	<b>Thermal Aging</b>	Mate connectors; expose to: 96 hours at $105 \pm 2^{\circ}\text{C}$	20 milliohms MAXIMUM & Visual: No Damage
3	<b>Humidity (Steady State)</b>	Mate connectors: expose to a temperature of $60 \pm 2^{\circ}\text{C}$ 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	<b>Solderability</b>	Per SMES-152	Solder coverage: 95% MINIMUM (per SMES-152)
5	<b>Solder Resistance</b>	Dip connector terminals tail in solder: Solder Duration: $5 \pm 0.5$ seconds; Solder Temperature: $260 \pm 5^{\circ}\text{C}$	Visual: No Damage to insulator material
6	<b>Cold Resistance</b>	Mate connectors: Duration; 96 hours; Temperature: $-40 \pm 3^{\circ}\text{C}$	20 milliohms MAXIMUM Visual: No Damage
7	<b>Corrosive Atmosphere: Sulfur Dioxide Gas (SO<sub>2</sub>)</b>	Mate connectors: Duration; 24 hours exposure. Atmosphere: 50 parts per million (ppm) SO <sub>2</sub> Gas. Temperature: $40 \pm 3^{\circ}\text{C}$	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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TEMPLATE FILENAME: PRODUCT_SPEC(SIZE_A)(V.1).DOC			





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