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ELECTRONICS

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Jameco Part Number 303829

FEATURES AND SPECIFICATIONS

Features and Benefits

- Wire-to-wire plug for panel-mounted or free-hanging applications
- Available with and without panel mounting ears
- Positive housing locks to mate with Mini-Fit, Jr. receptacle
- Fully isolated terminals to protect contacts from damage
- Uses standard Mini-Fit series terminals

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 single row receptacle

Use With: <u>5558</u>, <u>30490</u> or 44478 terminals

Designed In: Millimeters



Contact Insertion Force: 1.5kg max.
Contact Retention to Housing: 3.0kg min.
Wire Pull-Out Force: 9.0kg min.
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.

Physical

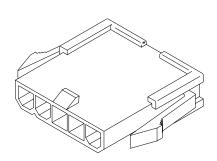
Durability: 30 cycles

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

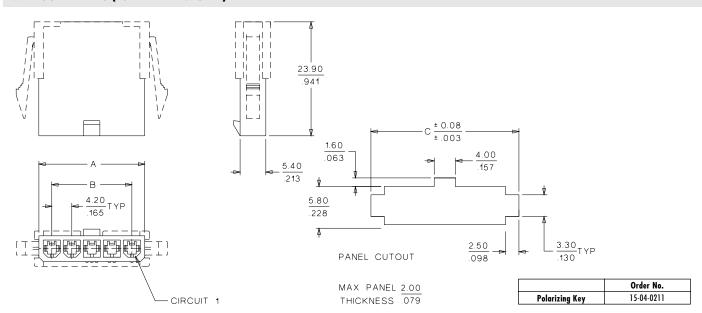


5559

Single Row, With and Without Panel Mount Ears



CATALOG DRAWING (FOR REFERENCE ONLY)



ORDERING INFORMATION AND DIMENSIONS

	Order No.				Dimension		
Circuits	Panel	el Mount Fre		Free Hanging			
	94V-2	94V-0	94V-2	94V-0	7 *	В	,
3*	• 39-01-4032	• 39-01-4033	• 39-01-4036	• 39-01-4037	13.80 (.543)	8.40 (.331)	19.20 (.756)
4			• 39-01-4046		18.00 (.709)	12.60 (.496)	23.40 (.921)
5	• 39-01-4052	• 39-01-4053	• 39-01-4056	• 39-01-4057	22.20 (.847)	16.80 (.661)	27.60 (1.087)

[•] US Standard Product, available through Molex franchised distributors

F-42 MX01

^{* 3-}circuit plug designed for first-mate/last-break applications



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)

PRODUCT NAME	PART NUMBER
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

DEVISION: ECD/ECN INFORMATION: TITLE:

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

C	EC No: UCP2004-2349 DATE: 2004 / 05 / 25		T SPECIFICATION MINI-FIT JR. NECTOR SYSTEM		1 of 5
DOCUMENT NUMBER:		CREATED / REVISED BY:	CHECKED BY:	APPRO\	/ED BY:
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4.2 CURRENT AND APPLICABLE WIRES (continued)

MAXIMUM CURRENT RATING (Amperes)									
Brass				Phosp	hor Bron	ıze			
Ckt. Size Wire	2 & 3	4 - 6	7 - 10	12 - 24	Ckt. Size Wire	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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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 \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	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.	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 $(1 \pm \frac{1}{4}$ 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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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 ± 3mm/minute.	1.0 KGF MIN.
12	Thumblatch Operation Force	Depress latch at a speed rate of 25.4 mm/minute.	1.7 KGF MAX.
13	Thumblatch 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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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 (SO ₂)	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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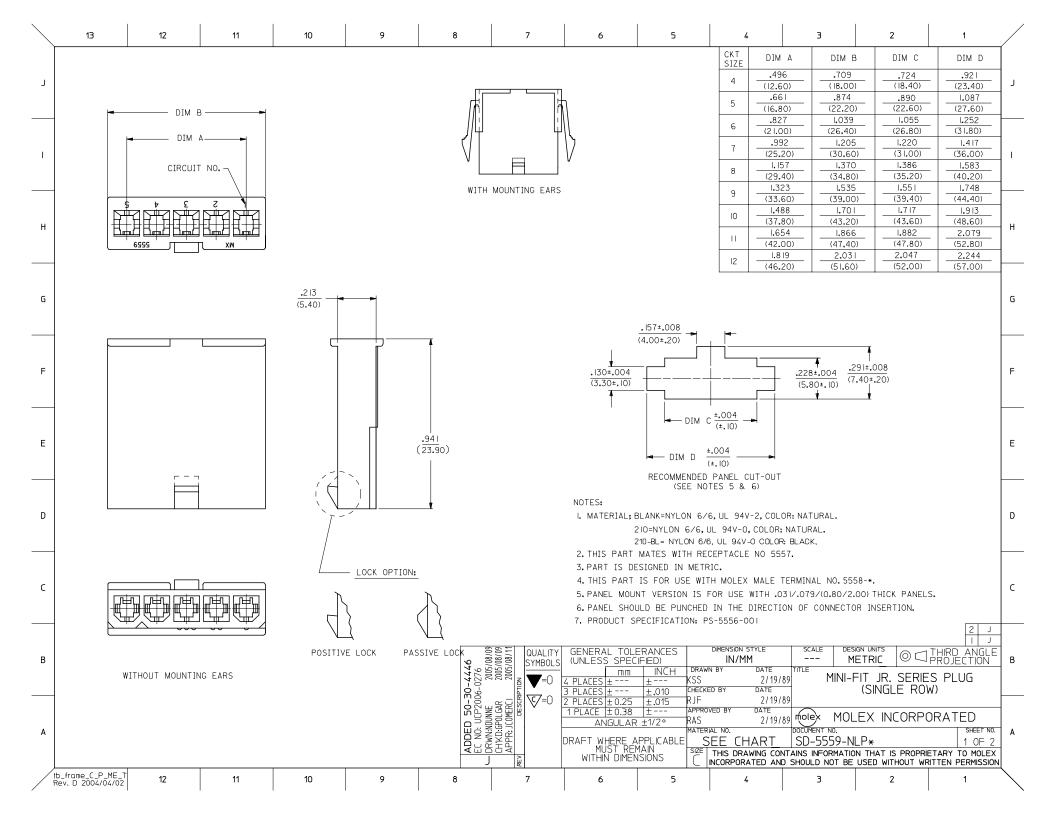
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	13	12	11		10	9	8		7	6	5	4		3	2	1	
ر (PART NO	ENG N	10	CKT SIZE	MOUNTING OPTION	LOCK OPTION	MATERIAL SEE NOTE!		PART NO		ENG NO	CKT SIZE	MOUNTING OPTION	LOCK OPTION	MATERIAL SEE NOTEI		
	39-01-4042			4	W/EARS	POSITIVE	94V-2		NO E.D.P.	55	59-04P4	4	W/EARS	PASSIVE	94V-2		
_	39-01-4046			4	W/O EAR	POSITIVE	94V-2		NO E.D.P.	55	59-04P5	4	W/O EAR	PASSIVE	94V-2		
	39-01-4043	5559-04P	2-210	4	W/EARS	POSITIVE	94V-0)	NO E.D.P.	55	59-04P4-2I0	4	W/EARS	PASSIVE	94V-0		
	39-01-4047 5559-04P3-210		4	W/O EAR	POSITIVE	94V-0		NO E.D.P.	55	59-04P5-2I0	4	W/O EAR	PASSIVE	94V-0		_	
	39-01-4052	5559-05P2	2	5	W/EARS	POSITIVE	94V-2										ı
	39-01-4056	5559-05P3	3	5	W/O EAR	POSITIVE	94V-2								_	١.	
ı	39-01-4053	5559-05P	2-210	5	W/EARS	POSITIVE	94V-0		50-29-1599	55	59-05P4-2I0	5	W/EARS	PASSIVE	94V-0		
	39-01-4057	5559-05P3		5	W/O EAR	POSITIVE	94V-0		NO E.D.P.		59-05P5-2I0	5	W/O EAR	PASSIVE	94V-0		1
	50-30-4446	5559-05P3-		5	W/O EAR	POSITIVE	94V-0		NO E.D.P.		59-05P5-210-BL	5	W/O EAR	PASSIVE	94V-0		
	39-01-4062	5559-06P2	2	6	W/EARS	POSITIVE	94V-2		NO E.D.P.	55	59-06P4	6	W/EARS	PASSIVE	94V-2		
	39-01-4066	5559-06P3	3	6	W/O EAR	POSITIVE	94V-2		NO E.D.P.	55	59-06P5	6	W/O EAR	PASSIVE	94V-2		1
Н	39-01-4063	5559-06P	2-210	6	W/EARS	POSITIVE	94V-0		NO E.D.P.	55	59-06P4-2I0	6	W/EARS	PASSIVE	94V-0	_	Н
	39-01-4067	5559-06P		6	W/O EAR	POSITIVE	94V-0		NO E.D.P.		59-06P5-2I0	6	W/O EAR	PASSIVE	94V-0		1
	39-01-4072	5559-07P2		7	W/EARS	POSITIVE	94V-2		NO E.D.P.		59-07P4	7	W/EARS	PASSIVE	94V-2		
	39-01-4076	5559-07P3		7	W/O EAR	POSITIVE	94V-2		NO E.D.P.		59-07P5	7	W/O EAR	PASSIVE	94V-2		
	39-01-4073	5559-07P2		7	W/EARS	POSITIVE	94V-0		NO E.D.P.		59-07P4-2I0	7	W/EARS	PASSIVE	94V-0		i
G	39-01-4077	5559-07P		7	W/O EAR	POSITIVE	94V-0		NO E.D.P.		59-07P5-210	7	W/O EAR	PASSIVE	94V-0		G
	39-01-4082	5559-08P2		8	W/EARS	POSITIVE	94V-2		NO E.D.P.		59-08P4	8	W/EARS	PASSIVE	94V-2		i
	39-01-4086	5559-08P3		8	W/O EAR	POSITIVE	94V-2		NO E.D.P.		59-08P5	8	W/O EAR	PASSIVE	94V-2		i
	39-01-4083	5559-08P		8	W/EARS	POSITIVE	94V-0		NO E.D.P.	55	59-08P4-2I0	8	W/EARS	PASSIVE	94V-0		
	39-01-4087	5559-08P3		8	W/O EAR	POSITIVE	94V-0		NO E.D.P.		59-08P5-2I0	8	W/O EAR	PASSIVE	94V-0		i
F	39-01-4092	5559-09P2	2	9	W/EARS	POSITIVE	94V-2		NO E.D.P.	55	59-09P4	9	W/EARS	PASSIVE	94V-2		F
Г	39-01-4096	5559-09P3	3	9	W/O EAR	POSITIVE	94V-2		NO E.D.P.	55	59-09P5	9	W/O EAR	PASSIVE	94V-2		-
	39-01-4093	5559-09P	2-210	9	W/EARS	POSITIVE	94V-0		NO E.D.P.	55	59-09P4-2I0	9	W/EARS	PASSIVE	94V-0		i
	39-01-4097	5559-09P	3-210	9	W/O EAR	POSITIVE	94V-0		NO E.D.P.	55	59-09P5-2I0	9	W/O EAR	PASSIVE	94V-0		<u> </u>
	39-01-4102	5559-10P2	2	10	W/EARS	POSITIVE	94V-2		NO E.D.P.	55	59-10P4	10	W/EARS	PASSIVE	94V-2		i
	39-01-4106	5559-IOP3	3	10	W/O EAR	POSITIVE	94V-2		NO E.D.P.	55	59-10P5	10	W/O EAR	PASSIVE	94V-2		l
Е	39-01-4103	5559-10P2	2-210	10	W/EARS	POSITIVE	94V-0		NO E.D.P.	55	559-10P4-210	10	W/EARS	PASSIVE	94V-0		E
	39-01-4107	5559-10P3	3-210	10	W/O EAR	POSITIVE	94V-0		NO E.D.P.	55	559-10P5-210	10	W/O EAR	PASSIVE	94V-0		i
	39-01-4112	5559-11P2	-	II	W/EARS	POSITIVE	94V-2		NO E.D.P.	55	559-TP4	- 11	W/EARS	PASSIVE	94V-2		i
	39-01-4116	5559-11P3	3	II	W/O EAR	POSITIVE	94V-2		NO E.D.P.	55	559-TIP5	II.	W/O EAR	PASSIVE	94V-2		
	39-01-4113	5559-11P2	2-210	H	W/EARS	POSITIVE	94V-0		NO E.D.P.	55	559-11P4-210	- II	W/EARS	PASSIVE	94V-0		i
п	39-01-4117	5559-11P3	3-210	H	W/O EAR	POSITIVE	94V-0		NO E.D.P.	55	559-11P5-210	- II	W/O EAR	PASSIVE	94V-0		D
_	39-0 1-4 122	5559-12P2	2	12	W/EARS	POSITIVE	94V-2		NO E.D.P.	55	59-12P4	12	W/EARS	PASSIVE	94V-2		Ī
	39-01-4126	5559-12P3	3	12	W/O EAR	POSITIVE	94V-2		NO E.D.P.	55	59-12P5	12	W/O EAR	PASSIVE	94V-2		l
	39-01-4123	5559-12P2	2-210	12	W/EARS	POSITIVE	94V-0		NO E.D.P.	55	559-12P4-210	12	W/EARS	PASSIVE	94V-0		_
	39-0 1-4 127	5559-12P3	3-210	12	W/O EAR	POSITIVE	94V-0		NO E.D.P.	55	559-12P5-210	12	W/O EAR	PASSIVE	94V-0		i
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