



TEST SUMMARY



LANGUAGE

English

MINI-FIT JR. CONNECTOR SYSTEM STANDARD AND BLIND MATE INTERFACE(BMI) (WIRE TO PCB AND WIRE TO WIRE)

1.0 SCOPE

This specification covers the 4.20 mm (.165 inch) centerline connector series terminated with 18 to 24 Awg wire using crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND NUMBERS:

Description	Series Number
BMI Right Angle Header	42404
BMI Vertical Header	42440
BMI Plug Housing	42475
BMI Receptacle Header	42385
BMI Receptacle	44516
BMI Receptacle	42474
Mini-Fit Jr. Receptacle Housing	5557
Mini-Fit Jr Plug Housing	5559
Mini-Fit Jr Terminal-Male	5558
Mini-Fit Jr Terminal-Female	5556
Mini-Fit Jr Vertical Header	5566
Mini-Fit Jr Right Angle Header	5569

2.2 DIMENSIONS, MATERIALS, PLATING AND MARKINGS

For information on dimensions, materials, and plating see the individual drawing

2.3 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBERS

Product Specification Title: Mini-Fit Jr BMI	Document Number: PS-5556-002
Product Specification Title: Mini-Fit Jr	Document Number: PS-5556-001
Product Specification Title: Mini-Fit BMI	Document Number: PS-44516-001

3.0 APPLICABLE DOCUMENTS AND SPECIFICATION

3.1 TESTING PROCEDURES AND SEQUENCES

None

3.2 OTHER DOCUMENTS

None

4.0 QUALIFICATIONS

Laboratory conditions and sample selection are in accordance with EIA 364.

5.0 PERFORMANCE

REV.	C	C	C	C	C	C	C	C											
SHEET	1	2	3	4	5	6	7	8											
REVISE ON PC ONLY									TITLE: TEST SUMMARY										
C	REVISED								Mini-Fit Jr. Standard and Blind Mate Interface (BMI)										
	UCR2002-0869 BANDURA 02-4-18																		
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REV.	DESCRIPTION								WRITTEN BY:	CHECKED BY:	APPROVED	DATE: YR/MO/DAY							
	DESIGN CONTROL				STATUS				SAMIEC	BANDURA	EDGLEY	99/07/09							
DOCUMENT NUMBER																FILENAME	SHEET		
TS-5556-002																TS5556x2.LWP	1		
ES-40000-3996 REV. A SHEET 7 95/MAR/10 EC U5-0926 DCBRD07.LWP																			



TEST SUMMARY



LANGUAGE

English

5.1.1 ELECTRICAL PERFORMANCE RESULTS (with Brass material and Tin plating)

TEST CONDITION	TREATMENT	REQUIREMENT	UNIT	Mean	Min	Max
Contact Resistance (Low Level)	After Durability (Mated/Unmated Cycling)	20 Maximum (change from initial)	milliohm	3.09	2.85	3.39
	After Vibration	20 Maximum (change from initial)	milliohm	2.79	2.60	2.95
		Discontinuity	No Opens			
	After Thermal Shock	20 Maximum (change from initial)	milliohm	2.61	2.43	2.79
		Discontinuity	No Opens			
	After Mechanical Shock	20 Maximum (change from initial)	milliohm	2.70	2.54	2.89
		Appearance	No Damage			
	After Humidity (Steady State) 250 hours	20 Maximum (change from initial)	milliohm	2.54	2.44	2.67
		Appearance	No Damage			
	After Flowers of Sulfur	20 Maximum (change from initial)	milliohm	2.50	2.37	2.66
		Appearance	No Damage			
	After Ammonia Gas	20 Maximum (change from initial)	milliohm	2.56	2.44	2.66
		Appearance	No Damage			
	After Salt Spray	20 Maximum (change from initial)	milliohm	2.63	2.47	2.73
		Appearance	No Damage			

5.0 PERFORMANCE

5.1.2 ELECTRICAL PERFORMANCE RESULTS (with Phos Bronze material and Tin plating)

TEST CONDITION	TREATMENT	REQUIREMENT	UNIT	Mean	Min	Max
	After Durability	20 Maximum	milliohm	2.45	2.36	2.56

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DESIGN CONTROL UCR					STATUS			WRITTEN BY: SAMIEC	CHECKED BY: BANDURA	APPROVED EDGLEY	DATE: YR/MO/DAY 99/07/09									
DOCUMENT NUMBER TS-5556-002									FILENAME TS5556x2.LWP									SHEET 2		
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Contact Resistance (Low Level)	(Mated/Unmated Cycling)	(change from initial)				
	After Vibration	20 Maximum (change from initial)	milliohm	2.32	2.04	2.58
		Discontinuity	No Opens			
	After Mechanical Shock	20 Maximum (change from initial)	milliohm	2.38	2.11	2.69
		Discontinuity	No Opens			
	After Temperature Cycling	20 Maximum (change from initial)	milliohm	2.21	2.01	2.49
		Appearance	No Damage			
	After Humidity (Steady State)	20 Maximum (change from initial)	milliohm	2.26	2.05	2.42
		Appearance	No Damage			
	After Flowers of Sulfur	20 Maximum (change from initial)	milliohm	2.22	2.01	2.40
		Appearance	No Damage			
	After Ammonia Gas	20 Maximum (change from initial)	milliohm	~	~	~
		Appearance	No Damage			
	After Salt Spray	20 Maximum (change from initial)	milliohm	2.32	2.07	2.55
	Appearance	No Damage				

5.0 PERFORMANCE

5.1.3 ELECTRICAL PERFORMANCE RESULTS (with Brass material and Gold plating)

TEST CONDITION	TREATMENT	REQUIREMENT	UNIT	Mean	Min	Max
	After Durability (Mated/Unmated Cycling)	20 Maximum (change from initial)	milliohm	2.62	2.24	3.35
	After Vibration	20 Maximum (change from initial)	milliohm	3.26	2.59	5.36

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Contact Resistance (Low Level)	After Mechanical Shock	Discontinuity	No Opens			
		20 Maximum (change from initial)	milliohm	2.98	2.47	3.69
	After Temperature Cycling	Discontinuity	No Opens			
		20 Maximum (change from initial)	milliohm	~	~	~
	After Humidity (Steady State)	Appearance	No Damage			
		20 Maximum (change from initial)	milliohm	3.05	2.32	4.69
	After Flowers of Sulfur	Appearance	No Damage			
		20 Maximum (change from initial)	milliohm	~	~	~
	After Ammonia Gas	Appearance	No Damage			
		20 Maximum (change from initial)	milliohm	~	~	~
	After Salt Spray	Appearance	No Damage			
		20 Maximum (change from initial)	milliohm	~	~	~

5.0 PERFORMANCE

5.2.1 MECHANICAL PERFORMANCE (Brass material with Tin plating)

TEST CONDITION	TREATMENT	REQUIREMENT	UNIT	Mean	Min	Max
Connector Mate and Unmate Forces (per 2 ckt)	Initial Mating	2.0 Maximum (4.4) Maximum	Kgf (lbf)	0.85 (1.9)	0.78 (1.7)	0.88 (1.9)
	Final Mating	2.0 Maximum (4.4) Maximum	Kgf (lbf)	0.39 (0.86)	0.38 (0.84)	0.41 (0.90)
	Initial Unmating	0.2 Minimum (0.44) Minimum	Kgf (lbf)	0.44 (0.97)	0.41 (0.90)	0.47 (1.04)
	Final Unmating	0.1 Minimum (0.22) Minimum	Kgf (lbf)	0.16 (0.35)	0.13 (0.29)	0.18 (0.40)
Terminal Retention Force	Initial-Male	3 (6.6) Minimum	Kgf (lbf)	11.5 (25)	10.5 (23)	12.5 (27)

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(to housing)	Initial-Female	3 (6.6) Minimum	Kgf (lbf)	13.8 (30)	12.0 (26)	15.7 (35)
Terminal Insertion Force (into housing)	Initial-Male	1.5(3.3) Maximum	Kgf (lbf)	0.38(0.8)	0.23(0.5)	0.54(1.2)
	Initial-Female	1.5(3.3) Maximum	Kgf (lbf)	0.68(1.5)	0.61(1.3)	0.78(1.7)
Wire Pullout Force (Wire to Terminal Retention)	18 Awg	9.0 Minimum (19.9) Minimum	Kgf (lbf)	11.7 (25.8)	10.4 (22.9)	12.6 (27.8)
	20 Awg	6.0 Minimum (13.2) Minimum	Kgf (lbf)	12.6 (27.8)	10.3 (22.7)	13.4 (29.5)
	22 Awg	4.0 Minimum (8.8) Minimum	Kgf (lbf)	7.8 (17.2)	6.0 (13.2)	8.7 (19.2)
	24 Awg	3.0 Minimum (6.6) Minimum	Kgf (lbf)	4.9 (10.8)	4.0 (8.8)	5.8 (12.8)

5.0 PERFORMANCE

5.2.2 MECHANICAL PERFORMANCE (Phos Bronze material with Tin plating)

TEST CONDITION	TREATMENT	REQUIREMENT	UNIT	Mean	Min	Max
Connector Mate and Unmate Forces (per 2 ckt)	Initial Mating	2.9 Maximum (6.4) Maximum	Kgf (lbf)	1.15 (2.5)	1.00 (2.2)	1.26 (2.8)
	Final Mating	2.9 Maximum (6.4) Maximum	Kgf (lbf)	2.03 (4.5)	1.88 (4.1)	2.24 (4.9)
	Initial Unmating	0.1 Minimum (0.22) Minimum	Kgf (lbf)	0.68 (1.5)	0.65 (1.4)	0.71 (1.6)
	Final Unmating	0.1 Minimum (0.22) Minimum	Kgf (lbf)	1.00 (2.2)	0.84 (1.85)	1.14 (2.5)
Terminal Retention Force (to housing)	Initial-Male Initial-Female	3 (6.6) Minimum 3 (6.6) Minimum	Kgf (lbf) Kgf (lbf)	~ 11.43(25.2)	~ 10.3(22.7)	~ 13.80(30.4)
Terminal Insertion Force (into housing)	Initial-Male Initial-Female	1.5(3.3) Maximum 1.5(3.3) Maximum	Kgf (lbf) Kgf (lbf)	~ 0.81(1.8)	~ 0.67(1.5)	~ 1.06(2.3)

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Wire Pullout Force (Wire to Terminal Retention)	18 Awg	9.0 Minimum (19.9) Minimum	Kgf (lbf)	16.8 (37.0)	15.7 (34.6)	18.4 (40.6)
	20 Awg	6.0 Minimum (13.2) Minimum	Kgf (lbf)	13.4 (26.5)	12.7 (28.0)	14.3 (31.5)
	22 Awg	4.0 Minimum (8.8) Minimum	Kgf (lbf)	8.3 (18.3)	7.7 (17.0)	8.6 (19.0)
	24 Awg	3.0 Minimum (6.6) Minimum	Kgf (lbf)	4.9 (10.8)	4.2 (9.3)	5.9 (13.0)

5.0 PERFORMANCE

5.3.1 ENVIRONMENTAL PERFORMANCE (with Brass Material and Tin plating)

TEST CONDITION	Wire Awg	Amps	REQUIREMENT	Max Temp Rise Degrees C
Temperature Rise & Current Cycling	18	2A	30 Deg C max temp rise	2.6
	18	4A	30 Deg C max temp rise	9.7
	18	6A	30 Deg C max temp rise	21.1
	18	7.5A	30 Deg C max temp rise	32.2
	20	1A	30 Deg C max temp rise	1.1
	20	3A	30 Deg C max temp rise	9.2
	20	5A	30 Deg C max temp rise	23.6
	20	6A	30 Deg C max temp rise	33.0
	22	2A	30 Deg C max temp rise	5.2
	22	3A	30 Deg C max temp rise	11.4
	22	4A	30 Deg C max temp rise	19.5
	22	5A	30 Deg C max temp rise	30.4

REV.	C	C	C	C	C	C	C	C												
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DOCUMENT NUMBER TS-5556-002									FILENAME TS5556x2.LWP									SHEET 6		
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TEST SUMMARY



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English

24	1A	30 Deg C max temp rise	2.2
24	2A	30 Deg C max temp rise	8.1
24	3A	30 Deg C max temp rise	17.6
24	4A	30 Deg C max temp rise	30.2

5.0 PERFORMANCE

5.3.2 ENVIRONMENTAL PERFORMANCE (with Phos Bronze Material and Tin plating)

TEST CONDITION	Wire Awg	Amps	REQUIREMENT	Max Temp Rise Degrees C
Temperature Rise & Current Cycling	22	1A	30 Deg C max temp rise	1.6
	22	2A	30 Deg C max temp rise	6.7
	22	3A	30 Deg C max temp rise	13.4
	22	4A	30 Deg C max temp rise	21.4
	22	5A	30 Deg C max temp rise	31.8
	24	1A	30 Deg C max temp rise	2.3
	24	2A	30 Deg C max temp rise	8.5
	24	3A	30 Deg C max temp rise	18.2
24	4A	30 Deg C max temp rise	30.2	

REV.	C	C	C	C	C	C	C	C	C														
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DOCUMENT NUMBER TS-5556-002															FILENAME TS5556x2.LWP		SHEET 7						
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TEST SUMMARY



LANGUAGE
English

REV.																						
SHEET	1	2	3	4	5	6	7	8	9	10	11											
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B								TEST SUMMARY XXX XXX														
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