



TEST SUMMARY



LANGUAGE

English

MINI-FIT JR. CONNECTOR SYSTEM SURFACE MOUNT COMPATIBLE (SMC) (WIRE TO PCB)

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
SMC Right Angle Header	43810
SMC Vertical Header	44068
Receptacle Housing	5557
Receptacle Header	43255
Terminal-Male	5558
Terminal-Female	5556

2.2 DIMENSIONS, MATERIALS, PLATING AND MARKINGS

For information on dimensions, materials, and plating see the individual drawings.

2.3 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

Product Specification Title: Mini-Fit Jr. SMC
Document Number: PS-43810-001

3.0 APPLICABLE DOCUMENTS AND SPECIFICATION

3.1 TESTING PROCEDURES AND SEQUENCES

None

3.2 OTHER DOCUMENTS

TR-1383 and TR-2203 Brass with Tin Plating
TR-2426 Phosphor Bronze with Tin Plating
TR-1754S Brass with Gold Plating

4.0 QUALIFICATIONS

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

REV.	A1	A1	A1	A1	A1	A1	A1	A1	A1												
SHEET	1	2	3	4	5	6	7	8													
REVISE ON PC ONLY									TITLE: TEST SUMMARY Mini-Fit Jr. Surface Mount Compatible (SMC)												
A1 VOID UCP2015-4546 BELL 2015-05-01									THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION												
REV.	DESCRIPTION										WRITTEN BY:	CHECKED BY:	APPROVED	DATE:	YR/MO/DAY						
	DESIGN CONTROL UCR										STATUS	SAMIEC	BANDURA	EDGLEY	99/07/09						
DOCUMENT NUMBER TS-43810-001										FILENAME TS43810.LWP					SHEET 1						



TEST SUMMARY



LANGUAGE

English

5.0 PERFORMANCE

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			

REV.	A1	A1	A1	A1	A1	A1	A1	A1											
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									UCP2015-4546										
									BELL 2015-05-01										
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DOCUMENT NUMBER		FILENAME	SHEET
TS-43810-001		TS43810.LWP	2



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LANGUAGE

English

5.0 PERFORMANCE

5.1.2 ELECTRICAL PERFORMANCE RESULTS (with Phos Bronze 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	2.45	2.36	2.56
	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

REV.	A1	A1	A1	A1	A1	A1	A1	A1											
SHEET	1	2	3	4	5	6	7	8											
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DESIGN CONTROL UCR					STATUS				WRITTEN BY:	CHECKED BY:	APPROVED			DATE: YR/MO/DAY					
									SAMIEC	BANDURA	EDGLEY			99/07/09					
DOCUMENT NUMBER TS-43810-001														FILENAME	SHEET				
														TS43810.LWP	3				
ES-40000-3996 REV. A SHEET 7 95/MAR/10 EC U5-0926 DCBRD07.LWP																			



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

TEST CONDITION	TREATMENT	REQUIREMENT	UNIT	Mean	Min	Max
Contact Resistance (Low Level)	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
		Discontinuity	No Opens			
	After Mechanical Shock	20 Maximum (change from initial)	milliohm	2.98	2.47	3.69
		Discontinuity	No Opens			
	After Temperautre Cycling	20 Maximum (change from initial)	milliohm	~	~	~
		Appearance	No Damage			
	After Humidity (Steady State)	20 Maximum (change from initial)	milliohm	3.05	2.32	4.69
		Appearance	No Damage			
	After Flowers of Sulfur	20 Maximum (change from initial)	milliohm	~	~	~
		Appearance	No Damage			
	After Ammonia Gas	20 Maximum (change from initial)	milliohm	~	~	~
		Appearance	No Damage			
	After Salt Spray	20 Maximum (change from initial)	milliohm	~	~	~
		Appearance	No Damage			

5.0 PERFORMANCE

REV.	A1	A1	A1	A1	A1	A1	A1	A1										
SHEET	1	2	3	4	5	6	7	8										
REVISE ON PC ONLY									TITLE: TEST SUMMARY Mini-Fit Jr. Surface Mount Compatible (SMC)									
A1	VOID UCP2015-4546 BELL 2015-05-01								THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION									
	DESCRIPTION																	
DESIGN CONTROL UCR			STATUS			WRITTEN BY: SAMIEC		CHECKED BY: BANDURA		APPROVED EDGLE Y		DATE: YR/MO/DAY 99/07/09						
DOCUMENT NUMBER TS-43810-001									FILENAME TS43810.LWP				SHEET 4					



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English

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 ckts)	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 (to housing)	Initial-Male	3 (6.6) Minimum	Kgf (lbf)	11.5 (25)	10.5 (23)	12.5 (27)
	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)

REV.	A1	A1	A1	A1	A1	A1	A1	A1												
SHEET	1	2	3	4	5	6	7	8												
REVISE ON PC ONLY									TITLE: TEST SUMMARY											
A1									Mini-Fit Jr.											
VOID									Surface Mount Compatible											
UCP2015-4546									(SMC)											
BELL 2015-05-01									THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION											
REV.	DESCRIPTION																			
DESIGN CONTROL						STATUS			WRITTEN BY:	CHECKED BY:	APPROVED	DATE: YR/MO/DAY								
UCR									SAMIEC	BANDURA	EDGLE Y	99/07/09								
DOCUMENT NUMBER															FILENAME	SHEET				
TS-43810-001															TS43810.LWP	5				
ES-40000-3996 REV. A SHEET 7 95/MAR/10 EC U5-0926 DCBRD07.LWP																				



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TEST CONDITION	TREATMENT	REQUIREMENT	UNIT	Mean	Min	Max
Connector Mate and Unmate Forces (per 2 ckts)	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	3 (6.6) Minimum	Kgf (lbf)	~	~	~
	Initial-Female	3 (6.6) Minimum	Kgf (lbf)	11.43(25.2)	10.3(22.7)	13.80(30.4)
Terminal Insertion Force (into housing)	Initial-Male	1.5(3.3) Maximum	Kgf (lbf)	~	~	~
	Initial-Female	1.5(3.3) Maximum	Kgf (lbf)	0.81(1.8)	0.67(1.5)	1.06(2.3)
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)

REV.	A1	A1	A1	A1	A1	A1	A1	A1												
SHEET	1	2	3	4	5	6	7	8												
REVISE ON PC ONLY									TITLE: TEST SUMMARY											
VOID									Mini-Fit Jr.											
A1									Surface Mount Compatible (SMC)											
UCP2015-4546									THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO											
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UCR									SAMIEC	BANDURA	EDGLE Y			99/07/09						
DOCUMENT NUMBER															FILENAME			SHEET		
TS-43810-001															TS43810.LWP			6		
ES-40000-3996 REV. A SHEET 7 95/MAR/10 EC U5-0926 DCBRD07.LWP																				



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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
	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)

REV.	A1	A1	A1	A1	A1	A1	A1	A1															
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REV.	DESCRIPTION									WRITTEN BY: SAMIEC			CHECKED BY: BANDURA			APPROVED EDGLE Y			DATE: YR/MO/DAY 99/07/09				
DESIGN CONTROL UCR									STATUS			DOCUMENT NUMBER TS-43810-001						FILENAME TS43810.LWP			SHEET 7		
ES-40000-3996 REV. A SHEET 7 95/MAR/10 EC U5-0926 DCBRD07.LWP																							



TEST SUMMARY



LANGUAGE

English

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

VOID

REV.	A1	A1	A1	A1	A1	A1	A1	A1	A1											
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DESIGN CONTROL UCR						STATUS									FILENAME TS43810.LWP			SHEET 8		
DOCUMENT NUMBER TS-43810-001																				
ES-40000-3996 REV. A SHEET 7 95/MAR/10 EC U5-0926 DCBRD07.LWP																				



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LANGUAGE

English

VOID

REV.																					
SHEET	1	2	3	4	5	6	7	8	9	10	11										
	REVISE ON PC ONLY							TITLE: TEST SUMMARY XXX XXX													
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