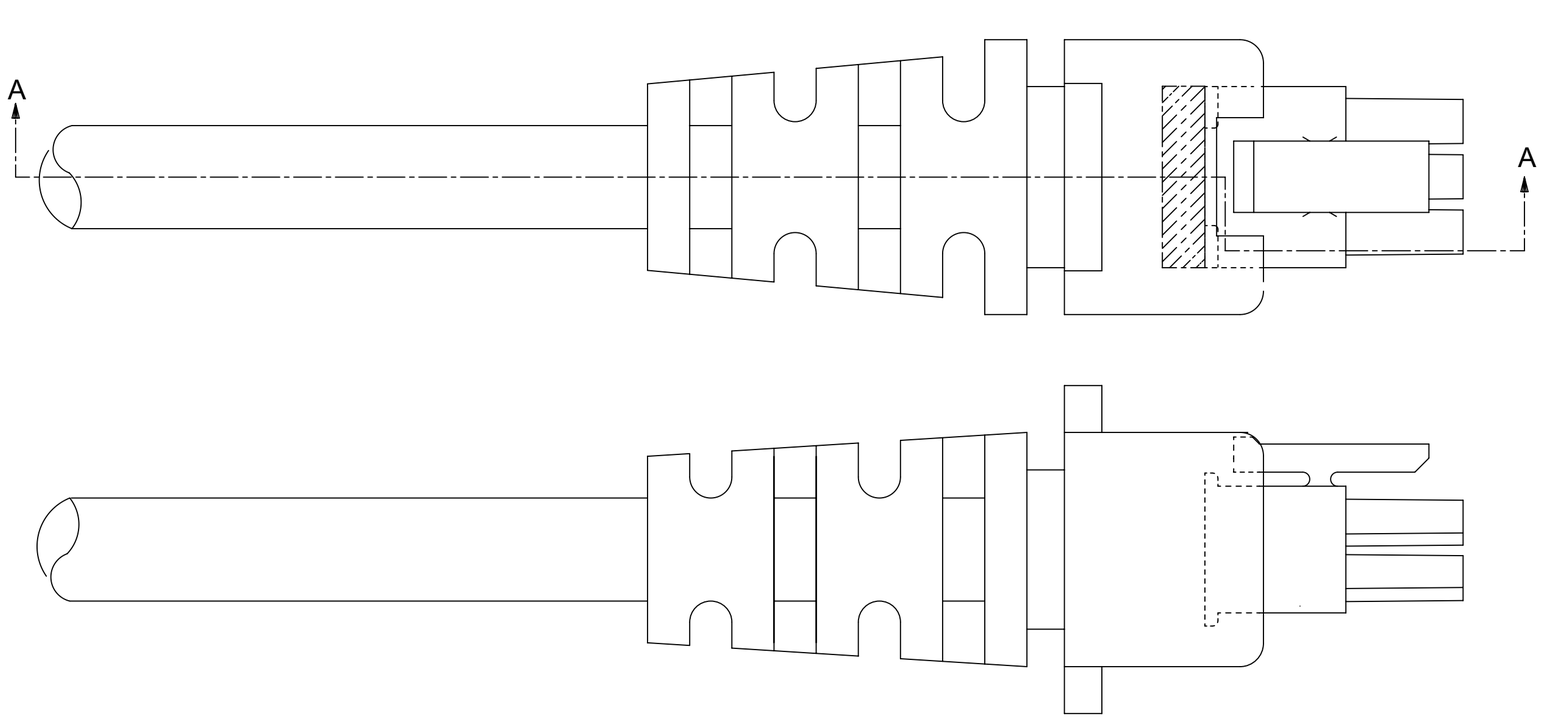
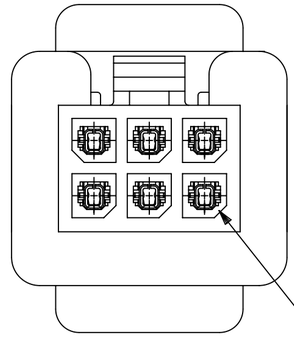
Molex 430251608 PDF

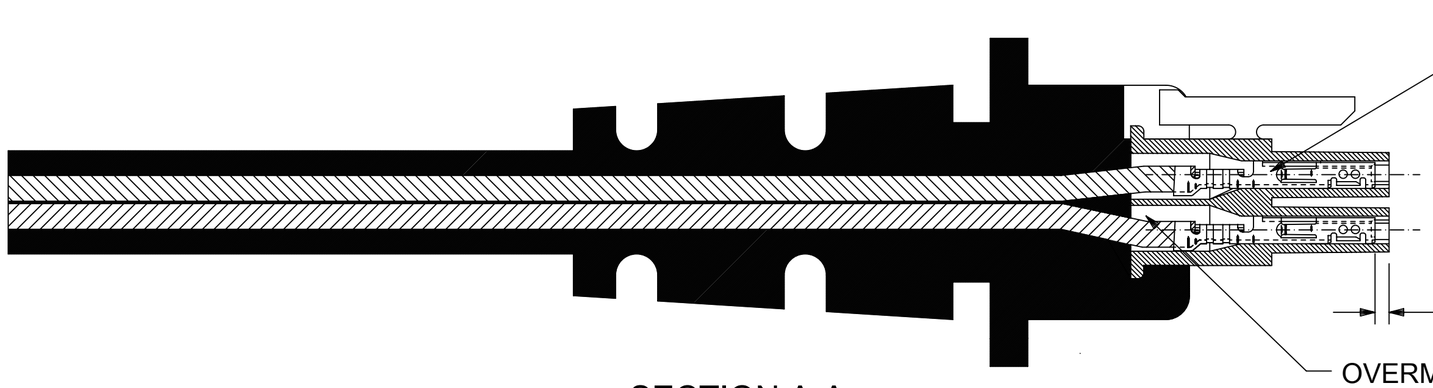
深圳创唯电子有限公司

http://www.molex-connect.com





TERMINALS MUST BE CENTERED IN RECEPTACLE PRIOR TO OVERMOLDING



TERMINALS SHOULD BE FULLY SEATED (APPROXIMATELY .030/(0.76) FROM TOP OF SILOS) BEFORE OVERMOLDING

.030 (0.76) REF

OVERMOLD MATERIAL SHOULD NOT PROCEED PAST WIRE CRIMP

SECTION A-A

OVERMOLDER MAY UTILIZE AT THEIR DISCRETION A CAP SIMILAR TO THIS DESIGN TO PREVENT OVERMOLDING MATERIAL FROM ENTERING WIRE CRIMP AREA OF HOUSING

SUGGESTED MATERIAL FOR CAP:
MINERAL FILLED PVC

NOTES:

1) THIS DRAWING APPLIES TO 43025 AND 43645 SERIES RECEPTACLES.
2) OVERMOLDING MATERIAL SHOULD NOT ENCAPSULATE THE TERMINAL IN AND AROUND THE WIRE CRIMP AREA.
3) TERMINALS MUST BE CENTERED AND PERPENDICULAR INSIDE THE RECEPTACLE HOUSING BEFORE AND AFTER OVERMOLDING.
4) DEVICE USED TO CENTER TERMINALS MUST NOT EXCEED .020/(0.51) SQUARE IN ORDER TO PREVENT TERMINAL DEFORMATION.
5) OVERMOLD TOOLING MUST NOT DAMAGE INTERNAL OR EXTERNAL FEATURES OF CABLE ASSEMBLY.
6) THE OVERMOLDING TEMPERATURES DURING PROCESSING MUST NOTE EXCEED 328°F/(164°C)
7) REMOVAL OF CABLE ASSEMBLY FROM THE TOOLING MUST NOT IN ANY WAY DAMAGE THE SUPPLIED COMPONENTS.
8) MOLEX IS RESPONSIBLE ONLY FOR COMPONENTS SUPPLIED TO THE OVERMOLDER, BUT NOT FOR NONCONFORMANCES INDUCED DURING THE OVERMOLDING PROCESS, SUCH AS OVERMOLD MATERIAL IN THE CONTACT AREA, TERMINALS THAT ARE EITHER OUT OF CENTER OR LACK OF TERMINAL MOBILITY AFTER BEING OVERMOLDED, AND ANY DEFORMATION TO TERMINALS OR HOUSINGS IN GENERAL.

PENDING APPROVAL

THIS DRAWING REPLACES DRAWINGS SDES-43025-1000 AND SDES-43645-1000.

DOCUMENT STATUS	RQ	RELEASE DATE	

SYMBOLS	DIMENSION UNITS	SCALE
F/A = 0	IN/MM	4:1
F/C = 0	GENERAL TOLERANCES (UNLESS SPECIFIED)	
F/P = 0	MM	INCH
S = 0	4 PLACES ±	±
▼ = 0	3 PLACES ±	±
V = 0	2 PLACES ±	±
☒ = 0	1 PLACE ±	±
■ = 0	0 PLACES ±	±
V = 0	ANGULAR TOL ± °	
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	

CURRENT REV DESC:

EC NO: 168740
DRWN: AZAHIROVIC 2017/11/28
CHK'D: SSOUSEK 2018/06/01
APPR:

INITIAL REVISION:
DRWN: AZAHIROVIC 2017/11/28
APPR: FSMITH 2017/11/28

THIRD ANGLE PROJECTION | DRAWING: C-SIZE | SERIES: 43025

molex

MICRO-FIT(3.0) OVERMOLDING SPECIFICATION

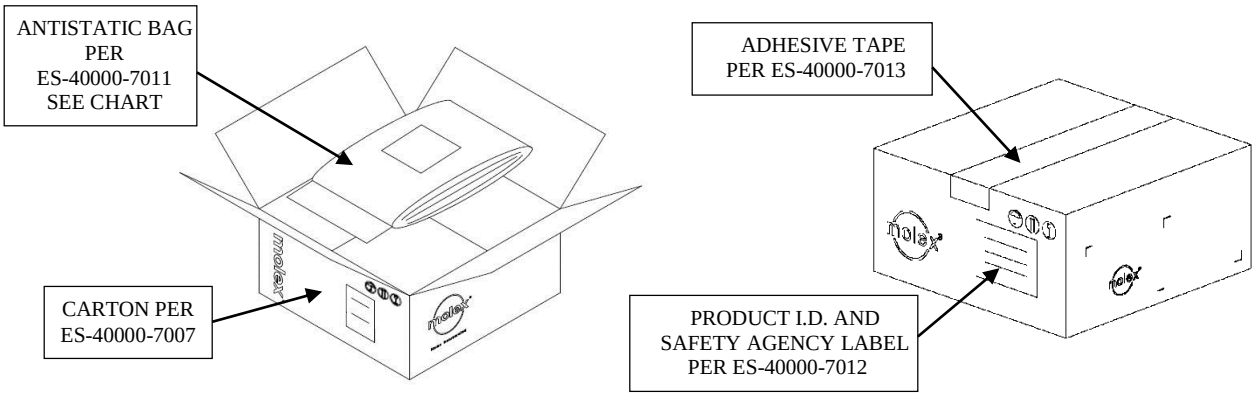
MNAS2

DOCUMENT NUMBER	DOC TYPE	DOC PART	REVISION
430250000-AS	PS	000	A

MATERIAL NUMBER	CUSTOMER	SHEET NUMBER
NA	GENERAL MARKET	1 OF 1

FORMAT: Eng-lega-master-tb-prod-C
REVISION: D
DATE: 2018/01/18

molex PRODUCT SPECIFICATION



1) PARTS ARE TO BE BULK PACKED IN ANTISTATIC BAGS IN QUANTITIES SHOWN IN CHART. BAG PART NUMBER AND SIZE ARE LISTED FOR REFERENCE ONLY. SEE SHEET 2 FOR ALTERNATE BAG PACKAGING METHOD.

2) PARTS MOLDED IN NYLON ARE TO BE MOISTURIZED PER AS-45499-001 (EXCEPTION: PARTS WITHOUT LATCH). PARTS MOLDED IN PBT DO NOT REQUIRE TO BE MOISTURIZED.

3) MOISTURIZATION BAGS ARE TO BE PREPARED BY FIRST ADDING WATER TO 46996-2011 (885961016) PAD AS OUTLINED IN AS-45499-001, THEN INSERTING PAD INTO 46996-2010 (885960969) MOISTURIZATION BAG AND SEALING ZIP LOCK. WATER IS NOT TO BE ADDED DIRECTLY TO THE PARTS.

4) MOISTURIZATION BAG IS TO BE INCLUDED IN PARTS BAG AND PARTS BAG IS TO BE CLOSED.

5) BAGGED PARTS TO BE PLACED IN CARTON AS INDICATED.

6) CARTON 88596-1634 MAY BE SUBSTITUTED FOR 30907-3001.

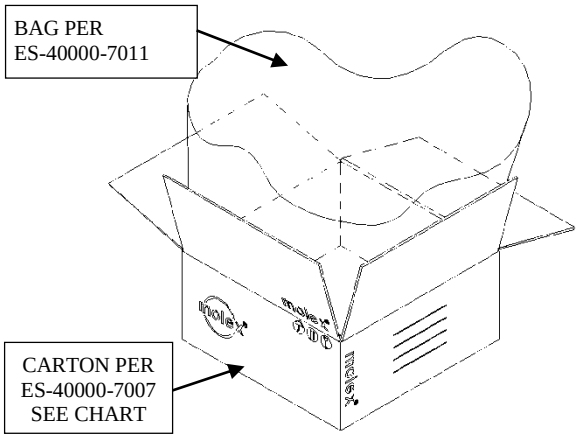
CKT SIZE	MATERIAL NO.	BAG PART NO. OR EQUIVALENT (SEE NOTE 1)	APPROXIMATE BAG SIZE (SEE NOTE 1)	PARTS PER BAG	CARTON PART NO. OR EQUIVALENT	BAGS PER CARTON	PARTS PER CARTON (SPQ)
2	43025-02xx	45654-0002	18 X 20	5000	96707-1003 OR 96707-0003	1	5000
4	43025-04xx	45654-0002	18 X 20	2500		1	2500
6	43025-06xx						
8	43025-08xx						
10	43025-10xx	45654-0001	12 X 18	1500	30907-3001	1	1500
12	43025-12xx	45654-0001	12 X 18	1500	30907-3001	1	1500
14	43025-14xx	45654-0002	18 X 20	1500	30907-3001	1	1500
16	43025-16xx	45654-0002	18 X 20	1500	30907-3001	1	1500
18	43025-18xx	45654-0002	18 X 20	1000	30907-3001	1	1000
20	43025-20xx	45654-0002	18 X 20	1000	30907-3001	1	1000
22	43025-22xx						
24	43025-24xx						

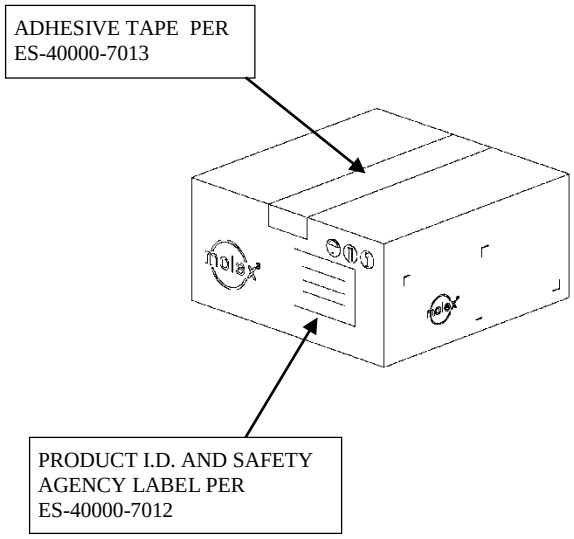
CARTON 88596-1608 MAY BE SUBSTITUTED FOR 96707-0015.

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
E4	EC No: **605257** DATE: **2018/10/01**	**BULK PACKAGING SPECIFICATION MICROFIT 43025 SERIES**	**1** of **2**

DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PK-43025-001	**SALHAMY**	**SSOUSEK**	**FSMITH**

ALTERNATE BAG PACKAGING METHOD





CKT SIZE	MATERIAL NO.	LINER BAG PART NO. OR EQUIVALENT (SEE NOTE 1)	CARTON PART NO. OR EQUIVALENT	PARTS PER BAG/CARTON (SPQ)
2	43025-02xx			
4	43025-04xx			
6	43025-06xx	31300-6440	30907-3001	3000
8	43025-08xx	31300-6440	30907-3001	2500
10	43025-10xx	31300-6440	30907-3001	1500
12	43025-12xx	31300-6440	30907-3001	1500
14	43025-14xx	31300-6440	30907-3001	1500
16	43025-16xx	31300-6440	30907-3001	1500
18	43025-18xx	31300-6440	30907-3001	1000
20	43025-20xx	31300-6440	30907-3001	1000
22	43025-22xx	31300-8790	96707-0015	2000
24	43025-24xx	31300-8790	96707-0015	2000

molex®

TEST SUMMARY

Micro-Fit (3.0)
Connector System
(Wire to Wire & Wire to Board)

1.0 SCOPE

This Test Specification covers the 3.00 mm (.118 inch) centerline (pitch) connector series terminated with 20-30 AWG wire using crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME, SERIES, AND PART NUMBER(S)

Micro-Fit (3.0) Receptacle Series : 43025, 43645, 44133 (BMI)
Micro-Fit (3.0) Plug Series : 43020, 43640, 44300 (BMI)
Micro-Fit (3.0) Right Angle & Vertical Header Series : 43045, 43650, 44067
Micro-Fit (3.0) Compliant Pin Vertical Header Series : 44914
Micro-Fit (3.0) Female Crimp Terminal Series : 43030
Micro-Fit (3.0) Male Crimp Terminal Series : 43031
Micro-Fit (3.0) Female Crimp Terminal with Lubricant : 45773

2.1.1 SERIES NUMBERS TESTED

Micro-Fit (3.0) Receptacle : 43025
Micro-Fit (3.0) Plug : 43020
Micro-Fit (3.0) Right Angle & Vertical Headers : 43045
Micro-Fit (3.0) Female Crimp Terminal : 43030
Micro-Fit (3.0) Male Crimp Terminal : 43031

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

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

2.3 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

Product Specification Micro-Fit Dual Row Connectors
Document Number: PS-43045
Product Specification Micro-Fit Single Row Connectors
Document Number: PS-43650
Product Specification Micro-Fit (3.0) BMI Floating Connector System
Document Number: PS-44300-001

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 TESTING PROCEDURES AND SEQUENCES

EIA-364-1000.01

3.2 OTHER DOCUMENTS AND SPECIFICATIONS
None

4.0 QUALIFICATION
Laboratory conditions and sample selection are in accordance with **EIA-364**.

5.0 PERFORMANCE RESULTS
5.1 ELECTRICAL PERFORMANCE RESULTS

WIRE TO WIRE CONFIGURATION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1A	CONTACT RESISTANCE (LOW LEVEL)	Initial **	10 milliohms MAXIMUM	**19.95** mΩ	**19.74** mΩ	**20.40** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**-0.23** mΩ	**-0.03** mΩ	**0.67** mΩ
		After Temperature Life Δ mΩ	20 milliohms MAXIMUM	**0.38** mΩ	**0.08** mΩ	**1.01** mΩ
		After Reseating Δ mΩ	20 milliohms MAXIMUM	**0.25** mΩ	**-0.53** mΩ	**1.32** mΩ

NOTE : ****APPROXIMATELY 16.6 mΩ OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE 13 INCHES OF WIRE USED IN SAMPLE PREPARATION.

WIRE TO BOARD CONFIGURATION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1B	CONTACT RESISTANCE (LOW LEVEL)	Initial	10 milliohms MAXIMUM	**4.75** mΩ	**4.55** mΩ	**4.98** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**-0.23** mΩ	**-0.03** mΩ	**0.67** mΩ
		After Temperature Life Δ mΩ	20 milliohms MAXIMUM	**0.38** mΩ	**0.08** mΩ	**1.01** mΩ
		After Reseating Δ mΩ	20 milliohms MAXIMUM	**0.25** mΩ	**-0.53** mΩ	**1.32** mΩ

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE DESCRIPTION.

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

WIRE TO WIRE CONFIGURATION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
2A	Contact Resistance (Low Level)	Initial **	10 milliohms MAXIMUM	**20.01** mΩ	**19.59** mΩ	**23.29** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**0.19** mΩ	**-0.02** mΩ	**0.64** mΩ
		After Thermal Shock Δ mΩ	20 milliohms MAXIMUM	**0.34** mΩ	**0.08** mΩ	**0.74** mΩ
		After Cyclic Humidity Δ mΩ	20 milliohms MAXIMUM	**0.62** mΩ	**0.14** mΩ	**1.77** mΩ
		After Reseating Δ mΩ	20 milliohms MAXIMUM	**0.61** mΩ	**0.11** mΩ	**3.09** mΩ

NOTE : **APPROXIMATELY 16.6 mΩ OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE 13 INCHES OF WIRE USED IN SAMPLE PREPARATION.

WIRE TO BOARD CONFIGURATION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
2B	Contact Resistance (Low Level)	Initial	10 milliohms MAXIMUM	**4.75** mΩ	**4.55** mΩ	**4.98** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**0.42** mΩ	**-0.02** mΩ	**2.03** mΩ
		After Thermal Shock Δ mΩ	20 milliohms MAXIMUM	**1.56** mΩ	**0.25** mΩ	**5.71** mΩ
		After Cyclic Humidity Δ mΩ	20 milliohms MAXIMUM	**1.28** mΩ	**0.15** mΩ	**4.60** mΩ
		After Reseating Δ mΩ	20 milliohms MAXIMUM	**2.19** mΩ	**0.23** mΩ	**8.04** mΩ

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE DESCRIPTION

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

WIRE TO BOARD CONFIGURATION – 2 CIRCUIT VERSION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
3A	Contact Resistance (Low Level)	Initial **	10 milliohms MAXIMUM	**10.26** mΩ	**10.17** mΩ	**10.46** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**0.75** mΩ	**0.16** mΩ	**1.57** mΩ
		After Temperature Life Pre-Conditioned Δ mΩ	20 milliohms MAXIMUM	**1.88** mΩ	**0.58** mΩ	**3.77** mΩ
		After Vibration Δ mΩ	20 milliohms MAXIMUM	**1.28** mΩ	**0.15** mΩ	**4.60** mΩ
			No Discontinuity	Discontinuity < 1 microsecond		

NOTE : ** APPROXIMATELY 7.8 mΩ OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE 6 INCHES OF WIRE USED IN SAMPLE PREPARATION.

WIRE TO BOARD CONFIGURATION –12 CIRCUIT VERSION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
3B	Contact Resistance (Low Level)	Initial **	10 milliohms MAXIMUM	**10.24** mΩ	**9.85** mΩ	**10.52** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**0.41** mΩ	**0.14** mΩ	**2.13** mΩ
		After Temperature Life Pre-Conditioned Δ mΩ	20 milliohms MAXIMUM	**0.81** mΩ	**0.16** mΩ	**3.68** mΩ
		After Vibration Δ mΩ	20 milliohms MAXIMUM	**1.14** mΩ	**0.25** mΩ	**3.56** mΩ
			No Discontinuity	Discontinuity < 1 microsecond		

NOTES : ** APPROXIMATELY 7.8 mΩ OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE 6 INCHES OF WIRE USED IN SAMPLE PREPARATION.

SEE APPENDIX "A" FOR TEST SEQUENCE DESCRIPTION

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

WIRE TO WIRE CONFIGURATION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
4A	Contact Resistance (Low Level)	Initial **	10 milliohms MAXIMUM	**20.07** mΩ	**19.95** mΩ	**20.50** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**0.31** mΩ	**-0.02** mΩ	**0.72** mΩ
		After Temperature Life Pre-Conditioned Δ mΩ	20 milliohms MAXIMUM	**0.34** mΩ	**0.07** mΩ	**0.97** mΩ
		Thermal Cycling 167 Hours Δ mΩ	20 milliohms MAXIMUM	**0.42** mΩ	**0.10** mΩ	**2.01** mΩ
		Thermal Cycling 334 Hours Δ mΩ	20 milliohms MAXIMUM	**0.41** mΩ	**-0.06** mΩ	**1.03** mΩ
		Thermal Cycling 500 Hours Δ mΩ	20 milliohms MAXIMUM	**0.64** mΩ	**0.03** mΩ	**2.79** mΩ
		After Reseating Δ mΩ	20 milliohms MAXIMUM	**0.54** mΩ	**0.14** mΩ	**2.45** mΩ

NOTES : ** APPROXIMATELY 16.6 mΩ OF THE MEASUREMENT VALUE IS ATTRIBUTED TO THE BULK RESISTANCE OF THE 13 INCHES OF WIRE USED IN SAMPLE PREPARATION.

SEE APPENDIX "A" FOR TEST SEQUENCE DESCRIPTION

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

WIRE TO BOARD CONFIGURATION

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
4B	Contact Resistance (Low Level)	Initial	10 milliohms MAXIMUM	**4.78** mΩ	**4.56** mΩ	**5.53** mΩ
		After Durability Δ mΩ	20 milliohms MAXIMUM	**0.48** mΩ	**0.06** mΩ	**2.35** mΩ
		After Temperature Life Pre-Conditioned Δ mΩ	20 milliohms MAXIMUM	**1.07** mΩ	**0.13** mΩ	**5.80** mΩ
		Thermal Cycling 167 Hours Δ mΩ	20 milliohms MAXIMUM	**1.38** mΩ	**0.30** mΩ	**4.68** mΩ
		Thermal Cycling 334 Hours Δ mΩ	20 milliohms MAXIMUM	**1.63** mΩ	**0.31** mΩ	**5.17** mΩ
		Thermal Cycling 500 Hours Δ mΩ	20 milliohms MAXIMUM	**3.04** mΩ	**0.69** mΩ	**8.51** mΩ
		After Reseating Δ mΩ	20 milliohms MAXIMUM	**3.48** mΩ	**0.41** mΩ	**8.94** mΩ

NOTE : SEE APPENDIX "A" FOR TEST SEQUENCE DESCRIPTION

5.1 ELECTRICAL PERFORMANCE RESULTS (continued)

ITEM	DESCRIPTION	WIRE GAUGE	REQUIREMENT	AMPERAGE
5	Temperature Rise & Current Cycling	30 AWG	30°C Max. Temp. Rise	2.5 Amps
		26 AWG	30°C Max. Temp. Rise	3.0 Amps
		24 AWG	30°C Max. Temp. Rise	4.0 Amps
		20 AWG	30°C Max. Temp. Rise	5.5 Amps

5.2 MECHANICAL PERFORMANCE RESULTS

ITEM	DESCRIPTION	Wire Gauge	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
6	Wire Pullout Force (Newtons)	20 AWG	57.8 N Minimum	127.4	117.5	134.7
		22 AWG	35.6 N Minimum	86.1	80.2	90.4
		24 AWG	22.2 N Minimum	53.6	44.7	58.08
		26 AWG	13.3 N Minimum	36.1	33.8	38.3
		28 AWG	8.9 N Minimum	21.1	18.1	23.2
		30 AWG	6.6 N Minimum	18.2	13.5	24.6

ITEM	DESCRIPTION	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
7	Contact Normal Force (grams)	275 g Min	331 g	322 g	343 g

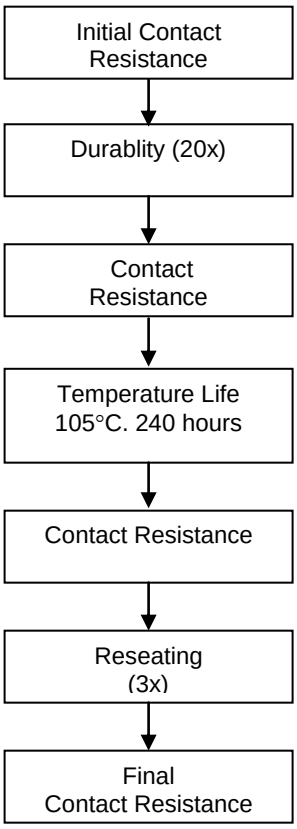
APPENDIX A

TEST SEQUENCES

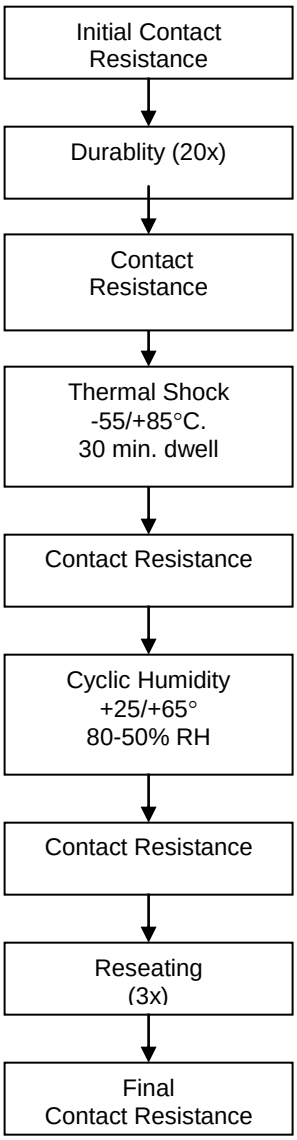
TEST SUMMARY

A.1 TEST SEQUENCES

SEQUENCE 1
1A Wire to Wire
1B Wire to Board

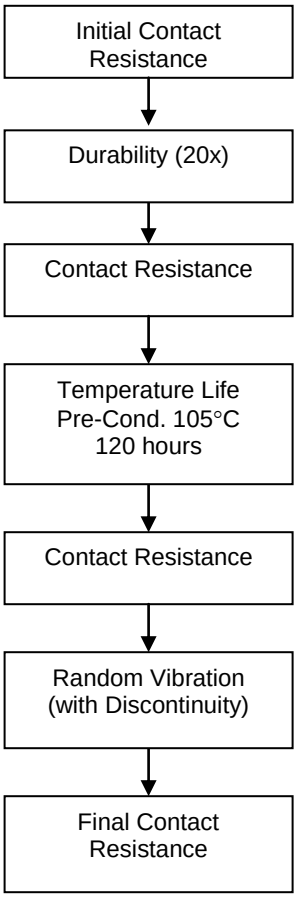


SEQUENCE 2
2A Wire to Wire
2B Wire to Board

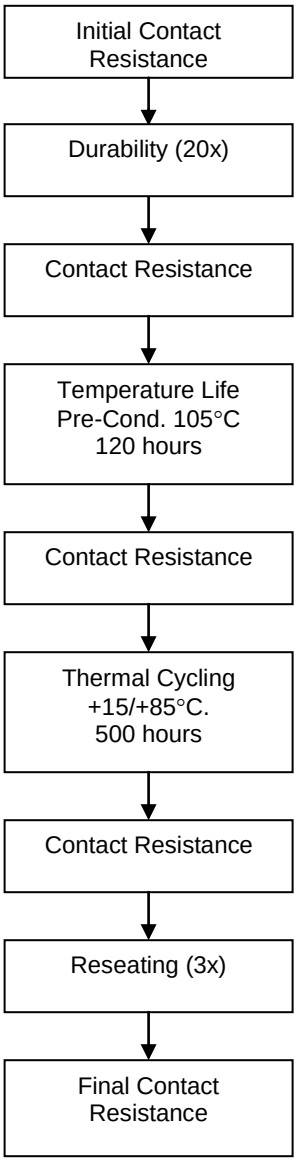


A.1 TEST SEQUENCES (continued)

SEQUENCE 3
3A Wire to Wire
3B Wire to Board

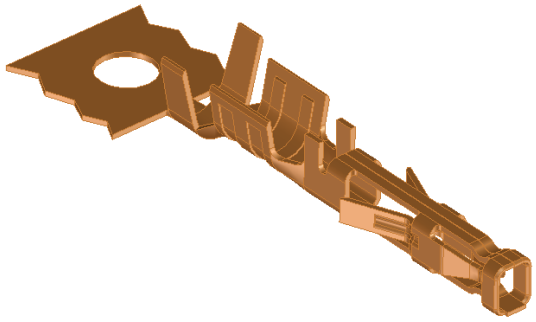


SEQUENCE 4
4A Wire to Wire
4B Wire to Board



TEST SUMMARY

LOW FORCE MICRO-FIT SERIES (46235)



1.0 SCOPE

This Test Summary covers the 3.00 mm (.118 inch) centerline (pitch) receptacles terminated with 46235 low force crimp terminals when mated with either printed circuit board (PCB) headers or plugs terminated with 20 to 30 AWG wire using crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME, SERIES, AND PART NUMBER(S)

Micro-Fit (3.0) Receptacle Series : 43025, 43645, 44133 (BMI)
Micro-Fit (3.0) Plug Series : 43020, 43640, 44300 (BMI)
Micro-Fit (3.0) Right Angle & Vertical Header Series : 43045, 43650, 44067
Micro-Fit (3.0) Compliant Pin Vertical Header Series : 44914
Micro-Fit (3.0) Female Crimp Terminal Series : 46235
Micro-Fit (3.0) Male Crimp Terminal Series : 43031

2.1.1 SERIES NUMBERS TESTED

Micro-Fit (3.0) Receptacle : 43025
Micro-Fit (3.0) Plug : 43020
Micro-Fit (3.0) Right Angle & Vertical Headers : 43045
Micro-Fit (3.0) Female Crimp Terminal : 46235
Micro-Fit (3.0) Male Crimp Terminal : 43031

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

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

2.3 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

Title: Product Specification for Micro-fit Low Mate Force Connector System
Document No.: PS-46235-001

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 TESTING SEQUENCES AND PROCEDURES

Reference Appendix 1

3.2 OTHER DOCUMENTS AND SPECIFICATIONS

SD-46235-001
PS-46235-001

4.0 QUALIFICATION

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

5.0 PERFORMANCE

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS

(Note that measured LLCR values are for one mated interface)

DESCRIPTION	WIRE GAUGE	REQUIREMENT	AMPERAGE
Temperature Rise & Current Cycling	30 awg	30° C Max. Temperature Rise	2.5 amps (2 circuit)
	26 awg	30° C Max. Temperature Rise	3.0 amps (2 circuit)
	24 awg	30° C Max. Temperature Rise	4.0 amps (2 circuit)
	20 awg	30° C Max. Temperature Rise	5.5 amps (2 circuit)

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO BOARD						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 1	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.83** mΩ	**12.03** mΩ	**13.28** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.03** mΩ	**-0.40** mΩ	**0.63** mΩ
		After Temp Life (240 hrs. @ 105°C)	20 mΩ MAXIMUM*	**0.06** mΩ	**-0.39** mΩ	**0.61** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**0.07** mΩ	**-0.32** mΩ	**0.81** mΩ

* change from initial

WIRE TO WIRE						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 1	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.70** mΩ	**11.82** mΩ	**13.52** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.12** mΩ	**-0.31** mΩ	**0.78** mΩ
		After Temp Life (240 hrs. @ 105°C)	20 mΩ MAXIMUM*	**0.13** mΩ	**-0.27** mΩ	**0.54** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**0.42** mΩ	**-0.13** mΩ	**1.86** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO BOARD						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 2	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.99** mΩ	**12.58** mΩ	**13.51** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.01** mΩ	**-0.33** mΩ	**0.62** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**-0.15** mΩ	**-0.48** mΩ	**0.20** mΩ
		After Cyclic Temp and Humidity	20 mΩ MAXIMUM*	**-0.14** mΩ	**-0.51** mΩ	**0.64** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**-0.03** mΩ	**-0.39** mΩ	**0.52** mΩ

* change from initial

WIRE TO WIRE						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 2	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**13.01** mΩ	**12.53** mΩ	**13.57** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.23** mΩ	**-0.41** mΩ	**0.66** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**0.11** mΩ	**-0.34** mΩ	**0.56** mΩ
		After Cyclic Temp and Humidity	20 mΩ MAXIMUM*	**0.10** mΩ	**-0.41** mΩ	**0.51** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**-0.29** mΩ	**-0.34** mΩ	**0.97** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO BOARD						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 3	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.94** mΩ	**12.23** mΩ	**13.61** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.02** mΩ	**-0.51** mΩ	**0.58** mΩ
		After Temp Life (120 hrs. @ 105°C)	20 mΩ MAXIMUM*	**0.03** mΩ	**-0.50** mΩ	**0.35** mΩ
		Vibration	20 mΩ MAXIMUM*	**0.04** mΩ	**-0.29** mΩ	**0.82** mΩ
		Mechanical Shock	20 mΩ MAXIMUM*	**0.03** mΩ	**-0.53** mΩ	**0.34** mΩ

* change from initial

WIRE TO WIRE						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 3	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**13.05** mΩ	**12.37** mΩ	**13.71** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.15** mΩ	**-0.25** mΩ	**0.61** mΩ
		After Temp Life (120 hrs. @ 105°C)	20 mΩ MAXIMUM*	**0.28** mΩ	**-0.21** mΩ	**0.76** mΩ
		Vibration	20 mΩ MAXIMUM*	**0.44** mΩ	**0.07** mΩ	**0.93** mΩ
		Mechanical Shock	20 mΩ MAXIMUM*	**0.47** mΩ	**0.03** mΩ	**1.72** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO BOARD, 15µ" Au						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 4	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.94** mΩ	**12.51** mΩ	**13.53** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.03** mΩ	**-0.52** mΩ	**0.90** mΩ
		After Temp. Life (120 hrs. @ 105 C)	20 mΩ MAXIMUM*	**0.10** mΩ	**-0.28** mΩ	**1.31** mΩ
		After Mixed Flowing Gas Testing (7 days Unmated)	20 mΩ MAXIMUM*	**1.11** mΩ	**0.21** mΩ	**4.92** mΩ
		After Mixed Flowing Gas Testing (3 days Mated)	20 mΩ MAXIMUM*	**1.40** mΩ	**0.26** mΩ	**6.39** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**1.01** mΩ	**-0.41** mΩ	**33.45** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**0.88** mΩ	**-0.17** mΩ	**29.43** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO BOARD, 30µ" Au						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 4	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.80** mΩ	**12.40** mΩ	**13.34** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.02** mΩ	**-0.42** mΩ	**0.38** mΩ
		After Temp. Life (120 hrs. @ 105 C)	20 mΩ MAXIMUM*	**-0.01** mΩ	**-0.42** mΩ	**0.34** mΩ
		After Mixed Flowing Gas Testing (7 days Unmated)	20 mΩ MAXIMUM*	**0.69** mΩ	**-0.25** mΩ	**2.61** mΩ
		After Mixed Flowing Gas Testing (3 days Mated)	20 mΩ MAXIMUM*	**0.71** mΩ	**0.08** mΩ	**2.79** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**0.26** mΩ	**-0.41** mΩ	**1.53** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**0.60** mΩ	**-0.30** mΩ	**2.11** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO WIRE, 15µ" Au						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 4	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**13.05** mΩ	**12.13** mΩ	**14.26** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.01** mΩ	**-0.35** mΩ	**0.44** mΩ
		After Temp. Life (120 hrs. @ 105 C)	20 mΩ MAXIMUM*	**0.08** mΩ	**-0.37** mΩ	**0.46** mΩ
		After Mixed Flowing Gas Testing (7 days Unmated)	20 mΩ MAXIMUM*	**2.07** mΩ	**-0.52** mΩ	**10.28** mΩ
		After Mixed Flowing Gas Testing (3 days Mated)	20 mΩ MAXIMUM*	**1.61** mΩ	**0.41** mΩ	**5.39** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**3.23** mΩ	**0.28** mΩ	**33.62** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**2.67** mΩ	**0.20** mΩ	**12.65** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO WIRE, 30µ" Au						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 4	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.63** mΩ	**12.00** mΩ	**13.38** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.14** mΩ	**-0.31** mΩ	**0.62** mΩ
		After Temp. Life (120 hrs. @ 105 C)	20 mΩ MAXIMUM*	**0.07** mΩ	**-0.39** mΩ	**0.55** mΩ
		After Mixed Flowing Gas Testing (7 days Unmated)	20 mΩ MAXIMUM*	**1.05** mΩ	**0.05** mΩ	**5.01** mΩ
		After Mixed Flowing Gas Testing (3 days Mated)	20 mΩ MAXIMUM*	**1.10** mΩ	**0.08** mΩ	**7.13** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**0.86** mΩ	**-0.03** mΩ	**8.26** mΩ
		After Reseating (3x M/U)	20 mΩ MAXIMUM*	**1.34** mΩ	**0.23** mΩ	**3.88** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

(Note that measured LLCR values are for one mated interface)

WIRE TO BOARD						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 5	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.90** mΩ	**12.39** mΩ	**13.34** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.06** mΩ	**-0.31** mΩ	**0.70** mΩ
		After Temp. Life (120 hrs. @ 105 C)	20 mΩ MAXIMUM*	**0.27** mΩ	**-0.15** mΩ	**1.08** mΩ
		After Thermal Cycling	20 mΩ MAXIMUM*	**-0.03** mΩ	**-0.37** mΩ	**0.63** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**0.12** mΩ	**-0.37** mΩ	**0.61** mΩ

* change from initial

WIRE TO WIRE						
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	**MEAN**	**MINIMUM**	**MAXIMUM**
GROUP 5	Contact Resistance (Low Level)	Initial	13.0 mΩ Nominal no limit set	**12.81** mΩ	**12.00** mΩ	**13.62** mΩ
		After Initial Durability (Preconditioning) (25 cycles)	20 mΩ MAXIMUM*	**0.08** mΩ	**-0.50** mΩ	**0.62** mΩ
		After Temp. Life (120 hrs. @ 105 C)	20 mΩ MAXIMUM*	**0.22** mΩ	**-0.62** mΩ	**0.84** mΩ
		After Thermal Cycling	20 mΩ MAXIMUM*	**0.23** mΩ	**-0.48** mΩ	**0.85** mΩ
		After Thermal Shock	20 mΩ MAXIMUM*	**0.35** mΩ	**-0.54** mΩ	**1.42** mΩ

* change from initial

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

15µ" Au – 40 cycles				
ITEM	**DESCRIPTION**	**TREATMENT**	**REQUIREMENT**	RESULTS
GROUP 7	Dielectric Withstanding Voltage (DWV)	Durability (40 M/U cycles) 2200 VAC	No breakdown or flashover	PASS

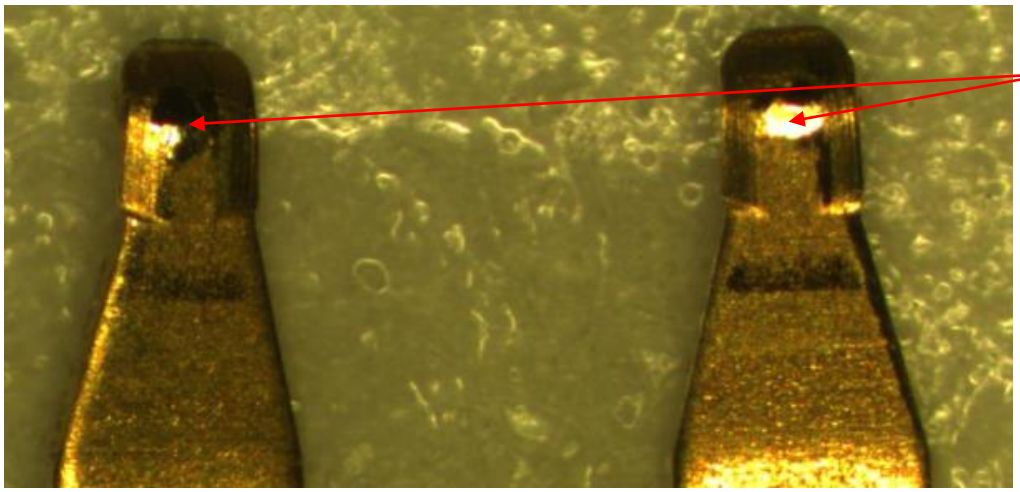


Figure 1 – Contact area shown after 40 cycles

5.1 ELECTRICAL/ENVIRONMENTAL PERFORMANCE RESULTS (cont)

15µ" Au – 250 cycles (lubricated)				
ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	RESULTS
GROUP 7	Dielectric Withstanding Voltage (DWV)	Durability (250 M/U cycles) 2200 VAC	No breakdown or flashover	PASS

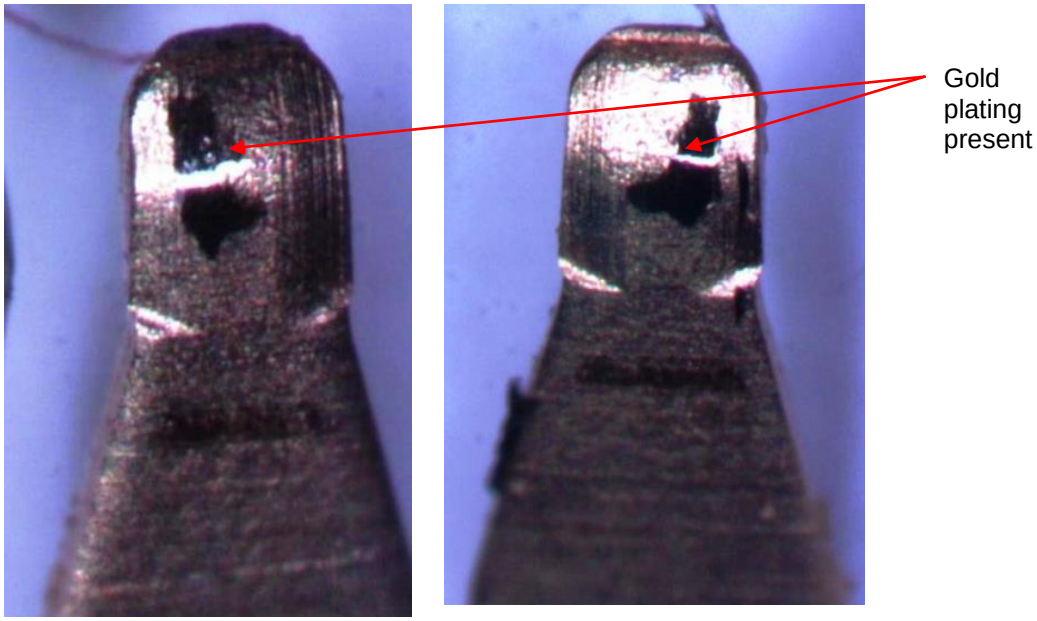


Figure 3 – Contact area shown after 250 cycles

5.2 MECHANICAL PERFORMANCE RESULTS

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1a	**2 circuit** Connector Mate and Unmate Forces (W-B, 15µ" Au) ***thumb latch removed***	Initial Mating	8.0 N maximum	**5.52** N	**3.81** N	**6.88** N
		Initial Un-Mating	4.0 N maximum	**2.93** N	**2.43** N	**3.57** N
		Final Mating (after 40 cycles)	8.0 N maximum	**4.71** N	**3.40** N	**5.30** N
		Final Un-Mating (after 40 cycles)	4.0 N maximum	**3.51** N	**1.63** N	**4.06** N
1b	**2 circuit** Connector Mate and Unmate Forces (W-W, 15µ" Au) ***thumb latch removed***	Initial Mating	8.0 N maximum	**5.03** N	**4.67** N	**5.46** N
		Initial Un-Mating	4.0 N maximum	**2.30** N	**2.13** N	**2.58** N
		Final Mating (after 40 cycles)	8.0 N maximum	**3.59** N	**3.27** N	**3.87** N
		Final Un-Mating (after 40 cycles)	4.0 N maximum	**2.32** N	**2.10** N	**2.51** N
1c	**12 circuit** Connector Mate and Unmate Forces (W-B, 15µ" Au) ***thumb latch removed***	Initial Mating	48.0 N maximum	**15.32** N	**13.78** N	**17.00** N
		Initial Un-Mating	24.0 N maximum	**9.79** N	**7.83** N	**13.15** N
		Final Mating (after 40 cycles)	48.0 N maximum	**16.81** N	**14.74** N	**20.44** N
		Final Un-Mating (after 40 cycles)	24.0 N maximum	**13.76** N	**11.22** N	**16.38** N
1d	**12 circuit** Connector Mate and Unmate Forces (W-W, 15µ" Au) ***thumb latch removed***	Initial Mating	48.0 N maximum	**29.39** N	**21.65** N	**34.27** N
		Initial Un-Mating	24.0 N maximum	**18.10** N	**13.22** N	**21.98** N
		Final Mating (after 40 cycles)	48.0 N maximum	**24.12** N	**19.84** N	**28.23** N
		Final Un-Mating (after 40 cycles)	24.0 N maximum	**19.69** N	**14.57** N	**23.78** N

5.2 MECHANICAL PERFORMANCE RESULTS (cont)

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1e	**24 circuit** Connector Mate and Unmate Forces (W-B, 15µ" Au) ***thumb latch removed***	Initial Mating	96.0 N maximum	**37.93** N	**33.42** N	**42.50** N
		Initial Un-Mating	48.0 N maximum	**21.82** N	**19.98** N	**23.35** N
		Final Mating (after 40 cycles)	96.0 N maximum	**34.04** N	**31.42** N	**36.26** N
		Final Un-Mating (after 40 cycles)	48.0 N maximum	**25.35** N	**23.77** N	**27.13** N
1f	**24 circuit** Connector Mate and Unmate Forces (W-W, 15µ" Au) ***thumb latch removed***	Initial Mating	96.0 N maximum	**52.61** N	**47.20** N	**61.89** N
		Initial Un-Mating	48.0 N maximum	**29.87** N	**27.53** N	**32.68** N
		Final Mating (after 40 cycles)	96.0 N maximum	**43.80** N	**40.78** N	**45.15** N
		Final Un-Mating (after 40 cycles)	48.0 N maximum	**36.45** N	**32.49** N	**39.52** N

5.2 MECHANICAL PERFORMANCE RESULTS (cont)

ITEM	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
2	Terminal Retention Force (in housing)	-----	24.5 N per contact minimum	**36.4** N	**35.4** N	**37.9** N
3	Terminal Insertion Force (in housing)	-----	14.7 N per contact maximum	**2.9** N	**2.2** N	**4.2** N
4	Wire Pullout Force (from terminal)	20 awg	57.8 N minimum	**107.4** N	**97.0** N	**116.0** N
		22 awg	35.6 N minimum	**80.7** N	**71.8** N	**86.0** N
		24 awg	22.2 N minimum	**50.45** N	**46.0** N	**56.0** N
		26 awg	13.3 N minimum	**28.7 N**	**24.0 N**	**31.0 N**
		28 awg	8.9 N minimum	**17.1 N**	**15.0 N**	**19.0 N**
		30 awg	6.6 N minimum	**9.4 N**	**9.0 N**	**10.0 N**
5	Normal Force (nominal deflection)	Initial	50 g per contact beam minimum	**134.8** g	**120.8** g	**143.3** g
		After one cycle	50 g per contact beam minimum	**134.3** g	**121.8** g	**143.6** g

6.0 APPENDIX 1

6.1 TEST SEQUENCES

GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5	GROUP 7
Visual Exam	Visual Exam	Visual Exam	Visual Exam	Visual Exam	Visual Exam
LLCR	LLCR	LLCR	LLCR	LLCR	LLCR
Preconditioning Durability (25 M/U cycles)	Preconditioning Durability (25 M/U cycles)	Preconditioning Durability (25 M/U cycles)	Preconditioning Durability (25 M/U cycles)	Preconditioning Durability (25 M/U cycles)	Durability (40 M/U cycles)
LLCR	LLCR	Temp Life (120 hrs @ 105°)	LLCR	LLCR	LLCR
Temp Life (240 hrs @ 105°)	Thermal Shock	LLCR	Temp Life (120 hrs @ 105°)	Temp Life (120 hrs @ 105°)	DWV
LLCR	LLCR	Vibration	LLCR	LLCR	Visual Exam
Reseating	Cyclic Temp and Humidity	LLCR	MFG (7 days Unmated)	Thermal Cycling	
LLCR	LLCR	Mechanical Shock	LLCR	LLCR	
	Reseating	LLCR	MFG (3 days Mated)	Thermal Shock	
	LLCR		LLCR	LLCR	
			Thermal Shock	Reseating	
			LLCR	LLCR	
			Reseating		
			LLCR		

6.2 TEST PROCEDURES

ITEM	TEST CONDITION
LOW LEVEL CONTACT RESISTANCE (LLCR)	per EIA-364-TP-23
INITIAL MATING FORCE	per EIA-364-TP-13
INITIAL UN-MATING FORCE	per EIA-364-TP-13
DURABILITY	per EIA-364-TP-09
RANDOM VIBRATION	per EIA-364-TP-28, Test Cond. VII
MECHANICAL SHOCK	per EIA-364-TP-27 Peak Value: 50 G; Duration: 11 mSec.; Waveform: Half Sine; # Shocks Direction: 3 shocks/3 axes (18 total)
NORMAL FORCE	per EIA-364-04 (perpendicular force)
THERMAL AGING (Temp life)	per EIA-364-TP-17, method A
THERMAL SHOCK	per EIA-364-TP-32
CYCLIC HUMIDITY	per EIA-364-TP-31 Test Temp: +40° ± 2° C Relative Humidity: 90 to 95%; Test Duration: 96 hours
MIXED FLOWING GAS (MFG)	per EIA-364-TP-65, Option 2, Class IIA
Dielectric Withstanding Voltage (DWV)	per EIA-364-TP-20 Method B
Insulation Resistance	per EIA-364-TP-21
Current Carrying Capacity (CCC)	per EIA-364-TP-70 Method 2

7.0 REVISION HISTORY

Revision Level:	Created / Revised By:	Revision Description:	Date of Revision
A	T. Gregori	Initial “A” Release	7/09/08
B	T. Gregori	Revised Group 4 data based on test results, section 5.1	7/28/08
C	T. Gregori	T-Rise table added; Group 7 250 cycle table added	11/20/08
D	T. Gregori	Revised mate / un-mate force; added total forces for 2, 12 and 24 ckts (items 1a thru 1f)	8/5/09
D1	JDFOX	Add series detail to sections 2.1 & 2.1.1	10/19/16