

TEST SUMMARY

125C HIGH TEMPERATURE TESTING OF MINIFIT PLUS HCS GOLD PLATED SYSTEMS

1.0 SCOPE

This Test Summary covers Mini-Fit Jr. 4.20mm pitch Plus HCS gold plated terminals terminated with 16-24awg wire using crimp technology mated to plugs and printed circuit board headers. Samples were subjected to thermal aging at 125C for 1000 hours per Sequence 1 of EIA-364-1000A.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

Description	Series Number
Mini-Fit +HCS Female Crimp Terminal	45750 ¹
Mini-Fit +HCS Male Crimp Terminal	46012 ¹
Mini-Fit Glow Wire Receptacle	46992
Mini-Fit Glow Wire Plug	46993
Mini-Fit RTC Header Assembly	46207

2.1.1 PART NUMBERS TESTED

Mini-Fit +HCS Female Crimp Terminal: 45750-3211

Mini-Fit +HCS Male Crimp Terminal: 46012-3241

Mini-Fit Glow Wire Receptacle: 46992-1210

Mini-Fit Glow Wire Plug: 46993-1210

Mini-Fit RTC Header Assembly: 46207-5012

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Dimensions, Materials & Plating: See individual sales drawings.

2.3 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

Product Specification for Mini-Fit Plus HCS Connector System: PS-45750-001

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 TESTING SEQUENCES

Reference Appendix A

3.2 OTHER DOCUMENTS AND SPECIFICATIONS

EIA-364-1000.01

4.0 QUALIFICATION

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

¹ This summary applies to gold-plated options only. See applicable sales drawings for part numbers.

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5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

Table 1 - Mini-Fit +HCS with Select Gold Plating, Wire to Board

STAGE	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN ³	MINIMUM ³	MAXIMUM ³
1	Contact Resistance	Initial	10 milliohms MAXIMUM	3.88 ² mΩ	3.79 ² mΩ	4.37 ² mΩ
2	Contact Resistance	After Durability 50 Cycles, Thermal Aging 125C / 250 hours	10 mΩ Δ max ³	0.02 mΩ	-0.07 mΩ	0.37 mΩ
				PASS		
3	Contact Resistance	After Thermal Aging 125C / 250 hours (500 hours total)	10 mΩ Δ max ³	0.16 mΩ	-0.04 mΩ	1.04 mΩ
				PASS		
4	Contact Resistance	After Thermal Aging 125C / 250 hours (750 hours total)	10 mΩ Δ max ³	0.19 mΩ	-0.07 mΩ	1.67 mΩ
				PASS		
5	Contact Resistance	After Thermal Aging 125C / 250 hours (1000 hours total)	10 mΩ Δ max ³	0.20 mΩ	-0.07 mΩ	1.37 mΩ
				PASS		
6	Contact Resistance	After Reseating 3 Cycles	10 mΩ Δ max ³	0.32 mΩ	-0.31 mΩ	1.31 mΩ
				PASS		

² Absolute resistance values

³ Δ mΩ values shown are with respect to initial contact resistance measurements from Stage 1

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5.1 ELECTRICAL PERFORMANCE (CONTINUED)

Table 2 - Mini-Fit +HCS with Select Gold Plating, Wire to Wire

STAGE	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN ³	MINIMUM ³	MAXIMUM ³
1	Contact Resistance	Initial	10 milliohms MAXIMUM	6.67 ² mΩ	6.56 ² mΩ	6.84 ² mΩ
2	Contact Resistance	After Durability 50 Cycles, Thermal Aging 125C / 250 hours	10 mΩ Δ max ³	-0.04 mΩ	-0.26 mΩ	0.11 mΩ
				PASS		
3	Contact Resistance	After Thermal Aging 125C / 250 hours (500 hours total)	10 mΩ Δ max ³	0.13 mΩ	-0.20 mΩ	1.78 mΩ
				PASS		
4	Contact Resistance	After Thermal Aging 125C / 250 hours (750 hours total)	10 mΩ Δ max ³	0.03 mΩ	-0.22 mΩ	0.35 mΩ
				PASS		
5	Contact Resistance	After Thermal Aging 125C / 250 hours (1000 hours total)	10 mΩ Δ max ³	0.08 mΩ	-0.17 mΩ	0.40 mΩ
				PASS		
6	Contact Resistance	After Reseating 3 Cycles	10 mΩ Δ max ³	0.14 mΩ	-0.07 mΩ	0.57 mΩ
				PASS		

5.2 MECHANICAL PERFORMANCE

Table 3 - Mini-Fit, Glow Wire Capable Housings, Wire to Wire

STAGE	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1.1	Female Terminal Retention Force (Terminal to Housing)	Final (After Full Sequence 1)	30 N (6.74 LBF) MIN	133.7 N	120.7 N	143.8 N
				PASS		
1.2	Male Terminal Retention Force (Terminal to Housing)		30 N (6.74 LBF) MIN	71.2 N	68.6 N	72.7 N
				PASS		
3	Thumb Latch Yield Strength		75.2 N (16.9 LBF) MIN	111.6 N	105.2 N	116.1 N
				PASS		

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Appendix A -Test Sequences

Sequence 1
Per EIA-364-1000A

Initial Contact Resistance
per EIA-364-23

Mate Cycling
Parts with Gold Plating: 50 cycles

Thermal Aging
+125°C, 1000 Hours
per EIA-364-17

Contact Resistance
per EIA-364-23

Reseating
3 Cycles

Contact Resistance
per EIA-364-23

Housing Latch Yield Strength

Terminal-Housing Retention Force

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