

TEST SUMMARY

125°C HIGH TEMPERATURE TESTING OF MICRO-FIT GOLD PLATED SYSTEMS

1.0 SCOPE

This Test Summary covers the Micro-Fit 3.00 mm pitch Receptacles and Plugs, terminated with gold plated terminals with 18-30 AWG wire using crimp technology, and mated to each other or to printed circuit board headers with gold plated terminals. Samples were subjected to thermal aging at 125°C for 1000 hours per Sequence 1 of EIA-364-1000.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

Description	Series Number
Micro-Fit Female Crimp Terminal	43030 (Gold only) ⁽¹⁾ , 46235
Micro-Fit Male Crimp Terminal	43031 (Gold only) ⁽¹⁾
Micro-Fit Glow Wire Receptacle (U.L. 94V-2) ⁽¹⁾	43025, 43645, 172952
Micro-Fit Glow Wire Plug (U.L. 94V-2) ⁽¹⁾	43020, 43640, 203632
Micro-Fit Header Assembly	43045 ⁽¹⁾ , 43650 ⁽¹⁾

⁽¹⁾ This summary applies to gold-plated options and glow wire capable receptacles and plugs only. See applicable sales drawings for part numbers.

2.1.1 PART NUMBERS TESTED

Micro-Fit Female Crimp Terminal: 43030-0002, 46235-0001

Micro-Fit Male Crimp Terminal: 43031-0002 Micro-Fit Glow Wire Receptacle: 43025-1210 Micro-Fit Glow Wire Plug: 43020-1210 Micro-Fit Header Assembly: 43045-1213

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 Micro-Fit Connector System: PS-43045, PS-43650

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 TESTING SEQUENCES

Reference Appendix A

3.2 OTHER DOCUMENTS AND SPECIFICATIONS

EIA-364-1000

4.0 QUALIFICATION

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

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.
Ι	EC No: 633298	MICROFIT	TEST SUMMARY	- 125°C	1 of 4
A	DATE: 2020/03/05	AMBIENT T	TEMP (GOLD PL	ATING)	1 01 4
DOCUMENT NUMBER:		CREATED / REVISED BY:	CHECKED BY:	APPRO\	/ED BY:
430450006-TS		MKIPPER	SSOUSEK	FSM	ITH
TEMPLATE ELEMANTE TEOT OLIMATON FOR ANY AND DOOR					

TEMPLATE FILENAME: TEST_SUMMARY[SIZE_A](V.2).DOC



TEST SUMMARY

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

Table 1 - Micro-Fit with Select Gold Plating, Wire to Board (43030 Female)

STAGE	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1	Contact Resistance	Initial	10 milliohms MAXIMUM	8.27 ⁽²⁾ m Ω	$8.03^{(2)}\mathrm{m}\Omega$	8.74 ⁽²⁾ m Ω
2	Contact	After Durability	20 m Ω Δ max $^{(3)}$	0.06 mΩ	-0.14 mΩ	0.48 mΩ
	Resistance	50 Cycles	50 Cycles PASS			
3	Contact After Thermal Aging		$20 \text{ m}\Omega \Lambda \text{ max}^{(3)}$	1.27 mΩ	0.06 mΩ	16.82 mΩ
3	Resistance	(1000 hours)	20 ms2 ∆ max ^(o)		PASS	
	Contact After Reseating Resistance 3 Cycles	After Reseating	(2)	1.04 mΩ	0.17 mΩ	7.06 mΩ
4		20 m Ω Δ max ⁽³⁾		PASS		

⁽²⁾ Absolute resistance values. Includes bulk wire resistance.

Table 2 - Micro-Fit with Select Gold Plating, Wire to Wire (43030 Female)

STAGE	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1	Contact Resistance	Initial	10 milliohms MAXIMUM	14.90 $^{(2)}$ m Ω	12.71 ⁽²⁾ m Ω	16.75 $^{(2)}$ m Ω
2	Contact	After Durability	$20~ extsf{m}\Omega~\Delta~ extsf{max}^{(3)}$	0.08 mΩ	-0.19 mΩ	2.15 m Ω
	Resistance	50 Cycles	20 1132 2 11100	PASS		
3	Contact Resistance	After Thermal Aging (1000 hours)	$20~ extsf{m}\Omega~\Delta~ extsf{max}^{(3)}$	1.13 mΩ	0.20 mΩ	15.49 mΩ
					PASS	
4	Contact After Reseating Resistance 3 Cycles	After Reseating		1.17 mΩ	0.08 mΩ	14.95 mΩ
4		3 Cycles			PASS	

⁽²⁾ Absolute resistance values. Includes bulk wire resistance.

RMATION: TITLE:				SHEET No.		
N	MICROFIT 1	TEST SUMMARY	- 125°C	2 of 4		
3/05	AMBIENT TEMP (GOLD PLATING)					
CREATED	O / REVISED BY:	CHECKED BY:	<u>APPROV</u>	/ED BY:		
M	KIPPER	SSOUSEK	FSM	ITH		
	B/05 CREATED	MICROFIT 1 AMBIENT 7 CREATED / REVISED BY:	MICROFIT TEST SUMMARY AMBIENT TEMP (GOLD PL CREATED / REVISED BY: CHECKED BY:	MICROFIT TEST SUMMARY - 125°C AMBIENT TEMP (GOLD PLATING) CREATED / REVISED BY: CHECKED BY: APPROX		

 $^{^{(3)}}$ Δ m Ω values shown are with respect to initial contact resistance measurements from Stage 1.

 $^{^{(3)}}$ Δ m Ω values shown are with respect to initial contact resistance measurements from Stage 1.



TEST SUMMARY

5.1 ELECTRICAL PERFORMANCE (CONTINUED)

Table 3 - Micro-Fit with Select Gold Plating, Wire to Wire (46235 Female)

STAGE	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1	Contact Resistance	Initial	10 milliohms MAXIMUM	15.05 $^{(2)}$ m Ω	14.72 $^{(2)}$ m Ω	15.40 ⁽²⁾ mΩ
2	Contact	After Durability	20 m Ω Δ max ⁽³⁾	-0.01 mΩ	-0.28 mΩ	0.23 mΩ
	Resistance	50 Cycles	ZO MSZ A MAX	PASS		
3	Contact Resistance	After Thermal Aging (1000 hours)	20 m Ω Δ max $^{(3)}$	3.08 mΩ	0.47 mΩ	17.73 mΩ
				PASS		
4	Contact After Reseating Resistance 3 Cycles	(0)	2.68 mΩ	0.31 mΩ	17.73 mΩ	
		20 m Ω Δ max ⁽³⁾		PASS		

⁽²⁾ Absolute resistance values. Includes bulk wire resistance.

5.2 MECHANICAL PERFORMANCE

Table 4 - Micro-Fit, Glow Wire Capable Housings, Wire to Wire

STAGE	DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1.1	Female Terminal Retention Force	Final (After Full Sequence 1)	24.5 N MIN	54.8 N	40.1 N	68.5 N
	(Terminal to Housing) (46235)			PASS		
1.2	Male Terminal Retention Force (Terminal to Housing) (43031)		24.5 N MIN	72.9 N	58.0 N	83.4 N
				PASS		
2	Thumb Latch Yield Strength		58.0 N MIN	51.4 N	47.8 N	54.7 N
					PASS (4)	

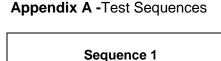
⁽⁴⁾ Thumb latch disengaged but did not yield / fracture.

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.		
Λ	EC No: 633298	MICROFIT	TEST SUMMARY	- 125°C	3 of 4		
Α	DATE: 2020/03/05	AMBIENT T	AMBIENT TEMP (GOLD PLATING)				
DOCUMENT NUMBER:		CREATED / REVISED BY:	CHECKED BY:	APPRO\	/ED BY:		
430450006-TS		MKIPPER	SSOUSEK	FSMITH			
TEMPLATE ELLENAME. TEST SUMMARVISITE ANVIOLOGO							

 $^{^{(3)}}$ Δ m Ω values shown are with respect to initial contact resistance measurements from Stage 1.

molex

TEST SUMMARY



Initial Contact Resistance per EIA-364-23

Per EIA-364-1000A

Mate Cycling (Durability) 50 cycles

Contact Resistance per EIA-364-23

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

Terminal-Housing Retention Force

Housing Latch Yield Strength

REVISION:

Α

ECR/ECN INFORMATION:

EC No: **633298**

DATE: 2020/03/05

TITLE:

MICROFIT TEST SUMMARY - 125°C AMBIENT TEMP (GOLD PLATING)

SHEET No.

4 of 4

DOCUMENT NUMBER:

430450006-TS

CREATED / REVISED BY:
MKIPPER

CHECKED BY: SSOUSEK

APPROVED BY: FSMITH

TEMPLATE FILENAME: TEST_SUMMARY[SIZE_A](V.2).DOC