



TEST SUMMARY

Micro-Fit (3.0) Connector Systems Single and Dual Row – Wire to Board and Wire to Wire

1.0 SCOPE

This Test Summary covers the 3.00 mm (.118 inch) centerline (pitch) Receptacles and Plugs molded in Nylon 6 material, terminated with 20-30 AWG wire using crimp technology, and mated to each other or to printed circuit board headers.

2.0 PRODUCT DESCRIPTION

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

Micro-Fit (3.0) Receptacle Series: 43645, 43025, 44133

Micro-Fit (3.0) Plug Series: 43640, 43020, 44300

2.1.1 CRIMP TERMINAL AND MATING HEADER SERIES USED FOR TESTING:

Micro-Fit (3.0) Female Crimp Terminal: 43030

Micro-Fit (3.0) Male Crimp Terminal: 43031

Micro-Fit (3.0) Header: 43650, 43045, 44914

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Receptacles and Plugs: Material - Nylon 6. For dimensions and markings refer to the appropriate sales drawings.

Crimp Terminals and Mating Headers: Refer to the appropriate sales drawings for information on dimensions, materials, plating, and markings.

2.3 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

Product Specification: Micro-Fit (3.0) Single Row

Document Number: PS-43650

Product Specification: Micro-Fit (3.0) Dual Row

Document Number: PS-43045

3.0 TEST OBJECTIVE

Qualify functional capability of Nylon 6 material for use in Micro-Fit (3.0) Receptacles and Plugs.

4.0 CONCLUSION

Plugs and Receptacles molded from Nylon 6 material exceed the flexibility and force performance requirements outlined in the Product Specifications. The material is acceptable for these applications.

<u>REVISION:</u> A	<u>ECR/ECN INFORMATION:</u> EC No: DATE: 08/12/10	<u>TITLE:</u> TEST SUMMARY MICRO-FIT (3.0) CONNECTOR SERIES NYLON 6 RECEPTACLES AND PLUGS	<u>SHEET No.</u> 1 of 3
<u>DOCUMENT NUMBER:</u> TS-43045-003	<u>CREATED / REVISED BY:</u> SSOUSEK	<u>CHECKED BY:</u> JBELL	<u>APPROVED BY:</u> FSMITH



TEST SUMMARY

5.0 TESTING PROCEDURES

5.1 TERMINAL RETENTION FORCE

Microfit 43030 and 43031 terminals were crimped to 20 awg wires and inserted into receptacle and plug housings, respectively. All circuits were populated. An axial pullout force was applied to each terminal by pulling on the wire at a rate of 1.0 inch per minute. The maximum force to dislodge each terminal from the housing was recorded.

5.2 THUMB LATCH TO RAMP YIELD STRENGTH

Receptacles were mated to header housings to fully engage latches. Header housings were secured to the base table and the receptacle housings were secured within a grip fixture attached to the load cell of a motorized force testing device. The crosshead of the device was then moved in the direction of unmating at a rate of 1.0 inch per minute until the latching geometry of either the receptacle or the header housing yielded. The maximum force to yield the latch was recorded.

5.3 THUMB LATCH DURABILITY/CYCLING

The thumb latch on the receptacle was first deflected to its extreme until it contacted the body of the housing (wire insertion side). It was then deflected to its opposite extreme until it contacted the towers of the housing (mating side). This defined one cycle of the latch. Increments of 5 cycles were repeated on the latch. After each 5 cycle increment the receptacle was mated to a plug and proper latch engagement was confirmed. Testing was terminated after 50 cycles since no latch integrity failures were observed and this surpassed the 30 mating cycle rating for these products by 67%.

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<u>DOCUMENT NUMBER:</u> TS-43045-003		<u>CREATED / REVISED BY:</u> SSOUSEK	<u>CHECKED BY:</u> JBELL
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6.0 PERFORMANCE RESULTS

ITEM	DESCRIPTION	CONDITION	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
1	Terminal Retention Force	Female Crimp Terminal	5.5 lbf Minimum	8.21 lbf	7.93 lbf	8.67 lbf
		Male Crimp Terminal	5.5 lbf Minimum	10.27 lbf	9.64 lbf	10.62 lbf

ITEM	DESCRIPTION	CONDITION	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
2	Thumb Latch to Ramp Yield Strength	Single Row 43645	15.4 lbf Minimum	23.81 lbf	23.01 lbf	25.27 lbf
		Dual Row 43025	15.4 lbf Minimum	20.45 lbf	18.94 lbf	21.62 lbf

NOTE : Single Row and Dual Row latch designs differ slightly in geometry. Difference in results is consistent with expectations.

ITEM	DESCRIPTION	CONDITION	REQUIREMENT	RESULT
3	Thumb Latch Durability / Cycling	Single Row 43645	30 cycles Minimum without loss of function	50 cycles – no failure
		Dual Row 43025	30 cycles Minimum without loss of function	50 cycles – no failure

REVISION: A	ECR/ECN INFORMATION: EC No: DATE: 08/12/10	TITLE: TEST SUMMARY MICRO-FIT (3.0) CONNECTOR SERIES NYLON 6 RECEPTACLES AND PLUGS	SHEET No. 3 of 3
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