

**TITLE :**

**GENERAL SPECIFICATION FOR  
50 OHM SMB SERIES CONNECTORS**

D	PER ECN 0942	<i>Andy</i> 961223	TITLE : GENERAL SPECIFICATION FOR SPECIAL 50 OHM SMB SERIES CONNECTORS
C	PER ECN 0845	<i>Andy</i> 960716	
B	PER ECN 0778	<i>Wilson</i> 960321	
			<b>Product Specification</b>
REV	DESCRIPTION	SIGN	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION
DOCUMENT NO <b>PS - 73598-0099</b>			Prepared By: <i>R. Fields</i> Checked By: <i>[Signature]</i> Approved By: <i>[Signature]</i>
			Date: 950220 Date: 961227 Date: 961230
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1.0 SCOPE

This specification covers the performance requirements and characteristics for 50 OHM SMB SERIES CONNECTORS.

2.0 APPLICABLE DOCUMENTS SPECIFICATIONS

2.1 Per applicable Molex Material Spec. refer to Sales and Engineering Drawings.

3.0 PRODUCT DESCRIPTION

3.1 Product Name

50 OHM SMB SERIES CONNECTORS.

3.2 Material

Refer to respective sales drawing

3.3 Finishes

Refer to respective sales drawing.

4.0 RATINGS

Item	Rating
Working Voltage	500 VRMS @ Sea Level
Impedance	50 Ohm Nominal
Frequency Range	dc to 4 GHz
Temperature Range	-65 deg. C to +165 deg. C

5.0 PERFORMANCE SPECIFICATIONS

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5.1 Electrical Performance

<u>Test Item</u>	<u>Test Spec.</u>	<u>Test Condition</u>
Insertion Loss	Initial: $0.30 \times (f)^{1/2}$ After environment:N/A f(GHz) : test frequency	dc to 4 GHz
Insulation Resistance	1000 megohms min.	500 V DC.
Dielectric Withstanding Voltage	1000 volts rms. min.	at sea level
VSWR	Initial: $1.30 + (0.03 \times f)$ per mated pair After environment:N/A f (GHz) : test frequency	dc to 4 GHz
Contact Resistance	Center Contact: 6.0 milliohms Max. Outer Contact: Initial:4.0 milliohms Max. After environment:N/A	

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5.2 Mechanical Performance

Test Item	Test Spec.	Test Condition
Durability	a) no damage to interface b) meet the requirements of 5.1, and mating and unmating force requirement	After 500 mating cycles @ 12 cycles per minute
Center Contact Retention Force	4 pounds min. (axial)	
Mating Force	14 pounds max.	
Unmating Force	14 pounds max. 2 pounds min.	
Insertion Force (Center Contact)	2.5 pounds max.	
Withdrawal Force (Center Contact)	1 ounce min.	
Cable Retention Force -- Crimping	Cable O.D. --> Force min. <3.93 mm 5 lbs 3.94-4.80 mm 10 lbs 4.81-5.82 mm 20 lbs 5.83-6.33 mm 30 lbs >6.34 mm 40 lbs	
-- Non-crimping	40 lbs	

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5.3 Environmental Performance

<u>Test Item</u>	<u>Test Spec.</u>	<u>Test Condition</u>
Corrosion (Salt Spray)	No exposure of the base metal on the interface or mating surface	MIL-STD-202F, Method 101D. Test Condition B. (less RF leakage)
Moisture Resistance	a) Insulation Resistance should be at least 200 megohms b) Parts will be tested for insulation resistance	MIL-STD-202F, Method 106F, (Less Step 7a & b)
Thermal Shock	a) No major effects to operating or physical properties. b) 1 hour duration.	MIL-STD-202F, Method 107G, Test Condition A
Vibration Frequency)--	(High) a) No discontinuity greater than 1 m sec. b) Tolerance of vibration amplitude is +/- 10% c) Vibration frequency shall be varied logarithmically between 10 to 2,000 Hz. d) The entire frequency range of 10 to 2,000 Hz and return to 10 Hz shall be transgressed in 20 minutes.	MIL-STD-202F, Method 204D, Test condition B

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Mechanical Shock -----

- a) No discontinuity greater than 1 m.sec.
- b) An 11 m.sec. duration.
- c) 3 shocks in each direction.

MIL-STD-202F, Method 213B, Test Condition A

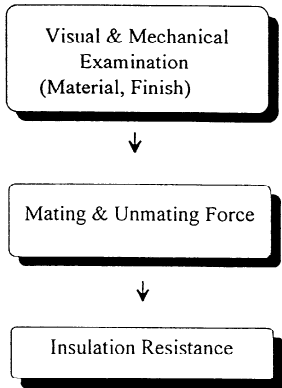
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6.0 Test Sequence

All sample units shall be subjected to the inspection of group I. The samples shall then be divided into subgroups consisting of five each connectors. The sample units shall then be subjected to the inspection for their particular group.

GROUP I



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GROUP II

Center Contact Retention



Corrosion

GROUP III

V S W R



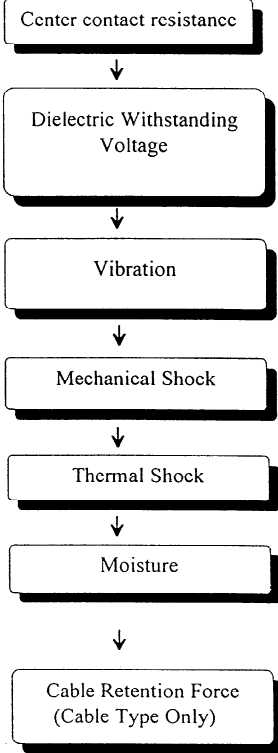
Durability

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GROUP IV



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GROUP V

R F Insertion Loss

GROUP VI

Contact Resistance



Insertion Force &  
Withdraw Force

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