

MOLEX TAIWAN LTD (RF)

TITLE :

GENERAL SPECIFICATION FOR SPECIAL  
75 OHM SMB SERIES CONNECTORS

E	PER ECN 0942	Andy 961223	TITLE : GENERAL SPECIFICATION FOR SPECIAL 75 OHM SMB SERIES CONNECTORS
D	PER ECN 0845	Andy 960716	
C	PER ECN 0778	William 960312	
Product Specification			
REV	DESCRIPTION	SIGN	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION
DOCUMENT NO PS - 73598-0093			Prepared By: <i>R. Fields</i> Checked By: <i>William</i> Approved By: <i>William</i>
			Date: 941114 Date: 961217 Date: 961230
			SHEET NO. 1 of 10

# MOLEX TAIWAN LTD ( RF )

## 1.0 SCOPE

This specification covers the performance requirements and characteristics for SPECIAL 75 OHM SMB SERIES CONNECTORS, using 50 OHM's mechanical characteristics.

## 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

SPECIAL 75 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	75 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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			SHEET NO. 2 of 10

## MOLEX TAIWAN LTD (RF)

5.1 Electrical Performance

<u>Test Item</u>	<u>Test Spec.</u>	<u>Test Condition</u>
Insertion Loss	Initial: $0.20 \times (f)^{1/2}$ After environment: N/A $f(\text{GHz})$ : 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: $1.15 + (0.03 \times f)$ per mated pair After environment: N/A $f(\text{GHz})$ : test frequency	dc to 4 GHz
Contact Resistance	Center Contact: 6.0 milliohms Max. Outer Contact: Initial: 3.0 milliohms Max. After environment: N/A	

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			SHEET NO. 3 of 10

# MOLEX TAIWAN LTD (RF)

## 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)	0.5 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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			SHEET NO. 4 of 10

MOLEX TAIWAN LTD (RF)

5.3 Environmental Performance

Test Item	Test Spec.	Test Condition
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(High Frequency)--	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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			SHEET NO. 5 of 10

MOLEX TAIWAN LTD (RF)

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

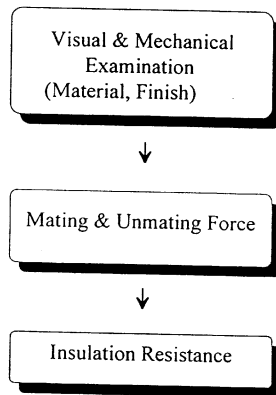
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# MOLEX TAIWAN LTD (RF)

## 6.0 Test Sequence

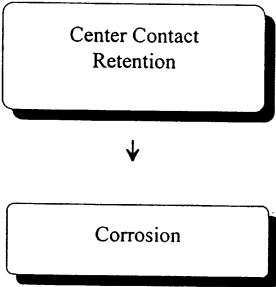
All sample units shall be subjected to the inspection of group I. The samples shall then be divided into subgroups consisting of five each connectors. The sample units shall then be subjected to the inspection for their particular group.

### GROUP I

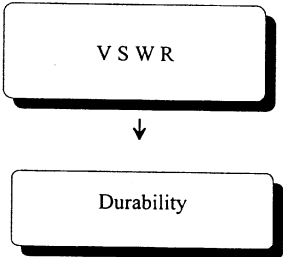


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			SHEET NO. 7 of 10

GROUP II



GROUP III

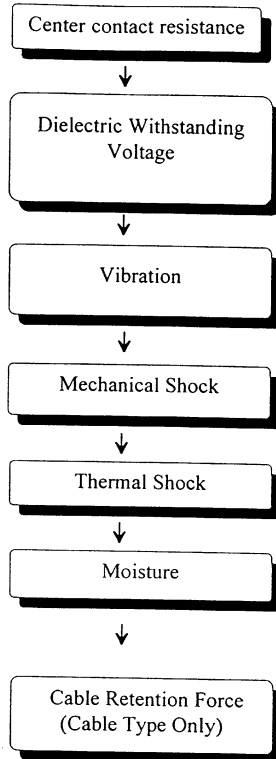


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				8 of 10	



MOLEX TAIWAN LTD (RF)

GROUP IV



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			SHEET NO. 9 of 10

MOLEX TAIWAN LTD (RF)

GROUP V

R F Insertion Loss

GROUP VI

Contact Resistance



Insertion Force &  
Withdraw Force

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