

SUMMARY REPORT

TITLE: QUALIFICATION TEST ON IL-WX SERIES CONNECTOR

CONNECTOR SPECIFICATION: JACS-1339-0

	Engineering	Quality Assurance
Approved by :	Hayashida	Yajima
Approved by :	Fujino	Kurata
Supervised by :	—	—
Product designed by :	Katou	—
Test conducted by :	Hisamatsu	Niihara

Rev.	Date	DCN No.	Drawn by	Checked by	Approved by
1	30 May 1990	—	Katou	—	Fujino
2	<i>29 May 2003</i>	<i>52212</i>	<i>J. Moritake</i>	—	<i>S. Kashinaga</i>

JAE-CONNECTOR.COM

Reference Only
Japan Aviation Electronics Industry, Limited

1. Introduction 試験の概要

(1) Purpose 試験の目的

This test was performed on 0.8 mm-pitch IL-WX series connector to determine if it meets the requirements of JAE Connector Specification JACS-1339-0.

0.8mm ピッチコネクタ IL-WX シリーズ開発に伴い評価試験を実施した。

(2) Applicable Specification 適用仕様書

JACS-1339-0

(3) Period

From : 18 February 1990
To : 25 March 1990

試験実施期間

自 90年 2月 18日
至 90年 3月 25日

(4) Place

Laboratory in Connector Division, Japan Aviation Electronics Industry Limited

試験実施場所

日本航空電子工業(株) 昭島事業所内 コネクタ事業部試験室

(5) Specimen

試料

No.	Part number 品名	Drawing number 図番	Revision 版数	Quantity 個数	Note 備考
1	IL-WX-6PB-HF IL-WX-12PB-HF IL-WX-18PB-HF	SJ024362	2	5 pieces 5 pieces 5 pieces	
2	IL-WX-20PB-VF IL-WX-30PB-VF	SJ024360	2	19 pieces 6 pieces	
3	IL-WX-6SB-VF IL-WX-12SB-VF IL-WX-18SB-VF IL-WX-20SB-VF IL-WX-30SB-VF	SJ024361	2	5 pieces 5 pieces 5 pieces 18 pieces 6 pieces	

(6) Conclusion

試験結果

The 0.8 mm-pitch IL-WX series connector meets the electrical, mechanical and environmental performance requirements of JAE product specification JACS-1339-0.

JACS-1339-0 の規格を十分満足している結果が得られた。

(7) Internal document control number

関連資料

Project No. CDS-89-11328
TR No. TR-C-1569 *ok*

Report summary sheet

Specimen: IL-WX**PB-HF, IL-WX**PB-VF, IL-WX**SB-VF

Item no.	Test item 試験項目	Number of specimens 供試個数	Requirement 要求条件	Test procedure 試験方法	Test result 試験結果																								
1	Examination of product, material & finish 構造・寸法・表示・材料・仕上げ		Compliant with product drawing. 図面と相違のないこと。	Visual inspection, slide caliper, etc... 目視、ノギス等	Compliant with product drawing. 相違なし																								
2	Connector insertion force 総合挿入力	Five pieces each 各 5 個	3.43 N × n (maximum) n = number of pins n = 芯数 6 pins: 20.58 N (maximum) 12 pins: 41.16 N (maximum) 18 pins: 61.74 N (maximum) 20 pins: 68.6 N (maximum) 30 pins: 102.9 N (maximum)	The force required to mate counterpart connector specimens was measured. 適合コネクタ間にて挿入力を測定する。	(N) <table border="1"> <tr> <td>No. of pins 芯数</td> <td>6</td> <td>12</td> <td>18</td> <td>30</td> <td>30</td> </tr> <tr> <td>Ave.</td> <td>7.64</td> <td>14.7</td> <td>25.19</td> <td>27.44</td> <td>39.40</td> </tr> <tr> <td>Max.</td> <td>8.82</td> <td>16.56</td> <td>28.91</td> <td>30.18</td> <td>46.06</td> </tr> <tr> <td>Min.</td> <td>6.17</td> <td>13.03</td> <td>21.85</td> <td>25.38</td> <td>34.79</td> </tr> </table>	No. of pins 芯数	6	12	18	30	30	Ave.	7.64	14.7	25.19	27.44	39.40	Max.	8.82	16.56	28.91	30.18	46.06	Min.	6.17	13.03	21.85	25.38	34.79
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3	Connector withdrawal force 総合抜去力	Five pieces each 各 5 個	0.49N × n (minimum) n = number of pins n = 芯数 6 pins: 2.94 N (minimum) 12 pins: 5.88 N (minimum) 18 pins: 8.82 N (minimum) 20 pins: 9.8 N (minimum) 30 pins: 14.7 N (minimum)	The force required to unmate counterpart connector specimens was measured. 適合コネクタ間にて抜去力を測定する。	(N) <table border="1"> <tr> <td>No. of pins 芯数</td> <td>6</td> <td>12</td> <td>18</td> <td>30</td> <td>30</td> </tr> <tr> <td>Ave.</td> <td>6.27</td> <td>12.84</td> <td>18.82</td> <td>21.27</td> <td>30.77</td> </tr> <tr> <td>Max.</td> <td>8.04</td> <td>16.76</td> <td>26.46</td> <td>25.87</td> <td>40.77</td> </tr> <tr> <td>Min.</td> <td>5.19</td> <td>10.78</td> <td>15.68</td> <td>18.91</td> <td>26.75</td> </tr> </table>	No. of pins 芯数	6	12	18	30	30	Ave.	6.27	12.84	18.82	21.27	30.77	Max.	8.04	16.76	26.46	25.87	40.77	Min.	5.19	10.78	15.68	18.91	26.75
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4	Contact withdrawal force 単体抜去力	One piece each 各 1 個	0.29 N (minimum)	The force required to withdraw a steel pin from a socket contact specimen was measured. スティールピンとソケットコンタクト間にて抜去を行う。	(N) <table border="1"> <tr> <td>Ave.</td> <td>1.03</td> </tr> <tr> <td>Max.</td> <td>1.20</td> </tr> <tr> <td>Min.</td> <td>0.97</td> </tr> </table>	Ave.	1.03	Max.	1.20	Min.	0.97																		
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5	Voltage proof 耐電圧	One piece each 各 1 個	One minute. No breakdown or flashover. 1 分間異常のないこと。	A test potential of 500 VAC r.m.s. was applied between adjacent contacts. 近接コンタクト間にて規定電圧 AC500r.m.s.印加	No breakdown or flashover (initial). 初期:異常なし																								
6	Insulation resistance 絶縁抵抗	One piece each 各 1 個	100 MΩ (minimum)	Insulation resistance was measured within one minute between adjacent contacts, using a test voltage of 500 VDC r.m.s. 近接コンタクト間にて規定電圧 DC500r.m.s.印加 1 分以内で測定。	2.0×10^4 MΩ minimum (initial)																								

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7	Contact resistance 接触抵抗	Two pieces each 各 2 個	20 mΩ maximum (initial)	Measure with voltage drop method. Voltage: 20 m VDC Current: 1 mA All samples used for this test shall be IL-WX-20 pins. 電圧降下法にて測定 印加電圧: D.C.20mV 印加電流: 1mA 接触抵抗測定サンプルはすべて IL-WX-20 芯を使用する。	Initial (mΩ) <table border="1"> <tr> <td>Ave.</td> <td>6.96</td> </tr> <tr> <td>Max.</td> <td>9.00</td> </tr> <tr> <td>Min.</td> <td>4.67</td> </tr> </table>	Ave.	6.96	Max.	9.00	Min.	4.67																						
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8	Vibration, shock 耐振性および耐衝撃性	Two pieces each 各 2 個	1. No electrical discontinuity greater than one microsecond during the test. 2. No damage during and after the test. 1. 試験中に 1 μ sec 以上の電流の遮断がないこと。 2. 試験中・後に部品に機械的欠陥が生じないこと。	-Vibration Amplitude: 1.5 mm, 10 Hz to 55 Hz Two hours each for three axes, total six hours. -Shock MIL-STD-202 METHOD 202 490 m/s ² for three axes Use of appropriate holder is allowed for setting up equipment. ・耐振性 全振巾 1.5mm、10~55Hz 各 2H 3 軸 計 6H ・耐衝撃性 MIL-STD-202 METHOD 202 490 m/s ² 3 軸 試験においては取付けに適切なホルダーを使用しても良い。	1. No electrical discontinuity greater than one microsecond during the test. 2. No mechanical damage 1. 電流遮断なし 2. 機械的欠陥なし																												
9	Contact retention コンタクト保持力	One piece each 各 1 個	4.9 N minimum	Contact retention was measured with tensile strength tester. 引張り試験機にて、コンタクト保持力を測定する。	After test 試験後 (N) <table border="1"> <tr> <td rowspan="2">Male contact ピン</td> <td rowspan="2">Straight type</td> <td>Ave.</td> <td>14.31</td> </tr> <tr> <td>Max.</td> <td>15.88</td> </tr> <tr> <td rowspan="2">Female contact ソケット</td> <td rowspan="2">Right angle type</td> <td>Ave.</td> <td>9.60</td> </tr> <tr> <td>Max.</td> <td>11.37</td> </tr> <tr> <td colspan="2"></td> <td>Min.</td> <td>8.23</td> </tr> <tr> <td colspan="2"></td> <td>Ave.</td> <td>21.17</td> </tr> <tr> <td colspan="2"></td> <td>Max.</td> <td>23.81</td> </tr> <tr> <td colspan="2"></td> <td>Min.</td> <td>19.21</td> </tr> </table>	Male contact ピン	Straight type	Ave.	14.31	Max.	15.88	Female contact ソケット	Right angle type	Ave.	9.60	Max.	11.37			Min.	8.23			Ave.	21.17			Max.	23.81			Min.	19.21
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10	Durability 寿命試験	Two pieces each 各 2 個	Contact resistance: 40 mΩ maximum (after test) 試験後 接触抵抗: 40mΩ 以下	Connector specimens were mated and unmated 30 cycles. 適合コネクタ間にて 30 回の挿抜を行う。	After test 試験後 (mΩ) <table border="1"> <tr> <td>Ave.</td> <td>8.10</td> </tr> <tr> <td>Max.</td> <td>8.72</td> </tr> <tr> <td>Min.</td> <td>7.32</td> </tr> </table>	Ave.	8.10	Max.	8.72	Min.	7.32																						
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11	Rapid change of temperature 熱衝撃	Two pieces each 各 2 個	After test: 1. Voltage proof: One minute, no breakdown or flashover. 2. Insulation resistance: 500 VDC, one minute 50 MΩ minimum 3. Contact resistance: 40 mΩ minimum 試験後 1. 耐電圧: 1 分間異常のないこと 2. 絶縁抵抗: DC500V 1 分間 50MΩ 以上 3. 接触抵抗: 40mΩ 以下	Connector specimens were subjected to ten cycles of temperature extremes. The temperature extremes were -55°C and 85°C. Each cycle consisted of 30 minutes at each temperature. -55°C~+85°C 連続 10 サイクル (30分) (30分)	After test 試験後 1. Voltage proof: No breakdown or flashover 耐電圧: 異常なし 2. Insulation resistance: 1×10^7 minimum 絶縁抵抗: 1×10^7 以上 3. Contact resistance (mΩ) 接触抵抗 <table border="1"> <tr><td>Ave.</td><td>8.20</td></tr> <tr><td>Max.</td><td>10.04</td></tr> <tr><td>Min.</td><td>6.22</td></tr> </table>	Ave.	8.20	Max.	10.04	Min.	6.22
Ave.	8.20										
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Min.	6.22										
12	Damp heat, steady state 耐湿性	Two pieces each 各 2 個	Same as above. 同上	Temperature: 60°C Humidity: 90% to 95%RH Duration: 500 hours 温度: 60°C 湿度: 90-95%RH 放置時間: 500h	After test 試験後 4. Voltage proof: No breakdown or flashover 耐電圧: 異常なし 5. Insulation resistance: 2×10^4 minimum 絶縁抵抗: 2×10^4 以上 6. Contact resistance (mΩ) 接触抵抗 <table border="1"> <tr><td>Ave.</td><td>7.44</td></tr> <tr><td>Max.</td><td>10.28</td></tr> <tr><td>Min.</td><td>5.73</td></tr> </table>	Ave.	7.44	Max.	10.28	Min.	5.73
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13	Corrosion, salt mist 耐腐食性	Two pieces each 各 2 個	After test: 1. There should be no corrosion detrimental to contact connection. 2. Contact resistance: 40 mΩ maximum 試験後 1. コントクトの接触到に有害な地金の露出のないこと。 2. 接触抵抗: 40mΩ 以下	- Salt concentration: 5% - Temperature: 35°C - Duration: 48 hours ・塩水濃度: 5% ・温度: 35°C ・放置時間: 48h	After test: 試験後 1. There was no corrosion 有害な地金の露出なし 2. Contact resistance (mΩ) 接触抵抗 <table border="1"> <tr><td>Ave.</td><td>7.10</td></tr> <tr><td>Max.</td><td>8.06</td></tr> <tr><td>Min.</td><td>5.00</td></tr> </table>	Ave.	7.10	Max.	8.06	Min.	5.00
Ave.	7.10										
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14	Resistance to soldering heat 半田耐熱性	Two pieces each 各 2 個	No evidence of abnormality in appearance. 外観等、使用上問題となるような異常のないこと。	With a solder bath at 260°C±5°C, specimens were immersed in the bath for two minutes. 260 ± 5°Cの恒温槽に 2 分間放置	No abnormality after test. 試験後: 異常なし						

Item no.	Test item 試験項目	Number of specimens 供試個数	Requirement 要求条件	Test procedure 試験方法	Test result 試験結果						
15	Solderability 半田付性	Two pieces each 各 2 個	Wet solder coverage: 95% minimum 浸した部分の 95%以上が半田でおおわれていること。	After dipping the connector specimens in applicable flux for five to ten seconds, each specimen was immersed in a solder bath at 230°C ± 5°C, using a solder of Sn: Pb=60:40. 適合フラックスに 5~10 秒浸漬し、Sn: Pb=60:40 半田 230 ± 5°Cに 3 ± 0.5 秒浸漬する。	Excellent after test. 試験後: 良好						
16	Dry heat 耐熱性	Two pieces each 各 2 個	Contact resistance: 40 mΩ maximum (after test) 試験後: 接触抵抗: 40mΩ 以下	Temperature: 85°C Duration: 500 hours 温度: 85°C 放置時間: 500h	After test 試験後 (mΩ) <table border="1" data-bbox="1592 453 1812 539"> <tr> <td>Ave.</td> <td>7.44</td> </tr> <tr> <td>Max.</td> <td>10.28</td> </tr> <tr> <td>Min.</td> <td>5.73</td> </tr> </table>	Ave.	7.44	Max.	10.28	Min.	5.73
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