SPECIFICATION FOR
CONNECTOR USED FOR FPC/FFC WITH 1mm CONTACT SPACING
SLW__R/S-___LF

1. SCOPE
This specification covers the requirements for the connector (SLW__R/S-___LF) with 1mm spacing to which the edge of FPC (Flexible Printed Circuit) and FFC(Flexible Flat Cable) can be connected by Zero-Insertion-Force method.

2. APPLICABLE STANDARDS
JIS C 5402 Method for Test of Connectors for Electronic Equipment
UL – 94 TESTS FOR FLAMMABILITY OF PLASTIC MATERIALS FOR PARTS IN DEVICES AND APPLIANCES.

3. CATALOG No. STRUCTURE

SLW 10 R - 1C7 LF

Series
Number of Contacts
Connector Typevv
R : Right angle type
S : Straight type
Variation
Lead Free

4. CONNECTOR SHAPE, DIMENSIONS
See attached drawings.

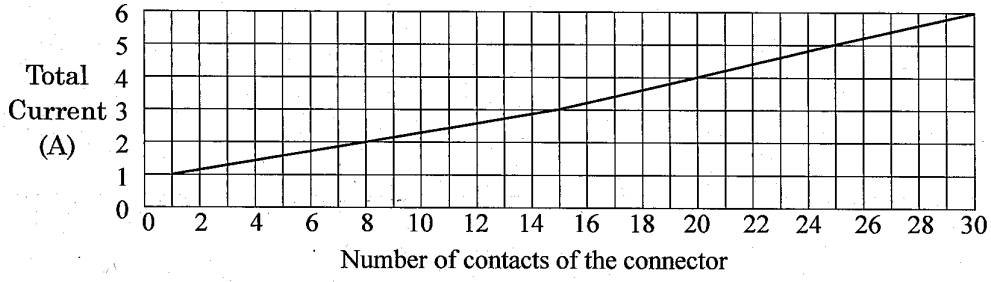
5. MATERIALS
See attached drawings.

6. ACCOMMODATED CONDUCTORS (FPC/FFC)
See attached drawings.

7. ACCOMMODATED P.C.BOARD (P.C.B on which the connector is mounted)
See attached drawings.

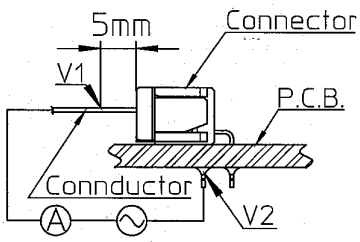
8. RATING
8-1. Voltage : A.C.100V D.C.100V
8-2. Current : A.C.1A D.C.1A (Refer to the following note.)
8-3. Operating Temperature : -55°C ~ +85°C
(Including terminal temperature rises)

NOTE
Allowable maximum current for one contact is 1A. Total allowable current for a whole connector is the value which is shown in the following figure.



9. PERFORMANCE CHARACTERISTICS

9-1. Electrical Performance

No.	Test Item	Test Method	Requirements
9-1-1	Contact resistance	1)Measure contact resistance between V_1-V_2 by voltage drop method by the following circuit.  2)Open circuit voltage : Less than A.C.20mV 3)Test current : Less than A.C.20mA	1)Initial value : Less than 30mΩ 2)Contact resistance after the test is in accordance with the value specified in each test item.
9-1-2	Insulation resistance	1)Measure insulation resistance between adjacent contacts in a connector individual. 2)Test voltage : D.C.500V 3)Read value one minute after applying test voltage.	1)More than 500MΩ
9-1-3	Dielectric withstanding voltage	1)For one minute, apply A.C.500V between adjacent contacts in a connector individual. 2)Set current : A.C.1mA	1)Free from any short circuit and insulation breakdown.

9-2. Mechanical Performance

No.	Test Item	Test Method	Requirements
9-2-1	Vibration (Sinusoidal)	JIS C 0040 1) Frequency range : 10 ~ 500Hz 2) Amplitude : 0.75mm or Acceleration : 100m/s^2 3) Sweep rate : 1 octave/minute 4) Kind of test : Sweep endurance test 5)Test time : 10 cycles	1)During the test, no circuit opening for more than 1μs. 2)Free from any defect such as break, deformation, loosing and falling off etc. on each portion of the connector.
9-2-2	Durability (Slider operation)	1)Measure contact resistance before and after the test by the method in clause 9-1-1 by mating the accommodated conductor specified in clause 6. 2)Number of slider open and close : 20 times (Insert and extract the conductor for each opening of the slider.)	1)Initial contact resistance : Less than 30mΩ 2)Contact resistance after the test : Less than 50mΩ 3)Free from any defect such as break etc. on the connector and the conductor.

9-3. Climatic Category

<table>
<tr><th>No.</th><th>Test Item</th><th>Test Method</th><th>Requirements</th></tr>
<tr><td>9-3-1</td><td>Damp heat
(Steady state)</td><td>JIS C 0022
1)Measure contact resistance before and after the test by the method in clause 9-1-1 by using the accommodated conductor specified in clause 6.
2)Measure insulation resistance after the test by the method in clause 9-1-2.
3)Bath temperature：40°C
4)Bath humidity：90～95%
(relative humidity)
5)Period of exposure：48 hours
6)Expose conductor and connector after mating them and dry them naturally after posttreating.
(Without insertion and separation)</td><td>1)Initial contact resistance
：Less than 30mΩ
2)Contact resistance after the test：Less than 50mΩ
3)Insulation resistance after the test ：More than 100MΩ</td></tr>
<tr><td>9-3-2</td><td>Salt spray</td><td>JIS C 0023
1)Measure contact resistance before and after the test according to the method in clause 9-1-1 by using accommodated conductor specified in clause 6.
2)Salt solution concentration：5%
3)Period of exposure：48 hours
4)Expose conductor and connector in mated condition and dry them naturally posttreatment. (24 hours)</td><td>1)Initial contact resistance
：Less than 30mΩ
2)Contact resistance after the test：Less than 50mΩ</td></tr>
<tr><td>9-3-3</td><td>Change of temperature</td><td>JIS C 0025
1)Measure contact resistance before and after the test according to the method in clause 9-1-1 by using accommodated conductor in clause 6.
2)One cycle of temperature is as follow and test 5 cycles.
<table>
<tr><th>Step</th><th>Temp.(°C)</th><th>Time(min.)</th></tr>
<tr><td>1</td><td>-55±3</td><td>30</td></tr>
<tr><td>2</td><td>25±2</td><td>2～3</td></tr>
<tr><td>3</td><td>85±2</td><td>30</td></tr>
<tr><td>4</td><td>25±2</td><td>2～3</td></tr>
</table>
3)Expose conductor and connector by mating them and leave them under normal temperature.</td><td>1)Initial contact resistance
：Less than 30mΩ
2)Contact resistance after the test：Less than 50mΩ
3)Free from any defect such as crack, warping and deformation etc. on each portion the connector.</td></tr>
</table>

9-4. Other performance

No.	Test Item	Test Method	Requirements
9-4-1	Soldering (Solderability)	JIS C 0050 Test Method : Ta 1)Test connector is soldered by dipping in inactive rosin family flux after mounted on P.C.Board. Soldering bath temp.(°C): 235±5 Dipping time(s): 5±0.5	1)Actual soldered area must be more than 90% of the dipped area intended to be soldered.
9-4-2	Soldering (Resistance to soldering)	JIS C 0050 Test Method : Tb 1)Test connector is soldered by the following condition after mounted P.C.Board. Soldering bath temp.(°C) / Dipping time(s): 350±10 / 3.5±0.5 260±5 / 10.0±1	1)Free from any damage on concerning feature and contacting performance after soldered.
9-4-3	Conductor retention force (Reference)	1)Measure initial separation force by using accommodated conductor specified in clause 6 after locked.	1)More than 0.49N(0.05kgf) /contact

10. INDICATION AND PACKAGING

10-1. Indication

1) Catalog number and lot number are not indicated on the connector.
2) Catalog number and quantity shall be indicated on the surface on the package box.

10-2. Packaging

1) The connector individuals are put into the package box with specified quantity in accordance with the method specified in the separate packaging specification.

11. Remarks

11-1. Since this connector can not be used for CIC (Conductor such as silver paste, carbon etc.) as accommodated conductor, please consult us separately.

11-2. In case of using this connector as multi-conductors, please mate by pushing slider center portion (Excepting conductor guide portion) by all means since sometimes slider center portion does not go down perfectly (Especially in case of combination with FFC of more than 21 conductors.)

11-3. Retention force for accommodated conductor specified in clause 9-4-3 differs due to it's kind, structure and surface treatment of conductor. Therefore, the value of retention force specified in the clause for performance is reference value.

11-4. Please refer to the "Handling procedures and remarks" before use.