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| PRODUCT SPECIFICATION<br><b>D-SUB DP Series</b> | SPEC.No.:D-SUB-001 |             |
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**Leyconn**

| Rev | Date     | Description | Edited by | Approvals                             |
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**1. Scope:**

This specification covers the requirements for product performance, test methods and quality assurance provisions of **D-SUB DP Series**.

**2. Shape,Construction and Dimensions:**

See attached drawing

**3. Materials**

See attached drawing

**4. Accommodated cable and P.C.Board**

4.1 Thickness:1.6mm(.063)

4.2 P.C.Board Layout:See attached drawings

**5. Rating:**

|   |             |                |
|---|-------------|----------------|
| A | Voltage     | 250V (RMS)     |
| B | Current     | 3 A            |
| C | Temperature | -40°C ~+ 105°C |

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## 6. Product Performance and Requirements:

| Electrical Performance             |                                                                                                                                                                                                                                         |                                                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Test Description                   | Test Procedures & Condition                                                                                                                                                                                                             | Requirements                                                                                                |
| Temperature Rise vs Current Rating | EIA 364-70<br><br>Measure temperature rise vs current at 0.5A minimum when measured at an ambient temperature of 23±3°C.                                                                                                                | The ΔT shall not exceed +30°C at any point in the connector under test.                                     |
| Contact Resistance                 | EIA 364-23<br><br>Subject mated contacts assembled in housing to closed circuit current of 100 mA maximum at open circuit at 20 mV maximum.                                                                                             | 20 mΩ maximum                                                                                               |
| Insulation Resistance              | When applied DC500 V between adjacent terminal or ground                                                                                                                                                                                | More than 5000mΩ                                                                                            |
| Dielectric Withstanding Voltage    | EIA 364-20<br>Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies.<br><br>Test Potential : 500 Vac at sea level, 60Hz<br>Test Duration : 60 seconds | 1. No flashover,<br>No spark over,<br>No excess leakage,<br>No breakdown.<br>2. Current leakage:<br>< 0.5mA |

| Mechanical Performance                      |                                                                                                          |                                                                                                                                                                                                                   |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Description                            | Test Procedures & Condition                                                                              | Requirements                                                                                                                                                                                                      |
| Flammability                                | UL 94V-0<br><br>This procedure is to ensure thermoplastic resin compliance to UL flammability standards. | The manufacturer will require its thermoplastic resin vendor to supply a detailed C of C with each resin shipment. The C of C shall clearly show the resin's UL listing number, lot number, date code, et cetera. |
| Contact retaining Force<br><br>In insulator | Retention speed form ousing 25±3mm from housing                                                          | More than<br><br>4.0 Kgf                                                                                                                                                                                          |

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| Single contact insertion force  | Measure force to with drawal using Ø1.04 mm<br>Test pin at speed $25 \pm 3$ mm per minute                  | 340 gram max                                              |
| Single contact withdrawal force | Measure force to with drawal using Ø0.99 mm<br>Test pin at speed $25 \pm 3$ mm per minute                  | 28 gram min                                               |
| Test Description                | Test Procedures & Condition                                                                                | Requirements                                              |
| Vibration (Random)              | 1.5 mm 10-55-10HZ / munute each<br>2 hours for X, Y and Z directions                                       | Appearance:No damage<br>Discontinuity I micro second max  |
| Durability                      | Measure contact and shell resistance after following Automatic:1000 cycles at $100 \pm 50$ cycles per hour | Contact Resistance<br>Contact: Less than twice of initial |

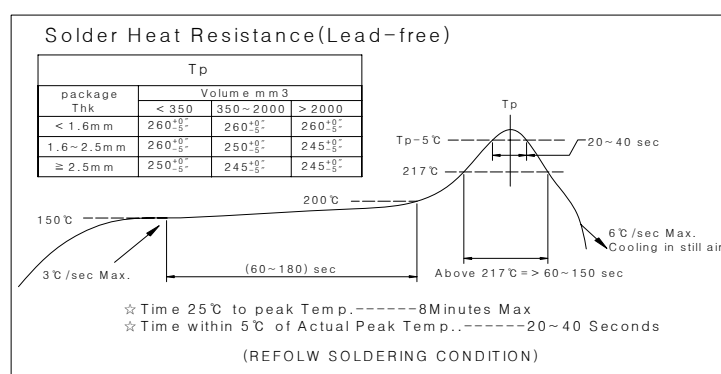
| Environmental Performance    |                                                                                                                                                                                                                                                                                                                       |                                                                                                                 |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Test Description             | Test Procedures & Condition                                                                                                                                                                                                                                                                                           | Requirements                                                                                                    |
| Solder ability               | EIA 364-52<br>Subject unmated connectors should be tested according to the condition listed below:<br>Steam Aging Temperature: $90 \sim 96^{\circ}\text{C}$<br>Steam Aging Duration: 8 hours $\pm 5$ min.<br>Soldering Temperature: $230 \pm 5^{\circ}\text{C}$<br>Soldering Time: 4 ~ 5 seconds<br>Flux: Inactivated | Continuous solder coating with a minimum 90% coverage.                                                          |
| Resistance to Soldering Heat | Soldering time: $5 \pm 0.5$ seconds<br>Soldering pot: $260 \pm 5^{\circ}\text{C}$                                                                                                                                                                                                                                     | No damage.                                                                                                      |
| Test Description             | Test Procedures & Condition                                                                                                                                                                                                                                                                                           | Requirements                                                                                                    |
| Humidity                     | $40 \pm 2^{\circ}\text{C}$ , 90-95%RH ,96 hours measurement must be taken within 30 min. After tested                                                                                                                                                                                                                 | Appearance:No Danmage<br><br>Contact resistance:Less than twice of initial Dielectric strength to pass para 8-4 |

|                                                 |                    |             |
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| Heat aging          | 105 ± 2°C , 90-95% RH ,96hours measurement must be taken within 30 min after tested                                                                                                                                                     | :No danmage                                                                                   |
| Temperature cycling | One cycle consists of :<br>1. $-55 \frac{+0}{-3}^{\circ}\text{C}$ , 30min<br>2.Room temp .10-15 min<br>3. $85 \frac{+3}{-0}^{\circ}\text{C}$ , 30min<br>4.Room temp .10-15 min                                                          | Appearance:No damage Contact resistance:<br><br>Less than twice of initial                    |
| Salt Spray          | EIA 364-26<br><br>Subject mated and unmated connectors should be tested according to the condition listed below:<br>Temperature: 35±3°C<br>Solution : 5 ± 1%<br>Spray time::48 ± 4 hours<br>Measurement must be taken after water rinse | Appearance: . No evidence of damage.<br><br>2. Contact resistance: Less than twice of initial |

## Soldering Condition: Reflow soldering

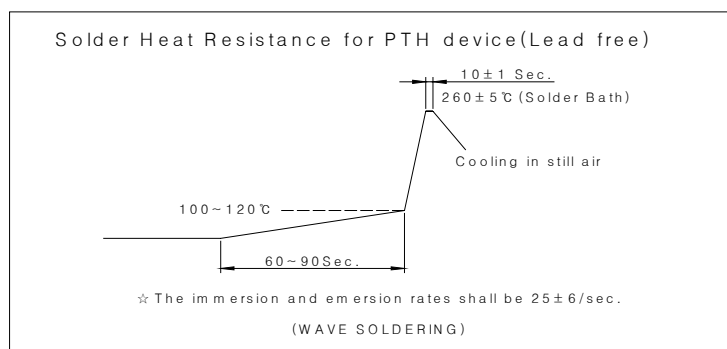
### Lead-Free-IPC / IPC-STD-020C



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## Wave Soldering

### Lead-Free-JESD22-B106C-Lead-free



## 7. Mating force and unmating force (Unit:Kgf)

| No. Of Circuits | Mating Force (Initial max.) | Unmating Force(Initial max.) |
|-----------------|-----------------------------|------------------------------|
| 9               | 4.6                         | 3.5                          |
| 15              | 8.1                         | 6.4                          |
| 25              | 10.5                        | 7.7                          |
| 37              | 14.1                        | 9.9                          |
| 50              | 18.5                        | 12.8                         |