瀚荃股份有限公司
CviLux Corporation

| ENGINEERING DEPT. | | PRODUCT SPECIFICATION<br>For CI51 Series of 3.96 mm Pitch<br>Wire to Board Connector | SPEC.NO.: SPCI012I |
|---|---|---|---|
| REVISIONS | ECNT121010 | | PAGE: 1/4 |

1. SCOPE:
This specification contains the test requirement of subject connectors when tested under the condition and procedure with terminals crimped on the specified maximum size wire

2. APPLICABLE STANDARDS:
MIL - STD - 202 Methods for test of connectors for electronic equipment
EIA - 364 Test methods for electrical connectors

3. APPLICABLE SERIES NO.: **CI51 Series**

4. SHAPE, CONSTRUCTION AND DIMENSIONS
See attached drawings

5. MATERIALS
See attached drawings

6. ACCOMMODATED P.C.BOARD
6.1 Thickness: 1.6 mm (.063″)
6.2 P.C. Board Layout: See attached drawings

CVILUX CORP
2021.01.07
ISSUED

REVIEWED : Eisley APPROVED : Sun VERIFIED : Eric .

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7. ELECTRICAL PERFORMANCE:

| | ITEM | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| 7.1 | Rated current and voltage | | 6A 250V AC (r.m.s.) |
| 7.2 | Contact resistance | Dry circuit of DC 20 mV max. , 100 mA max. | Less than 20 mΩ |
| 7.3 | Dielectric strength | When applied AC 1500 V 1 minute between adjacent terminal | No change |
| 7.4 | Insulation resistance | When applied DC 500 V between adjacent terminal or ground | More than 1000 MΩ |

8. MECHANICAL PERFORMANCE:

| | ITEM | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| 8.1 | Wire size | Specified wire size | Accepts AWG#18~#24 |
| 8.2 | Terminal crimp Tensile strength | When crimped AWG#18 size wire<br>When crimped AWG#20 size wire<br>When crimped AWG#22 size wire<br>When crimped AWG#24 size wire | More than 9.0 Kgf<br>More than 7.0 Kgf<br>More than 5.0 Kgf<br>More than 3.0 Kgf |
| 8.3 | Terminal insertion force | Insertion speed 25± 3 mm per minute into housing | Less than 1.83 Kgf |
| 8.4 | Contact retaining force in insulator | Retention speed 25± 3 mm per minute from housing | More than 3.0 Kgf |
| 8.5 | Single contact insertion force | Measure force to insertion using 1.14 mm square pin at speed 25± 3 mm per minute | 1.5 Kgf max. |
| 8.6 | Single contact withdrawal force | Measure force to withdrawal using 1.14 mm square pin at speed 25± 3 mm per minute | 150 gram min. |
| 8.7 | Durability | Connector shall be subjected to 100 cycles of insertion and withdrawal | Contact resistance:<br>Less than twice of initial |
| 8.8 | Pin retention force | Push pin from insulator base at speed<br>25± 3 mm per minute | More than 2.5 Kgf |

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9. ENVIRONMENTAL PERFORMANCE:

| | ITEM | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| 9.1 | Temperature rise | Then carried the rated current | 30°C max. |
| 9.2 | Vibration | 1.5 mm 10-55-10 HZ / minute each<br>2 hours for X , Y and Z directions | Appearance: No damage<br>Discontinuity:<br>1 micro second max. |
| 9.3 | Solder ability | **Tin-Lead Process:**<br>Soldering time: 5 ± 0.5 second<br>Soldering pot: 230 ± 5°C<br>**Lead-Free Process:**<br>Soldering time: 3 ± 0.5 second<br>Soldering pot: 245 ± 5°C | Minimum:<br>90% of immersed area |
| 9.4 | Resistance to soldering heat | **Tin-Lead Process:**<br>Soldering time: 5 ± 0.5 second<br>Soldering pot: 240 ± 5°C<br>**Lead-Free Process**<br>Soldering time: 5 ± 0.5 second<br>Soldering pot: 260 ± 5°C | No damage |
| 9.5 | Heat aging | 85 ± 2°C , 96 hours | No damage |
| 9.6 | Humidity | 40 ± 2°C , 90-95% RH , 96 hours<br>measurement must be taken within 30 min. after tested | Appearance: No damage<br>Contact resistance:<br>Less than twice of initial<br>Dielectric strength:<br>To pass para 7-3 |
| 9.7 | Temperature cycling | One cycle consists of :<br>(1) -55 $^{+0}_{-3}$ °C , 30 min.<br>(2)Room temp. 10-15 min.<br>(3) 85 $^{+3}_{-0}$ °C , 30 min.<br>(4)Room temp. 10-15 min. | Appearance: No damage<br>Contact resistance:<br>Less than twice of initial |

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| | ITEM | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| 9.8 | Salt spray | Temperature: 35 ± 3°C<br>Solution: 5 ± 1%<br>Spray time: 48 ± 4 hours<br>(Stamping before plated)<br>Spray time: 24 ± 4 hours<br>(Stamping after plated)<br>Mate connectors and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water and dried naturally, after which the specified measurements shall be performed.<br>The specimens shall be suspended from the top using waxed twine, string or nylon thread.<br>The test only define the plating area, without plating area (as copper cross section) will not be defined.<br>(EIA 364-26B / MIL-STD-202 Method 101) | Appearance: No damage<br>Contact resistance:<br>Less than twice of initial |

10. AMBIENT TEMPERATURE RANGE: -25 to + 85°C