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|--------------------------|-----------------|---|---------------------------|
| <b>ENGINEERING DEPT.</b> |                 | <b>PRODUCT SPECIFICATION</b><br><b>For CF12 Series Connector System</b> | <b>SPEC.NO.: SPCF018F</b> |
| <b>REVISIONS</b>         | <b>ECN11064</b> |   | <b>PAGE: 1/3</b>          |

1. SCOPE:

This specification contains the test requirement of subject connectors when tested under the condition and Inserted on the specified size FPC and FFC

2. APPLICABLE STANDARDS:

MIL - STD - 202                      Methods for test of connectors for electronic equipment  
MIL - STD - 1344                    Test methods for electrical connectors

3. APPLICABLE SERIES NO.: **CF12 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

7. ACCOMMODATED FPC/FFC THICKNESS

0.3 +0.04/-0.01 mm (.012+.002/-0")



REVIEWED : Eisley    APPROVED : Clark    VERIFIED : Sandy .

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**8. ELECTRICAL PERFORMANCE:**

|     | ITEM                      | TEST CONDITION  | REQUIREMENT          |
|-----|---------------------------|---|----------------------|
| 8.1 | Rated current and voltage |   | 1 A 200V AC (r.m.s.) |
| 8.2 | Contact resistance        | Dry circuit of DC 20 mV max., 100 mA max.                 | Less than 20 mΩ      |
| 8.3 | Dielectric strength       | When applied AC 500 V 1 minute between adjacent terminal  | No change            |
| 8.4 | Insulation resistance     | When applied DC 500 V between adjacent terminal or ground | More than 500 MΩ     |

**9. MECHANICAL PERFORMANCE:**

|     | ITEM  | TEST CONDITION   | REQUIREMENT  |
|-----|---|--|--|
| 9.1 | Contact retaining force in insulator        | Retention speed 25± 3 mm per minute from housing   | More than 0.5 Kgf (4.9 N)  |
| 9.2 | FPC / FFC withdrawal force (Reference data) | Measure force to withdrawal using 0.30 mm thickness FPC/FFC at speed 25± 3 mm per minute | (25 gram× No. of Circuits) Min<br>(0.245N × No. of Circuits) Min |
| 9.3 | Durability                                  | Connector shall be subjected to 5 cycles of insertion and withdrawal                     | Contact resistance:<br>Less than twice of initial                |

**10. ENVIRONMENTAL PERFORMANCE:**

|      | ITEM                         | TEST CONDITION  | REQUIREMENT  |
|------|------------------------------|---|--|
| 10.1 | Temperature rise             | Then carried the rated current  | 30°C Max.  |
| 10.2 | 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.   |
| 10.3 | Solder ability               | Soldering time: 5 ± 0.5 second<br>Soldering pot: 230 ± 5°C                                  | Minimum:<br>90% of immersed area   |
| 10.4 | Resistance to soldering heat | Soldering time: 5 ± 0.5 second<br>Soldering pot: 240 ± 5°C                                  | No damage  |
| 10.5 | Heat aging                   | 105 ± 2°C , 96 hours  | No damage  |
| 10.6 | Humidity                     | 40 ± 2°C , 90-95% RH , 96 hours<br>measurement must be taken within 30 min.<br>after tested | Appearance: No damage<br>Contact resistance:<br>Less than twice of initial<br>Dielectric strength:<br>To pass para 8-3 |

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|      | ITEM                | TEST CONDITION   | REQUIREMENT  |
|------|---------------------|--|--|
| 10.7 | 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 |
| 10.8 | Salt spray          | Temperature: $35 \pm 3$ °C<br>Solution: $5 \pm 1$ %<br>Spray time: $48 \pm 4$ hours<br>Measurement must be taken after water rinse                       | Appearance: No damage<br>Contact resistance:<br>Less than twice of initial |

11. AMBIENT TEMPERATURE RANGE: -40 to +105°C