

<b>ENGINEERING DEPT.</b>		<b>PRODUCT SPECIFICATION</b> <b>For CF55 Series Connector System</b>	<b>SPEC.NO.: SPCF076A</b>
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1. SCOPE:

This product specification contains the test method the general performance and requirement for CF55 series connectors.

2. APPLICABLE DOCUMENTS:

Reference documents listed below shall be the latest revision unless otherwise specified. Should a conflict occur between this specification and any of the listed documents then this specification shall prevail.

2.1 Industry standards :

EIA-364-□□ electrical connector test procedures

3. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

4. MATERIALS

See attached drawings

5. ACCOMMODATED P.C.BOARD

5.1 Thickness: 0.5 mm (.020") ~ 2.0 mm (.079")

5.2 P.C. Board Layout: See attached drawings

6. FPC/FFC RECOMMENDED SPECIFICATION:

Thickness : 0.3 +0.03/-0.03 mm



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**7. ELECTRICAL PERFORMANCE:**

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		0.5A DC max. 50V AC/DC max.
7.2	Contact Resistance	Measured at 20 mV maximum open circuit at 100mA .Mated test contacts must be in a connector housing. Test as per EIA364-23	Initially :Less than 40 mΩ Finally :Less than 80 mΩ
7.3	Dielectric strength	Test between adjacent contacts with a voltage of 500 VAC for 1 minute at Sea level. Test as per EIA364-20 Method B	No current leakage and flashover or damage detected.
7.4	Insulation Resistance	After 500 VDC for 1 minute , measure the insulation resistance between the adjacent contacts. Test as per EIA364-21	More than 500 MΩ

**8. MECHANICAL PERFORMANCE:**

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Contact retaining force in insulator	The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25 mm per minute. Test as per EIA 364-29	More than 0.15 Kgf
8.2	FFC/FPC Retention Force	Apply axial load to FFC/FPC by operating at the speed rate of 25 mm per minute.	0.03Kgf/Pin min.
8.3	Durability	Mate applicable FFC/FPC and insert and withdraw actuator at the speed rate of 25 mm per minute. Times :Up to 20 cycles.	Appearance: No damage Contact Resistance : Less than 80 mΩ FFC/FPC Ret. Force: 0.03 Kgf/Pin min.
8.4	Fitting Nail Retention Force	Apply axial pull out of force at the speed of 25 mm per minute on the fitting nail assembled in the housing.	More than 0.15 Kgf

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9. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Temperature rise	The object of this test procedure is to detail a standard method to assess the current carrying capacity of mated battery connector contact. Test as per EIA364-70 Method B	0.5 A per pin minimum. The temperature rise above ambient shall not exceed 30°C at any point in the connector when contact positions are powered. The ambient condition is still air at 25°C.
9.2	Vibration	Subject mated FFC/FPC, All contacts shall be connected in series and DC 100mA shall be applied. Frequency:10~55 Hz Full amplitude1.5mm in 3 directions for 2 hours respectively. Test as per EIA 364 – 28 Condition I .	Appearance: No damage Discontinuity: 1 micro second max.
9.3	Physical Shock	Subject mated FFC/FPC to 50 g's half-sine shock pulses of 11ms duration. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks. Test as per EIA364-27 condition A	Appearance: No damage Discontinuity: 1 micro second max.
9.4	Solder ability	Steam age 1 hour at 90°C ~96°C Solder time to be 5±1 seconds at 245°C, using unactivated flux. Test as per EIA364-52	Minimum: 95% of immersed area
9.5	Resistance to soldering heat	Soldering time: 10 second Soldering pot: 250°C max. Reflow soldering (Infrared): Refer soldering method The conditions specified on the recommended temperature profile Shall be repeated twice.	No damage
9.6	Hand Soldering Method	Use a soldering iron that has a sufficient head capacity and high stability of temperature. The tip of the iron should be shaped so as not to touch the part body directly. Temperature :380±10°C 3s	No damage
9.7	Heat aging	Subject unmated connectors to temperature life at 85°C±2°C for 96 hours. Test as per EIA 364-17 Test Condition III Method A.	Appearance : No damage Contact Resistance: ≤ 80 mΩ

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	ITEM	TEST CONDITION	REQUIREMENT
9.8	Humidity	Subject unmated connectors to 96 hours at 40°C with 90% to 95% RH. Test as per EIA 364-31 Method II Test Condition A.	Appearance : No damage Contact Resistance: ≤ 80 mΩ Insulation resistance: 50M Ω minimum
9.9	Temperature cycling	Subject unmated connectors shall be tested in accordance with EIA364-32 Test Condition I . (1)-55°C,30 minute (2)+25°C,5 minute (3)+85°C,30 minute (4)+25°C,5 minute consecutive 10 cycles.	Appearance: No damage Contact Resistance: ≤ 80 mΩ

10. Operating temperature range : -55°C to +85°C

Storage temperature range : -10°C to +50°C

Operating or Storage Humidity range : Operating humidity 90% Max. (Not dewed)

11. Recommended Temperature Profile(Lead-Free):

