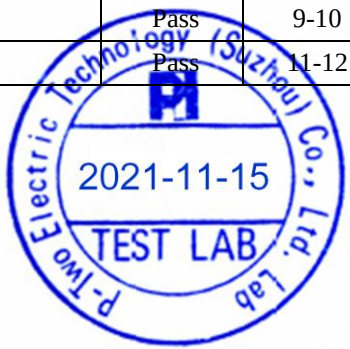
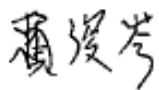
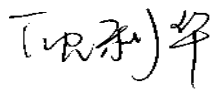




T e s t i n g R e p o r t

RPT. No. : TR21102501

To:	Date : 2021/11/12																									
	Tester : Wen Wen Li																									
CC.:	TRS No. : 21102501																									
(v) R&D phase testing	() Engineering design change test																									
() Periodic test	() Quality abnormal verify																									
() Trial run test	() Other:																									
Product Name : FFC	Part No. : 183005-15XXX																									
Test descriptions : <i>Test item according to applicant's requirement and test condition refer to "SPECIFICATION OF PRODUCTS" — DOC. No.:JN83-21098-01</i>																										
<table border="1"><thead><tr><th>Test Item</th><th>Test Date</th><th>Sample size (pcs)</th><th>Result</th><th>Page</th></tr></thead><tbody><tr><td>☆Conductor Retention</td><td>2021/10/29</td><td>5</td><td>Pass</td><td>3-4</td></tr><tr><td>☆Temperature Life High</td><td>2021/11/05-2021/11/10</td><td>5</td><td>Pass</td><td>5-6</td></tr><tr><td>☆Humidity</td><td>2021/11/04-2021/11/09</td><td>5</td><td>Pass</td><td>9-10</td></tr><tr><td>Thermal Shock</td><td>2021/11/06-2021/11/09</td><td>5</td><td>Pass</td><td>11-12</td></tr></tbody></table>		Test Item	Test Date	Sample size (pcs)	Result	Page	☆Conductor Retention	2021/10/29	5	Pass	3-4	☆Temperature Life High	2021/11/05-2021/11/10	5	Pass	5-6	☆Humidity	2021/11/04-2021/11/09	5	Pass	9-10	Thermal Shock	2021/11/06-2021/11/09	5	Pass	11-12
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☆Humidity	2021/11/04-2021/11/09	5	Pass	9-10																						
Thermal Shock	2021/11/06-2021/11/09	5	Pass	11-12																						
																										
☆: Symbols are CNAS approved items, others are CNAS non-accredited items.																										
Approved By/Date : 	Reviewed By/Date : 	Tested By/Date 																								

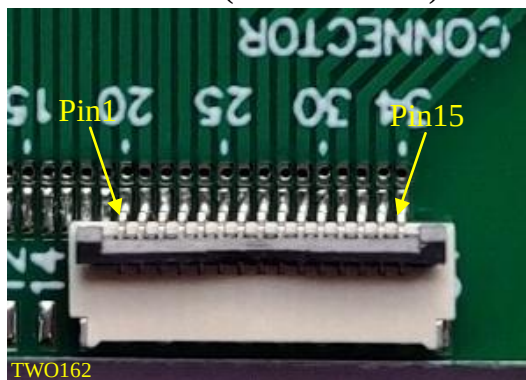


Testing Report

RPT. No. : TR21102501

Test sample appearance

FPC 0.5 CONN.(196640-15041)

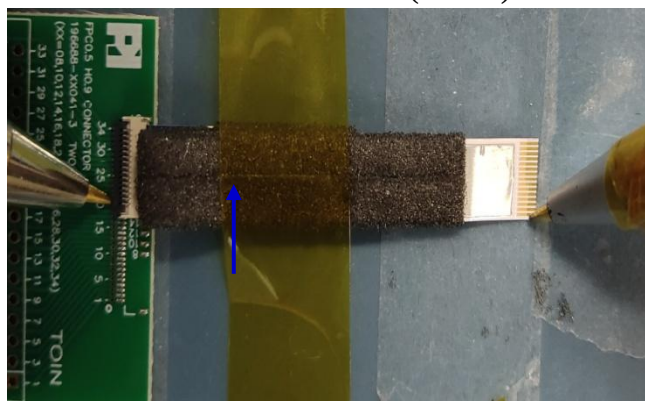


FFC 0.5P (183005-15XXX)

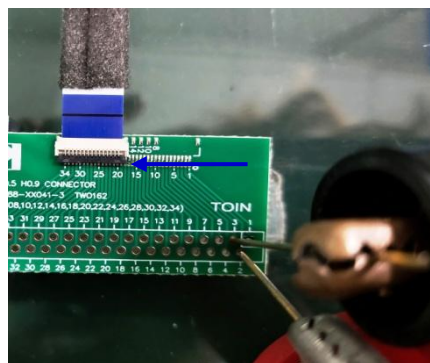


Test method photo

Low Level Contact Resistance (LLCR)



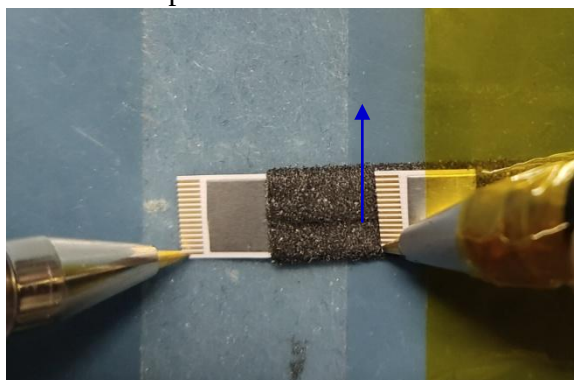
Insulation Resistance & Dielectric Strength





Conductor Retention

1. Test Equipment:
Micro-Ohmmeter: KEITHLEY 2750(1311-1304001).
Calibration cycle: 2021/09/07-2022/09/06
2. Environment Condition of Laboratory:
2-1. Temperature: 25.6°C (17-28°C)
2-2. Humidity: 55.7%RH (Less than 75%RH)
3. Test Conditions:
3-1. Conductor Retention
Test method reference document: EIA-364-23C-2018
Test Voltage: 20mV Max.
Test Current: 100mA Max.
FFC Thickness: 0.31 mm
3-2. Test method photo



4. Test Criterion:
Conductor Retention : Before & After $\leq 220\text{m}\Omega$. TL=100mm

Test data be show on next page



T e s t i n g R e p o r t

RPT. No. : TR21102501

5. Test Data:

Unit: mΩ

Sample		Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Test Item						
Conductor Resistance	Pin1	166.52	166.35	169.12	165.27	166.17
	Pin2	170.86	167.09	168.36	170.69	170.29
	Pin3	169.83	164.26	165.01	169.86	168.82
	Pin7	166.06	166	165.5	165.56	164.83
	Pin8	165.84	166.37	164.17	166.35	165.52
	Pin9	166.99	165.43	166.37	166.82	167.04
	Pin10	165.61	163.81	167.02	165.8	168.65
	Pin13	169.39	164.05	165.88	170.02	167.23
	Pin14	169.49	167.22	169.27	169.79	169.34
	Pin15	169.97	169.45	168.04	170.71	169.66

6. Test Result: Pass



Temperature Life High

1. Test Equipment:

1-1. Micro-Ohmmeter: KEITHLEY 2750(1311-1304001).

Calibration cycle: 2021/09/07-2022/09/06

1-2. Voltage insulation tester: SE 7451(Q748).

Calibration cycle: 2021/05/11-2021/11/10

1-3. Precision Oven Tester: QingshengKTHA-415TBS (E-RP-T009).

Calibration cycle: 2020/12/03-2021/12/02

2. Environment Condition of Laboratory:

2-1. Temperature: 24.9°C (17-28°C)

2-2. Humidity: 62.7%RH (Less than 75%RH)

3. Test Conditions:

3-1. Insulation Resistance

Test method reference document: EIA-364-21E-2014

Test Voltage: 500VDC

Test Time: 60secs.

3-2. Dielectric Strength

Test method reference document: EIA-364-20F-2019

Test Voltage: 500VAC

Test Time: 60secs.

3-3. Temperature Life High (NKV21110301101A-E)

Test method reference document: IEC-60068-2-2:2007

Temperature: 85°C

Duration: 96 hours

3-4. Test method photo



4. Test Criterion:

4-1. Insulation Resistance: Before $\geq 100\text{M}\Omega$; After $\geq 100\text{M}\Omega$.

4-2. Dielectric Strength: No Breakdown.

Test data be show on next page



T e s t i n g R e p o r t

RPT. No. : TR21102501

5. Test Data:

Test Item \ Sample	Sample 6		Sample 7		Sample 8		Sample 9		Sample 10	
	Before	After	Before	After	Before	After	Before	After	Before	After
Dielectric Strength	No Breakdown		No Breakdown		No Breakdown		No Breakdown		No Breakdown	
Insulation Resistance (MΩ)	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000
PIN NO.	(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)	

6. Test Result: Pass



Humidity

1. Test Equipment:

1-1. Micro-Ohmmeter: KEITHLEY 2750(1311-1304001).

Calibration cycle: 2021/09/07-2022/09/06

1-2. Voltage insulation tester: SE 7451(Q748).

Calibration cycle: 2021/05/11-2021/11/10

1-3. Temperature & Humidity Chamber: QingshengKTHA-415TBS (E-RP-T005).

Calibration cycle: 2020/12/03-2021/12/02

2. Environment Condition of Laboratory:

2-1. Temperature : 24.9℃ (17-28℃)

2-2. Humidity: 58.5%RH (Less than 75%RH)

3. Test Conditions:

3-1. Insulation Resistance

Test method reference document: EIA-364-21E-2014

Test Voltage: 500VDC

Test Time: 60secs.

3-2. Dielectric Strength

Test method reference document: EIA-364-20F-2019

Test Voltage: 500VAC

Test Time: 60secs.

3-3. Humidity (NKV21110301101A-E)

Test method reference document: EIA-364-31F-2019

Temperature: 40℃

Humidity: 95 %RH

Duration: 96 hours.

3-4. Test method photo



4. Test Criterion:

4-1. Insulation Resistance: Before $\geq 100\text{M}\Omega$; After $\geq 100\text{M}\Omega$.

4-2. Dielectric Strength: No Breakdown.

Test data be show on next page



T e s t i n g R e p o r t

RPT. No. : TR21102501

5. Test Data:

Test Item \ Sample	Sample 11		Sample 12		Sample 13		Sample 14		Sample 15	
	Before	After	Before	After	Before	After	Before	After	Before	After
Dielectric Strength	No Breakdown		No Breakdown		No Breakdown		No Breakdown		No Breakdown	
Insulation Resistance (MΩ)	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000
PIN NO.	(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)	

6. Test Result: Pass



Thermal Shock

1. Test Equipment:

1-1. Micro-Ohmmeter: KEITHLEY 2750(1311-1304001).

Calibration cycle: 2021/09/07-2022/09/06

1-2. Voltage insulation tester: SE 7451(Q748).

Calibration cycle: 2021/05/11-2021/11/10

1-3. Thermal Shock Chamber: KSON TSK-B4T-150R (E-RP-T051).

Calibration cycle: 2021/01/12-2022/01/11

2. Environment Condition of Laboratory:

2-1. Temperature : 23.7°C (17-28°C)

2-2. Humidity: 61.0%RH (Less than 75%RH)

3. Test Conditions:

3-1. Insulation Resistance

Test method reference document: EIA-364-21E-2014

Test Voltage: 500VDC

Test Time: 60secs.

3-2. Dielectric Strength

Test method reference document: EIA-364-20F-2019

Test Voltage: 500VAC

Test Time: 60secs.

3-3. Thermal shock (NKV21110301101A-E)

Test method reference document: EIA-364-32G-2014(R2019)

Temperature : -40°C (4H) → 25°C (2H) → 85°C (4H) → 25°C (2H)

Duration: 5 Cycles.

3-4. Test method photo



4. Test Criterion:

4-1. Insulation Resistance: Before $\geq 100\text{M}\Omega$; After $\geq 100\text{M}\Omega$.

4-2. Dielectric Strength: No Breakdown.

Test data be show on next page



T e s t i n g R e p o r t

RPT. No. : TR21102501

5. Test Data:

Sample Test Item	Sample 16		Sample 17		Sample 18		Sample 19		Sample 20	
	Before	After	Before	After	Before	After	Before	After	Before	After
Dielectric Strength	No Breakdown		No Breakdown		No Breakdown		No Breakdown		No Breakdown	
Insulation Resistance (MΩ)	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000	> 50000
PIN NO.	(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)		(1,2 3,4 5,6 7,8 9,10 11,12 13,14)	

6. Test Result: Pass

End of the report