AP-10

Part No. Plug: 3531-**01-00T, 3539-**01-00*

Receptacle: 3532-**01-00T

Test Report

Product Specification no.PRS-2616

Rev.	ECN	Date	Prepared by	Checked by	Approved by
5	T25063	August 8,2025	K.Mizobuchi	S.Kamada	Y.Hashimoto
4	T24011	April 4, 2024	W. Lau	Y. Shimizu	M. Takemoto
3	T23063	December 18, 2023	T. Ito	S. Kamada	Y. Hashimoto
2	T23047	November 30,2023	K. Mizobuchi	S. Kamada	Y. Hashimoto

1. Purpose

To evaluate the performance of AP-10Connector in accordance with PRS-2616.

2. Specimen

(1) AP-10 PLUG （Part No. 3531-**01-00T, 3539-**01-00*）
(2) AP-10 RECEPTACLE （Part No. 3532-**01-00T）

3. Test Sequence

All the evaluations were performed in accordance with Table 1.Test Sequence.

4. Result

See Table 3-1 to 3-3, Graph 1 to 14. For the details of the testing conditions and requirements, see PRS-2616.
The “n” in the tables show the number of measurement points.

5. Conclusion

All the specimens met the requirements of PRS-2616.

Table 1　Test Sequence and Sample Quantity

Test Item	Group													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
Contact Resistance	2,5		1,3	1,3		1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3
Temperature rising		1												
Mating Force/Unmating Force	1,4													
Durability	3													
Vibration			2											
Shock				2										
Electrode fastness test					1									
High Temperature Life						2								
High Temperature Life (Energization)							2							
Low Temperature Life								2						
Low Temperature Life (Energization)									2					
High Temperature and humidity										2				
High Temperature and humidity (Energization)											2			
Temperature cycling												2		
Temperature and humidity cycling													2	
SO_2 Gas														2
Specimen Quantity.	5 pcs	5 pcs	5 pcs	5 pcs	5 pcs	5 pcs	5 pcs	5 pcs	5 pcs	5 Pcs	5 pcs	5 pcs	5 pcs	5 pcs

※Numbers indicate sequence in which tests are performed.

Table 2　Test Sequence and Sample Quantity

Test Item	Group			
	Q	R	S	T
Solder ability	1			
Soldering Heat Resistance (Reflow)		1		
Soldering Heat Resistance (Soldering iron)			1	
Solder junction life				1
Specimen Quantity	5 pcs	5 pcs	5 pcs	5 pcs

※Numbers indicate sequence in which tests are performed.

Table 3-1 /Test Result

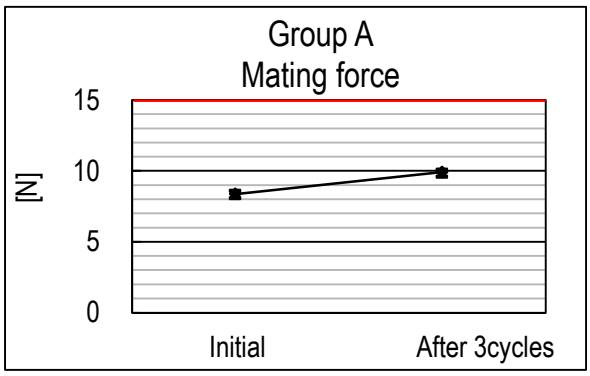
Group	Test items / Measurements	Pass criteria	n	Unit	AVE.	MAX.	MIN.	Judgement
A	Mating force							
	Initial	15N MAX.	5	N	8.38	8.6	8.1	Pass
	After 3cycles				9.93	10.1	9.6	Pass
	Unmating force							
	Initial	15N MAX.	5	N	6.08	6.5	5.6	Pass
	After 3cycles				9.45	10.2	8.5	Pass
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.3927	0.395	0.389	Pass
	After 3cycles				0.3777	0.380	0.374	Pass
B	Temperature rising							
	Initial	⊿T15℃ MAX.	5	℃	8.200	8.46	7.72	Pass
C	Vibration							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.3880	0.400	0.377	Pass
	After testing				0.3822	0.395	0.376	Pass
	Electrical discontinuity							
	During test	No discontinuity greater than 1μs.	5	-	No discontinity			Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
D	Shock							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.3956	0.408	0.384	Pass
	After testing				0.3896	0.412	0.376	Pass
	Electrical discontinuity							
	During test	No discontinuity greater than 1μs.	5	-	No discontinity			Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
E	Electorode fastness test							
	Appearance							
	Pass criteria: No abnormality adversely affecting the performance shall not occur.							
	After testing	No abnormality	5	-	No abnormality			Pass
F	High Temperature Life							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.4144	0.434	0.399	Pass
	After testing				0.4762	0.515	0.453	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
G	High Temperature Life (Energization)							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.3970	0.414	0.383	Pass
	After testing				0.5646	0.778	0.483	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass

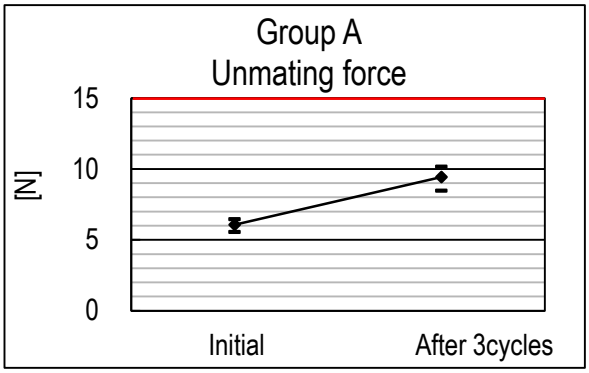
Table 3-2 Test Result

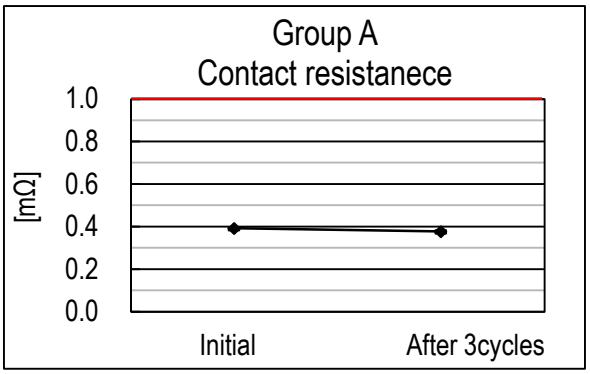
Group	Test items / Measurements	Pass criteria	n	Unit	AVE.	MAX.	MIN.	Judgement
H	Low Temperature Life							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.4120	0.420	0.400	Pass
	After testing				0.4070	0.414	0.395	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
J	Low Temperature Life (Energization)							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.4022	0.440	0.376	Pass
	After testing				0.4212	0.440	0.378	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
K	High Temperature and humidity							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.4048	0.417	0.391	Pass
	After testing		5		0.3900	0.406	0.371	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
L	High Temperature and humidity (Energization)							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.4230	0.472	0.379	Pass
	After testing				0.4096	0.416	0.406	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
M	Temperature cycling							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.4136	0.432	0.398	Pass
	After testing				0.4176	0.457	0.400	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass

Table 3-3 Test Result

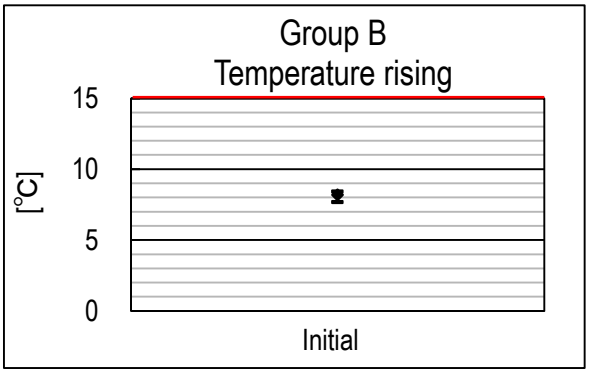
Group	Test items / Measurements	Pass criteria	n	Unit	AVE.	MAX.	MIN.	Judgement
N	Temperature and humidity cycling							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.3980	0.433	0.388	Pass
	After testing				0.4038	0.434	0.392	Pass
	Appearance							
	After testing	No abnormality	5	-	No abnormality			Pass
P	SO2 Gas							
	Contact resistance							
	Initial	1mΩ MAX.	5	mΩ	0.4172	0.420	0.407	Pass
	After testing				0.3904	0.403	0.381	Pass
	Appearance							
	Initial	No abnormality	5	-	No abnormality			Pass
	After testing	No abnormality			No abnormality			Pass
Q	Solder ability							
	Appearance							
	Pass criteria: No abnormality adversely affecting the performance shall not occur.							
	After testing	No abnormality	5	-	No abnormality			Pass
R	Soldering Heat Resistance(Reflow)							
	Pass criteria: No abnormality adversely affecting the performance shall not occur.							
	After testing	No abnormality	5	-	No abnormality			Pass
S	Soldering Heat Resistance(Soldering iron)							
	Pass criteria: No abnormality adversely affecting the performance shall not occur.							
	After testing	No abnormality	5	-	No abnormality			Pass
T	Solder junction life							
	Pass criteria: Electrical continuity is confirmed after the test,and no abnormality adversely affecting the performance shall not occur.							
	After testing	No abnormality	5	-	No abnormality			Pass



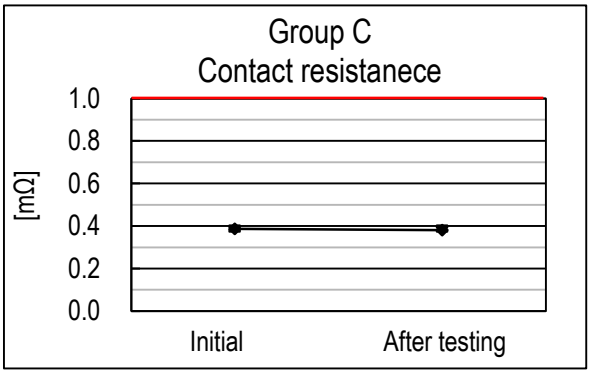




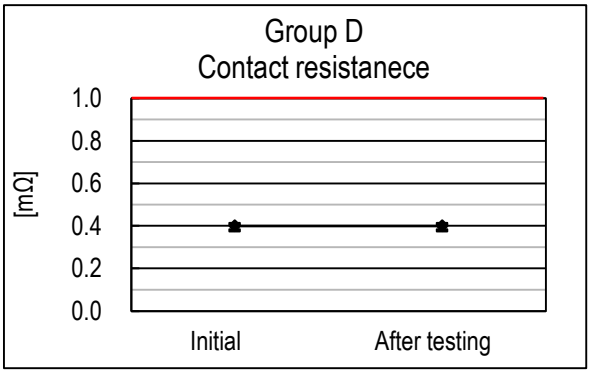
(Graph 1) Group A: Durability



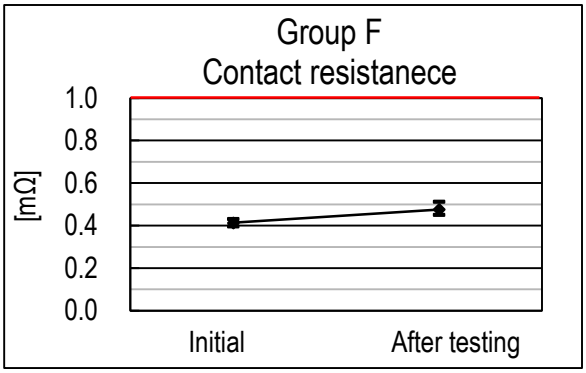
(Graph 2) Group B: Temperature rising



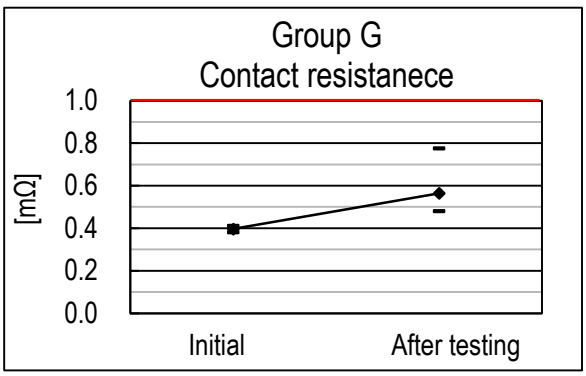
(Graph 3) Group C: Vibration



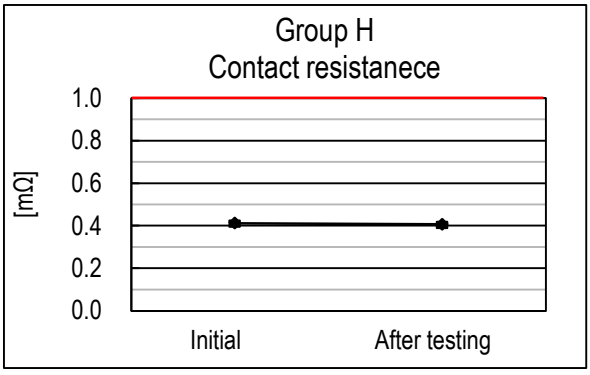
(Graph 4) Group D: Shock



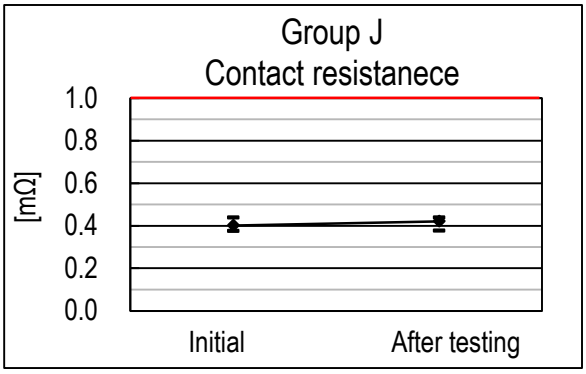
(Graph 5) Group F: High Temperature Life



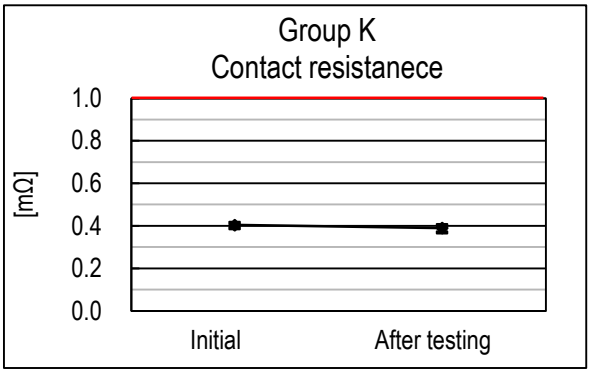
(Graph 6) Group F: High Temperature Life (Energization)



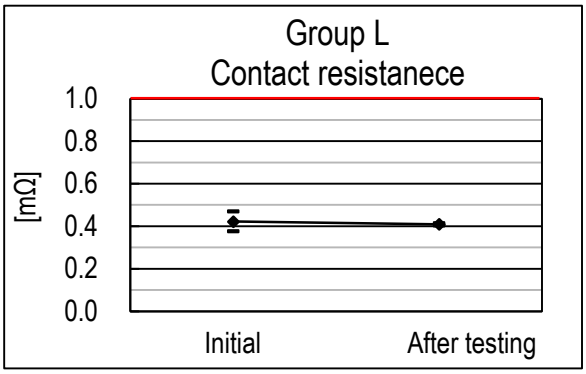
(Graph 7) Group H: Low Temperature Life



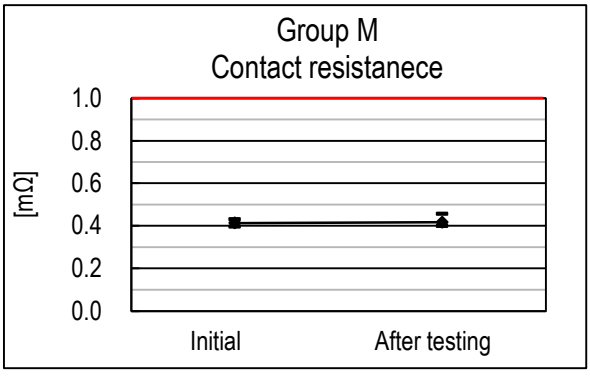
(Graph 8) Group J: Low Temperature Life (Energization)



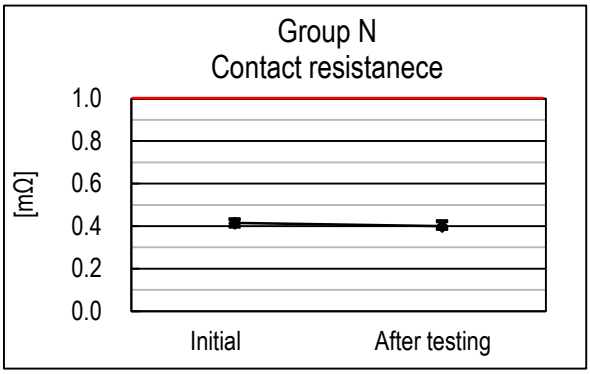
(Graph 9) Group K: High Temperature and humidity



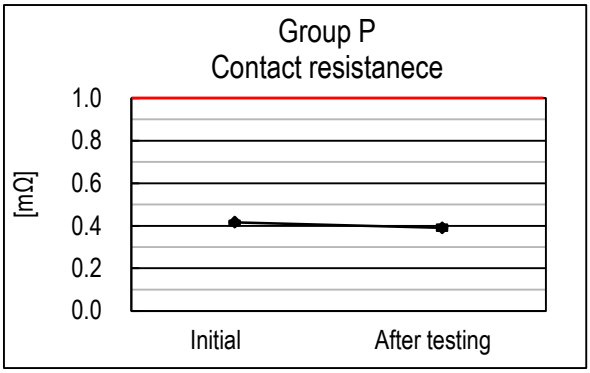
(Graph 10) Group L: Higt Temperature and humidity (Energization)



(Graph 11) Group M: Temperature cycling



(Graph 12) Group N: Temperature and humidity cycling



(Graph 13) Group P: SO_2 Gas