MP-S01

Part No. 3110-0001

Test Report

Product Specification no. PRS-2227

1	T21115	November 8, 2021	T.Kawakami	S.Kamada	Y.Hashimoto
0	T19012	January 31, 2019	S.Kamada	-	T.Hirakawa
Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. Purpose

To evaluate the performance of MP-S01 Connector in accordance with PRS-2227.

2. Specimen

MP-S01 （Part No. 3110-0001）

3. Test Sequence

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

4. Result

See Table A to N, Graph 1 to 9. For the details of the testing conditions and requirements, see PRS-2227.
The “n” in the tables show the number of measurement points.

5. Conclusion

All the specimens met the requirements of PRS-2227.

Table 1 Test Sequence and Sample Quantity

Test Item	Group												
	A	B	C	D	E	F	G	H	J	K	L	M	N
Contact resistance			1,4	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1.3		2
Rated voltage/Current	1												
Contact force		1	3										
Durability			2										
Shock				2									
Vibration					2								
Cold test						2							
Heat test							2						
Thermal shock test								2					
Humidity (steady state)									2				
H_2S gas										2			
Saltwater spray											2		
Surface mount solderability test												1	
Resistance to reflow soldering heat													1
Specimen quantity	5	10	10	5	5	5	5	5	5	5	5	5	5

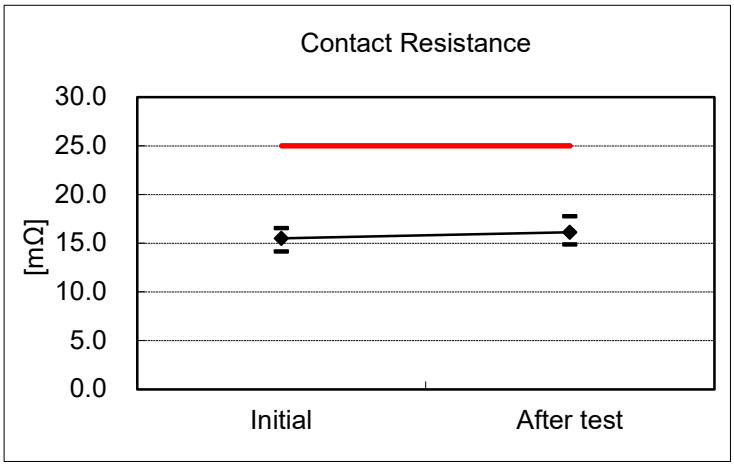
※Numbers indicate sequence in which tests are performed.

Table.2-1 Test result

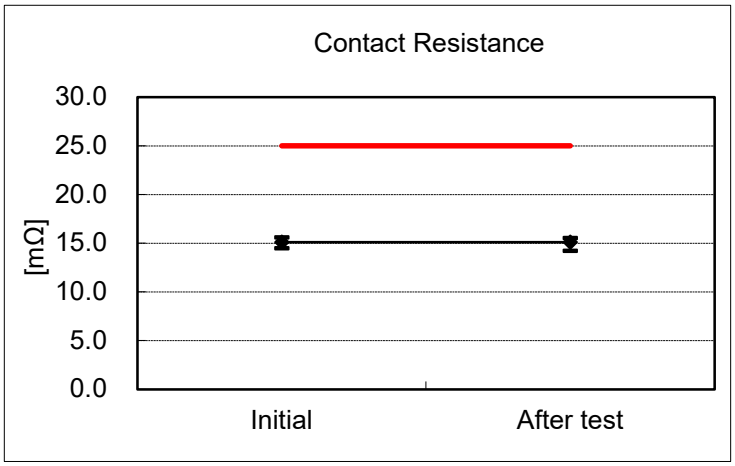
Group	Contents of measurement		Spec.	Unit	n	Data AVE.	Data MAX.	Data MIN.	Data S	Judge.
A	Rated Voltage/Current									
	Temperature		⊿T 30 MAX.	℃	5	26.0 MAX				OK
B	Contact Force									
		Working Height MAX	0.30N MIN.	N	10	0.376	0.39	0.36	0.010	OK
		Working Height MIN.	0.95N MAX			0.630	0.65	0.60	0.020	OK
C	Durability									
	Contact resistance	Initial	25 MAX	mΩ	10	15.516	16.570	14.180	0.821	OK
		After 10 cycles				16.148	17.800	14.890	0.888	OK
	Contact Force	Working Height MAX	0.30N MIN.	N		0.361	0.380	0.350	0.009	OK
		Working Height MIN.	0.95N MAX			0.622	0.640	0.590	0.016	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
D	Shock									
	Contact resistance	Initial	25 MAX	mΩ	5	15.122	15.628	14.514	0.490	OK
		After test				15.119	15.561	14.262	0.595	OK
	Electrical discontinuity	During test	1μs MAX	-		No discontinuity				OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
E	Vibration									
	Contact resistance	Initial	25 MAX	mΩ	5	15.201	15.855	14.546	0.492	OK
		After test				16.104	16.535	15.826	0.347	OK
	Electrical discontinuity	During test	1μs MAX	-		No discontinuity				OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
F	Cold Test									
	Contact resistance	Initial	25 MAX	mΩ	5	16.826	17.464	16.405	0.435	OK
		After test				16.741	16.923	16.569	0.130	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
G	Heat Test									
	Contact resistance	Initial	25 MAX	mΩ	5	16.277	16.813	15.635	0.482	OK
		After test				16.472	16.937	16.190	0.300	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
H	Thermal Shock									
	Contact resistance	Initial	25 MAX	mΩ	5	15.027	15.617	14.661	0.366	OK
		After test				15.843	16.172	15.435	0.263	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK

Table.2-2 Test result

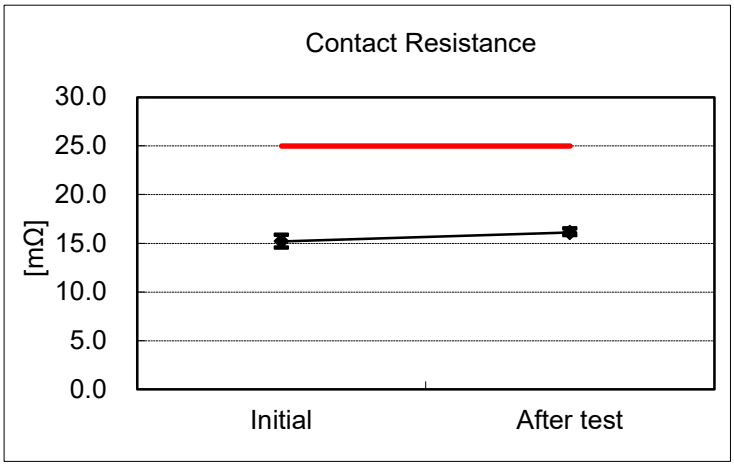
Group	Contents of measurement		Spec.	Unit	n	Data AVE.	Data MAX.	Data MIN.	Data S	Judge.
J	Humidity(steady state)									
	Contact resistance	Initial	25 MAX	mΩ	5	15.397	15.480	15.209	0.110	OK
		After test				15.547	15.900	15.245	0.233	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
K	H_2S Gas									
	Contact resistance	Initial	25 MAX	mΩ	5	15.000	15.378	14.647	0.329	OK
		After test				16.514	16.866	16.293	0.215	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
L	Salt water spray									
	Contact resistance	Initial	25 MAX	mΩ	5	16.041	16.859	15.130	0.668	OK
		After test				16.503	17.067	15.666	0.548	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK
M	Surface Mount Solderability Test									
	Solder Wetting Area	After test	95 MIN.	%	5	95 MIN.				OK
N	Resistance to Reflow Soldering Heat									
	Contact resistance	After test	25 MAX	mΩ	5	15.901	17.600	14.380	1.020	OK
	Apearance	After test	No abnormality adversely affecting the performance shall occur.			No abnormality adversely affecting the performance shall occur.				OK



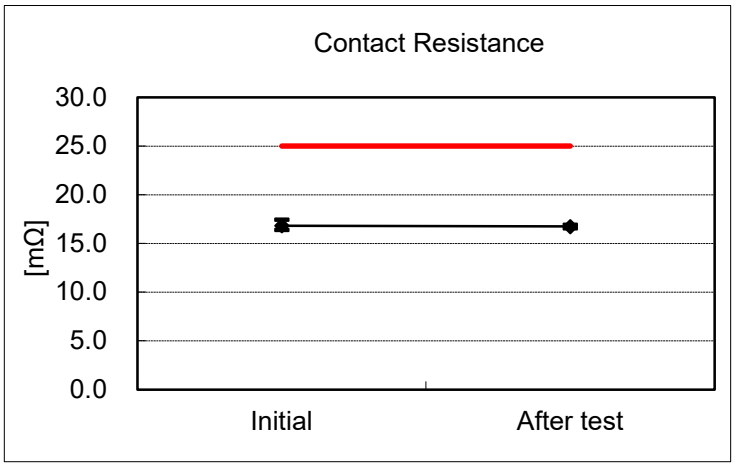
Graph-1.Durability



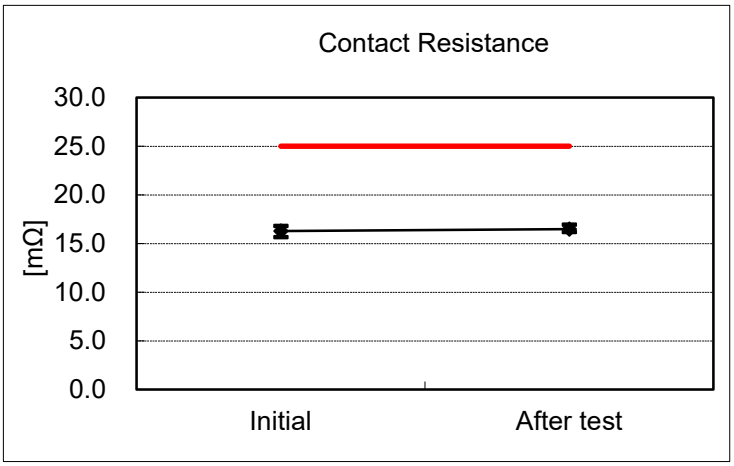
Graph-2.Shock



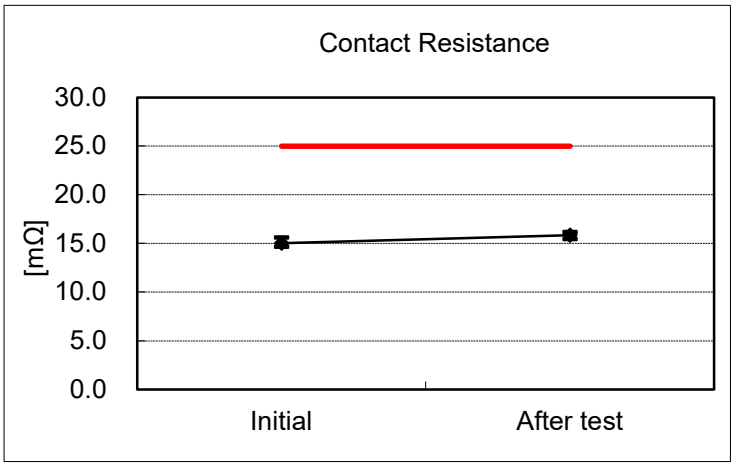
Graph-3.Vibration



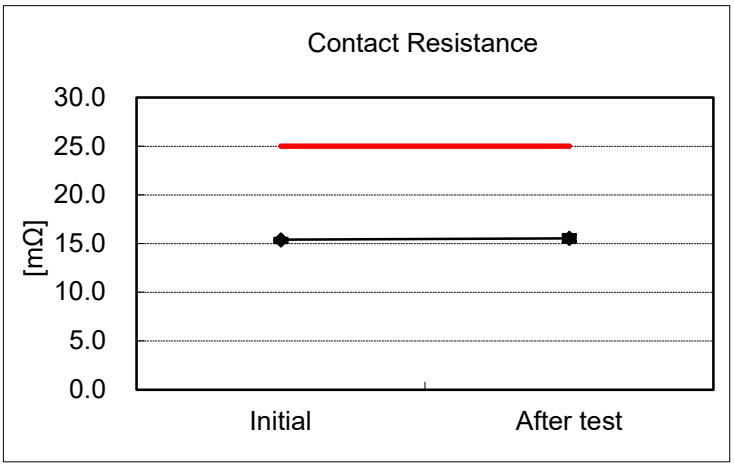
Graph-4.Cold Test



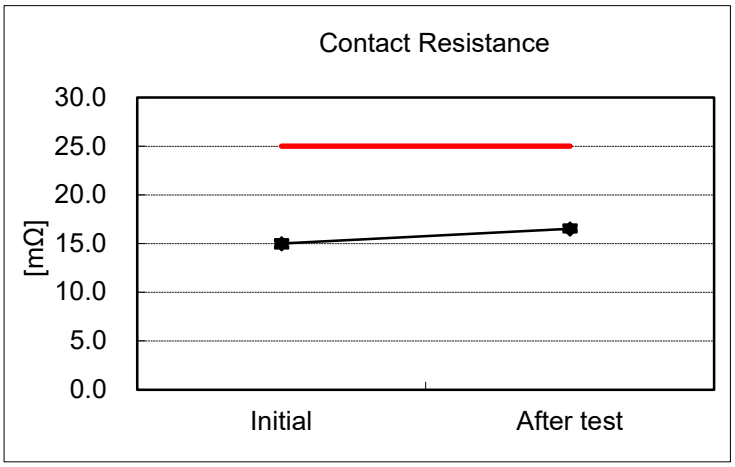
Graph-5.Heat Test



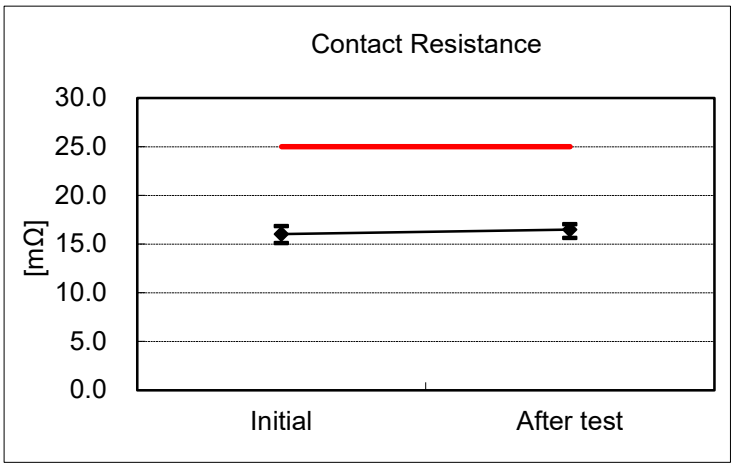
Graph-6.Thermal Shock



Graph-7.Humidity(steady state)



Graph-8.H_2S Gas



Graph-9.Salt Water Spray