

IX-UC2001/2002/2003

Part No. Receptacle: 30113/30114/30115

Test Report

Product Specification no. PRS-2507

Rev.	ECN	Date	Prepared by	Checked by	Approved by
1	T21098	October 22, 2021	S. Suzuki		Y. Hashimoto
0	T18095	August 21, 2018	S. Suzuki		T. Hirakawa

1. Purpose

To evaluate the performance of IX-UC series Connector in accordance with PRS-2507.

2. Specimen

- (1) IX-UC2001 RECEPTACLE MID MOUNT TYPE (Part No. 30113-024E-01)
- (2) IX-UC2002 RECEPTACLE MID MOUNT TYPE (Part No. 30114-024E-01)
- (3) IX-UC2003 RECEPTACLE MID MOUNT TYPE (Part No. 30115-024E-01)

3. Test Sequence

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

4. Result

See the data, Graph 1 to 27. For the details of the testing conditions and requirements, see PRS-2507.

The "n" in the tables show the number of measurement points.

5. Conclusion

All the specimens met the requirements of PRS-2507.

Table 1 Test Sequence and Sample Quantity

Test Item	Group									
	A	B	C	D	E	F	G	H	J	K
Contact resistance		2,8	1,3	1,5	1,3	1,5	1,3	1,3		
Insulation resistance		3,9		2,6		2,6				
Dielectric withstanding voltage		4,10		3,7		3,7				
Temperature rising	1									
Mating force		1,7								
Unmating force		5,11								
Durability		6								
Vibration			2							
Thermal shock				4						
High temperature life					2					
Cyclic temperature and humidity						4				
Salt water spray							2			
Mixed flowing gas								2		
Solder ability									1	
Soldering heat resistance										1
Specimen quantity.	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.

Group	Contents of measurement		Spec.	Unit	Q'ty	n	Data					Judge.	
							AVE.	MAX.	MIN.	S	X±3s		
A	Temperature rising												
	30113	After test	ΔT 30 MAX.	°C	5	-			13.8	Max.		PASS	
	30114	After test	ΔT 30 MAX.			-			12.9	Max.		PASS	
	30115	After test	ΔT 30 MAX.			-			12.1	Max.		PASS	
B	Durability												
	Contact resistance												
	30113	Initial		40 MAX.	mΩ	5	120	31.53	35.0	28.1	1.99	37.50	PASS
		After 10000 cycles		50 MAX.				34.57	37.0	32.0	1.49	39.04	PASS
	30114	Initial		40 MAX.			120	30.88	34.0	28.0	1.73	36.07	PASS
		After 10000 cycles		50 MAX.				36.51	38.9	34.2	1.34	40.53	PASS
	30115	Initial		40 MAX.			120	32.10	33.1	30.7	0.98	35.04	PASS
		After 10000 cycles		50 MAX.				35.12	36.9	34.2	1.17	38.63	PASS
	Mating force												
	30113	Initial		20 MAX. 5 MIN.	N	5	-	12.64	11.1	11.9	-	-	PASS
		After 10000 cycles						9.41	8.5	9.1	-	-	PASS
	30114	Initial		20 MAX. 5 MIN.			-	13.01	13.6	12.3	-	-	PASS
		After 10000 cycles						8.78	8.9	8.5	-	-	PASS
	30115	Initial		20 MAX. 5 MIN.			-	12.70	13.0	12.4	-	-	PASS
		After 10000 cycles						9.33	9.9	8.9	-	-	PASS
	Unmating force												
	30113	Initial		20 MAX. 8 MIN.	N	5	-	13.82	12.6	13.2	-	-	PASS
		After 10000 cycles		20 MAX. 6 MIN.				9.11	8.4	8.8	-	-	PASS
	30114	Initial		20 MAX. 8 MIN.			-	13.41	14.8	12.6	-	-	PASS
		After 10000 cycles		20 MAX. 6 MIN.				8.62	9.0	8.3	-	-	PASS
	30115	Initial		20 MAX. 8 MIN.			-	13.13	13.4	12.8	-	-	PASS
		After 10000 cycles		20 MAX. 6 MIN.				9.04	9.5	8.3	-	-	PASS
	Insulation resistance												
	30113	Initial		100 MIN.	MΩ	5	-			100	Min.		PASS
		After test		100 MIN.						100	Min.		PASS
	30114	Initial		100 MIN.			-	100	Min.			PASS	
		After test		100 MIN.				100	Min.			PASS	
	30115	Initial		100 MIN.			-	100	Min.			PASS	
		After test		100 MIN.				100	Min.			PASS	
Dielectric withstanding voltage													
30113	Initial		No abnormalities such as creeping discharge, flashover, insulator breakdown occur.	-	5	-			No abnormality			PASS	
	After test								No abnormality			PASS	
30114	Initial					-	No abnormality			PASS			
	After test						No abnormality			PASS			
30115	Initial					-	No abnormality			PASS			
	After test						No abnormality			PASS			
Appearance													
30113	After test		No abnormality adversely affecting the performance shall occur.	-	5	-			No abnormality			PASS	
30114	After test			-	5	-			No abnormality			PASS	
30115	After test			-	5	-			No abnormality			PASS	

C	Vibration													
	Contact resistance													
	30113	Initial	40	MAX.	mΩ	5	120	31.18	33.8	27.3	1.52	35.74	PASS	
		After test	50	MAX.				33.85	38.7	30.1	1.91	39.57	PASS	
	30114	Initial	40	MAX.				120	31.81	36.9	27.2	1.88	37.46	PASS
		After test	50	MAX.					34.38	38.8	31.9	1.75	39.64	PASS
	30115	Initial	40	MAX.				120	31.96	33.4	30.6	0.62	33.82	PASS
		After test	50	MAX.					32.91	34.3	31.3	0.66	34.89	PASS
	Electrical discontinuity													
	30113	During test	1	MAX.	μs	5	-	No discontinuity					PASS	
	30114	During test	1	MAX.	μs	5	-	No discontinuity					PASS	
	30115	During test	1	MAX.	μs	5	-	No discontinuity					PASS	
	Appearance													
	30113	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality					PASS	
	30114	After test			-	5	-	No abnormality					PASS	
30115	After test			-	5	-	No abnormality					PASS		

D	Thermal shock												
	Contact resistance												
	30113	Initial	40	MAX.	mΩ	5	120	31.44	34.0	29.0	1.51	35.97	PASS
		After test	50	MAX.				35.31	37.9	33.0	1.40	39.51	PASS
	30114	Initial	40	MAX.			120	32.62	34.9	30.1	1.36	36.70	PASS
		After test	50	MAX.				34.53	37.0	32.0	1.49	39.00	PASS
	30115	Initial	40	MAX.			120	32.47	33.9	31.5	0.80	34.87	PASS
		After test	50	MAX.				36.15	37.7	35.2	0.75	38.40	PASS
	Insulation resistance												
	30113	Initial	100	MIN.	MΩ	5	-	100 Min.					PASS
		After test	100	MIN.				100 Min.					PASS
	30114	Initial	100	MIN.			-	100 Min.					PASS
		After test	100	MIN.				100 Min.					PASS
	30115	Initial	100	MIN.			-	100 Min.					PASS
		After test	100	MIN.				100 Min.					PASS
Dielectric withstanding voltage													
30113	Initial	No abnormality		-	5	-	No abnormality					PASS	
	After test	No abnormality					No abnormality					PASS	
30114	Initial	No abnormality				-	No abnormality					PASS	
	After test	No abnormality					No abnormality					PASS	
30115	Initial	No abnormality				-	No abnormality					PASS	
	After test	No abnormality					No abnormality					PASS	
Appearance													
30113	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality					PASS	
30114	After test			-	5	-	No abnormality					PASS	
30115	After test			-	5	-	No abnormality					PASS	

E	High temperature life												
	Contact resistance												
	30113	Initial	40	MAX.	mΩ	5	120	33.46	35.5	31.6	1.11	36.79	PASS
		After test	50	MAX.				36.59	38.5	34.8	1.07	39.80	PASS
	30114	Initial	40	MAX.			120	32.79	36.0	30.2	1.69	37.86	PASS
		After test	50	MAX.				36.49	39.9	33.1	2.02	42.55	PASS
	30115	Initial	40	MAX.			120	32.10	33.6	30.8	0.86	34.68	PASS
		After test	50	MAX.				35.63	36.7	34.1	0.86	38.21	PASS
	Appearance												
	30113	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality					PASS
	30114	After test			-	5	-	No abnormality					PASS
	30115	After test			-	5	-	No abnormality					PASS

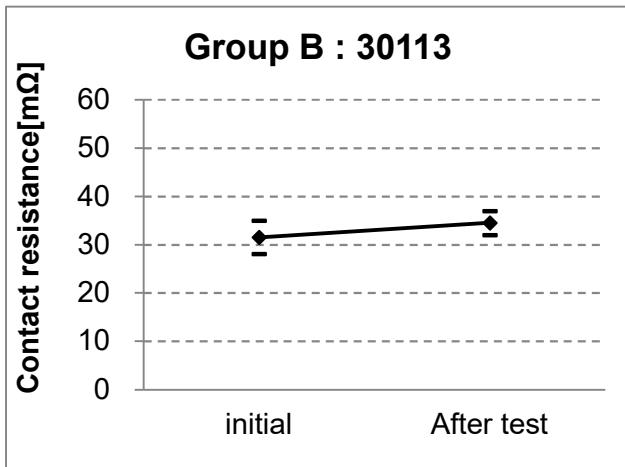
F	Cyclic temperature and humidity												
	Contact resistance												
	30113	Initial	40	MAX.	mΩ	5	120	31.80	33.8	29.0	1.18	35.33	PASS
		After test	50	MAX.				32.93	35.3	30.0	1.23	36.61	PASS
	30114	Initial	40	MAX.			120	31.65	33.9	28.1	1.43	35.93	PASS
		After test	50	MAX.				34.24	38.0	31.7	1.48	38.68	PASS
	30115	Initial	40	MAX.			120	32.25	33.7	30.7	0.67	34.26	PASS
		After test	50	MAX.				33.39	35.3	31.1	0.80	35.79	PASS
	Insulation resistance												
	30113	Initial	100	MIN.	MΩ	5	-	100		Min.	PASS		
		After test	100	MIN.				100		Min.	PASS		
	30114	Initial	100	MIN.			-	100		Min.	PASS		
		After test	100	MIN.				100		Min.	PASS		
	30115	Initial	100	MIN.			-	100		Min.	PASS		
		After test	100	MIN.				100		Min.	PASS		
	Dielectric withstanding voltage												
	30113	Initial	No abnormality		-	5	-	No abnormality		PASS			
		After test	No abnormality					No abnormality		PASS			
	30114	Initial	No abnormality				-	No abnormality		PASS			
		After test	No abnormality					No abnormality		PASS			
	30115	Initial	No abnormality				-	No abnormality		PASS			
After test		No abnormality		No abnormality				PASS					
Appearance													
30113	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS				
30114	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS				
30115	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS				

G	Salt water spray												
	Contact resistance												
	30113	Initial	40	MAX.	mΩ	5	120	31.15	33.6	28.0	1.24	34.86	PASS
		After test	50	MAX.				34.97	38.0	32.6	1.24	38.68	PASS
	30114	Initial	40	MAX.			120	31.77	35.9	28.2	1.58	36.51	PASS
		After test	50	MAX.				34.93	38.8	31.5	1.56	39.60	PASS
	30115	Initial	40	MAX.			120	31.60	33.9	30.1	0.71	33.73	PASS
		After test	50	MAX.				34.25	36.5	31.5	0.94	37.07	PASS
	Appearance												
	30113	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS			
	30114	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS			
	30115	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS			

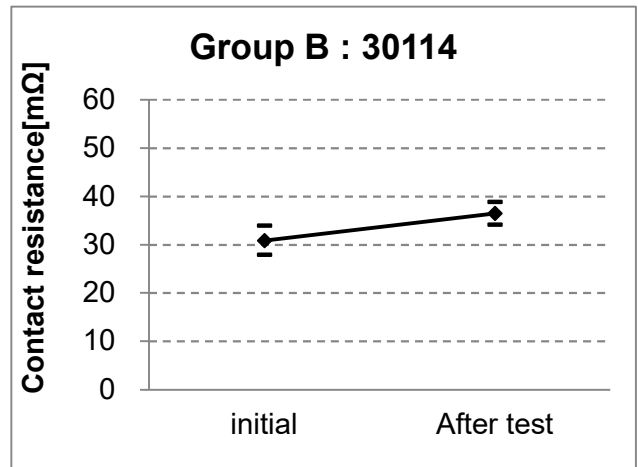
H	Mixed flowing gas												
	Contact resistance												
	30113	Initial	40	MAX.	mΩ	5	120	30.44	32.7	27.0	1.29	34.30	PASS
		After test	50	MAX.				34.07	38.9	31.9	1.78	39.42	PASS
	30114	Initial	40	MAX.			120	31.20	36.6	27.0	2.03	37.30	PASS
		After test	50	MAX.				33.75	36.8	31.9	1.19	37.33	PASS
	30115	Initial	40	MAX.			120	31.05	32.7	30.1	0.63	32.94	PASS
		After test	50	MAX.				33.26	35.3	31.8	0.78	35.60	PASS
	Appearance												
	30113	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS			
	30114	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS			
	30115	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality		PASS			

J	Solder ability									
	Solder wetting area									
	30113	After test	95	MIN.	%	10	-	95 MIN.	PASS	
	30114	After test	95	MIN.	%	10	-	95 MIN.	PASS	
	30115	After test	95	MIN.	%	10	-	95 MIN.	PASS	

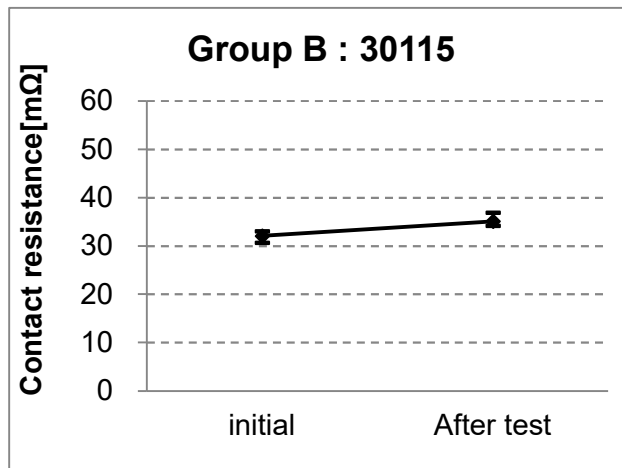
K	Resistance to reflow soldering heat									
	Appearance									
	30113	After test	No deformation or defect adversely affecting the performance occur.	-	5	-	No abnormality	PASS		
	30114	After test		-	5	-	No abnormality	PASS		
30115	After test	-		5	-	No abnormality	PASS			



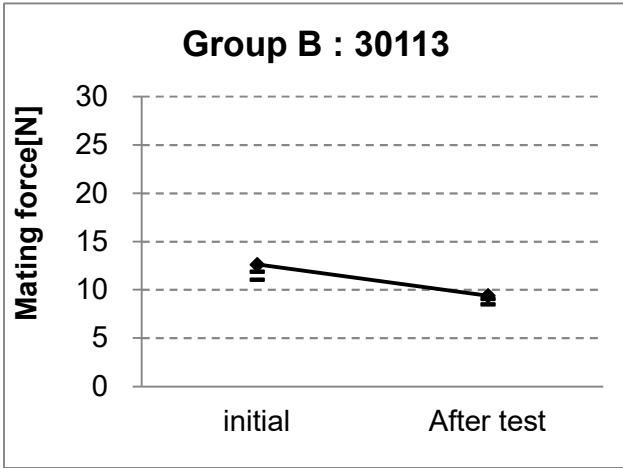
Graph1. Part No.30113 contact resistance



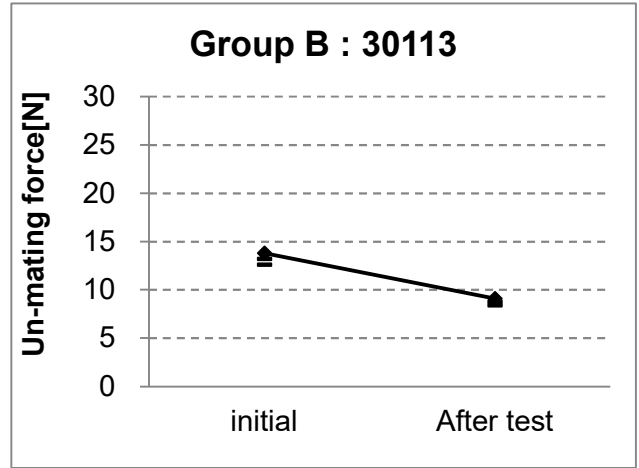
Graph2. Part No.30114 contact resistance



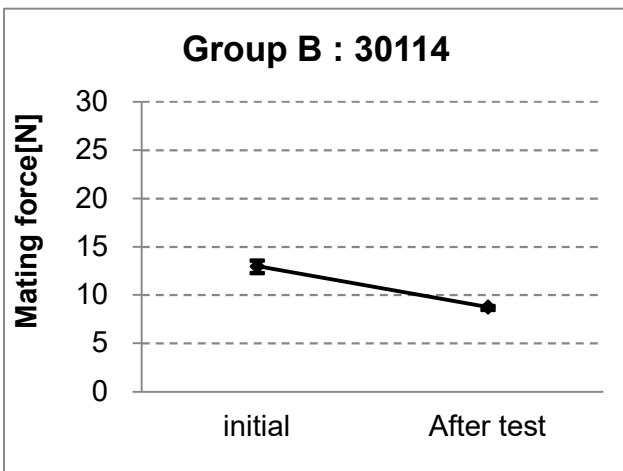
Graph3. Part No.30115 contact resistance



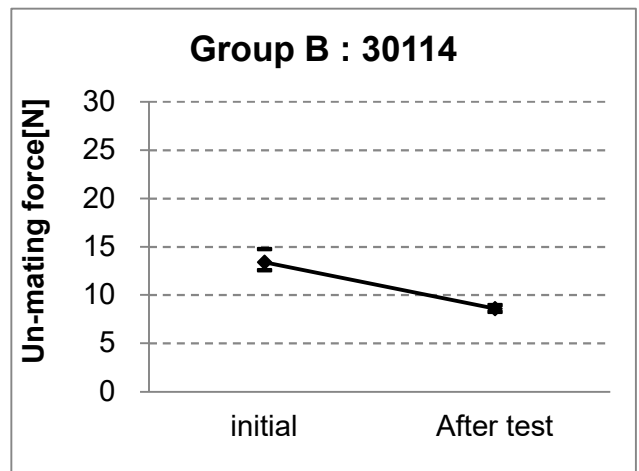
Graph4. Part No.30113 mating force



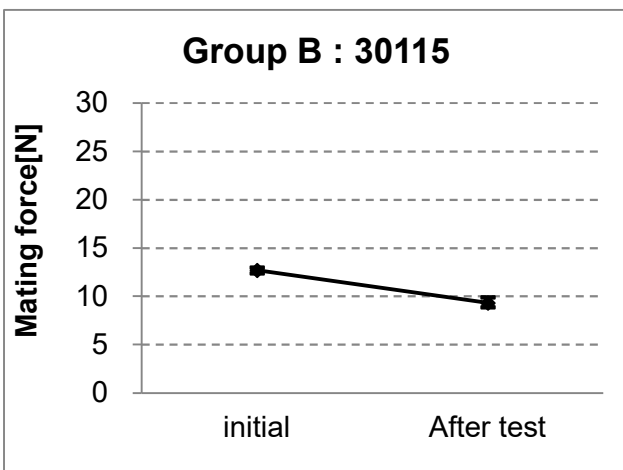
Graph5. Part No.30113 unmating force



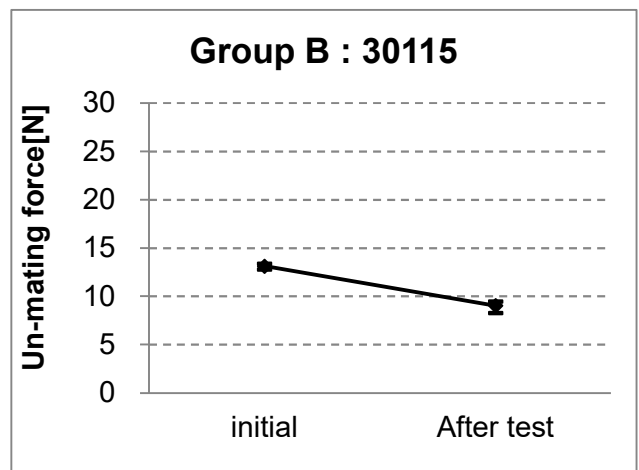
Graph6. Part No.30114 mating force



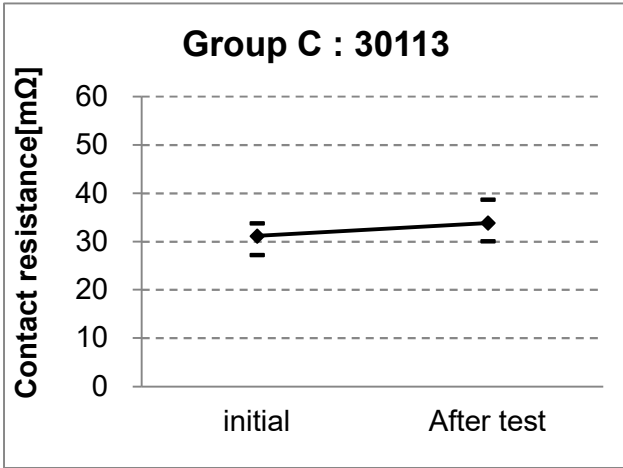
Graph7. Part No.30114 unmating force



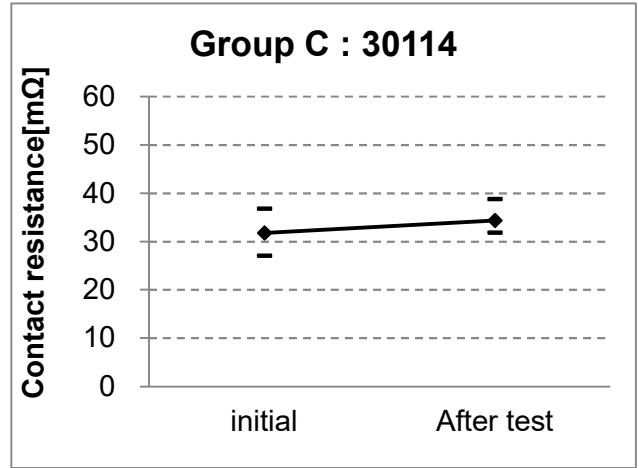
Graph8. Part No.30115 mating force



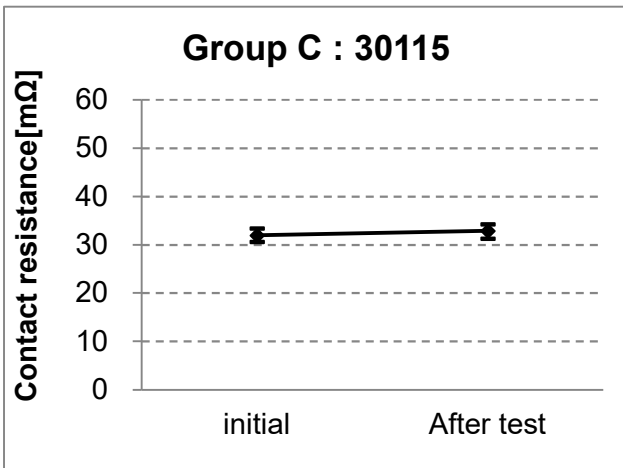
Graph9. Part No.30115 unmating force



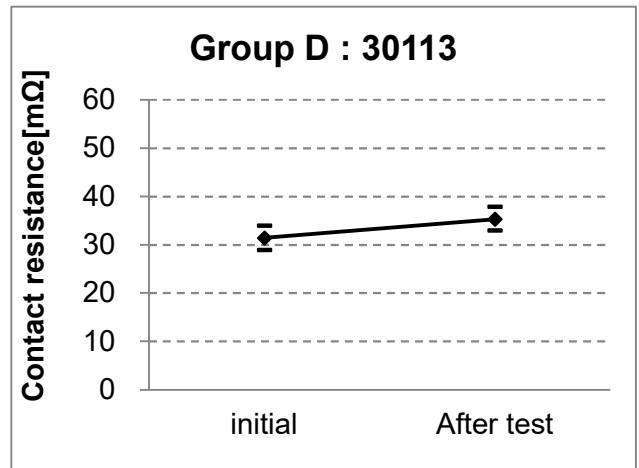
Graph10. Part No.30113 contact resistance



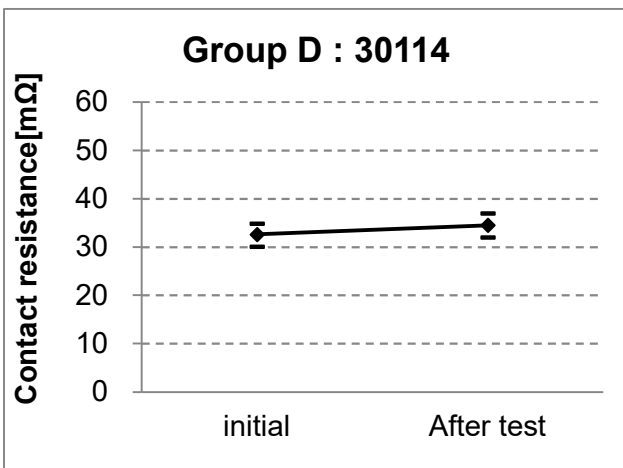
Graph11. Part No.30114 contact resistance



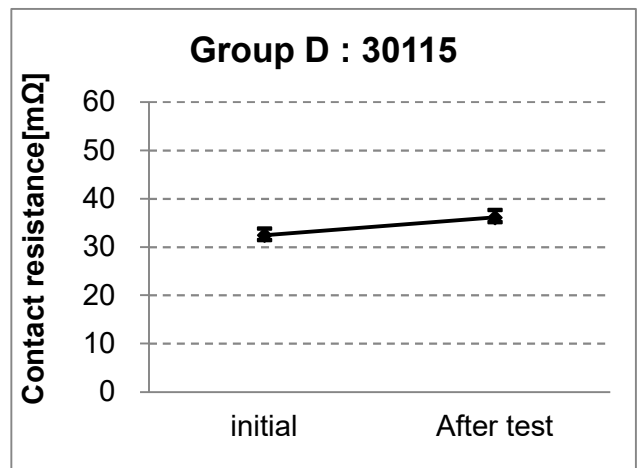
Graph12. Part No.30115 contact resistance



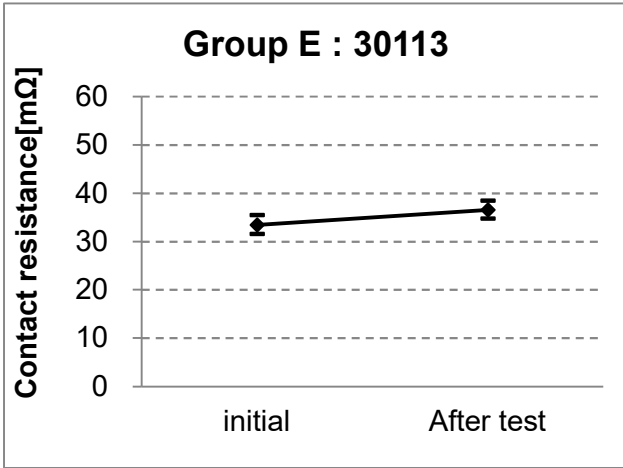
Graph13. Part No.30113 contact resistance



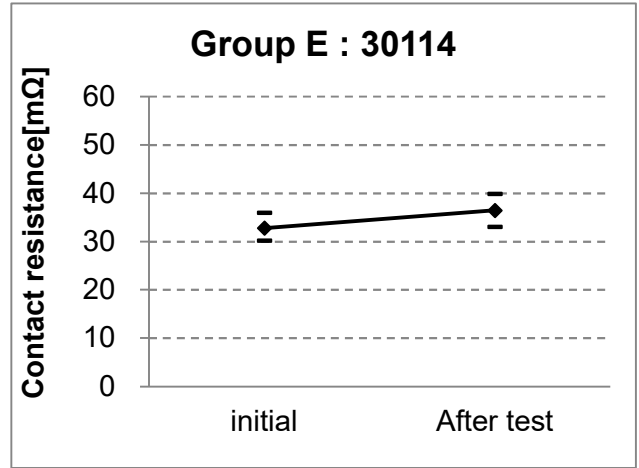
Graph14. Part No.30114 contact resistance



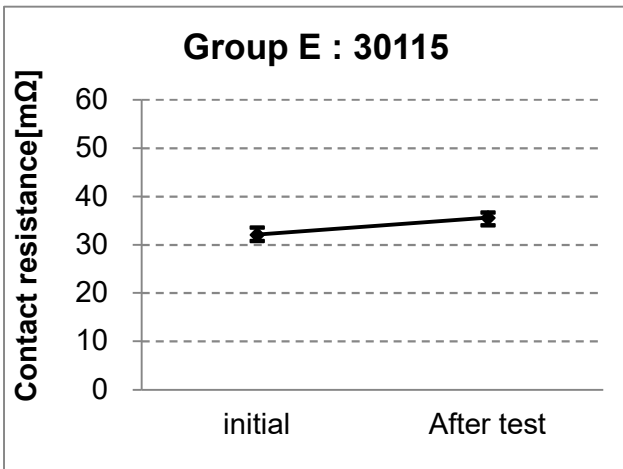
Graph15. Part No.30115 contact resistance



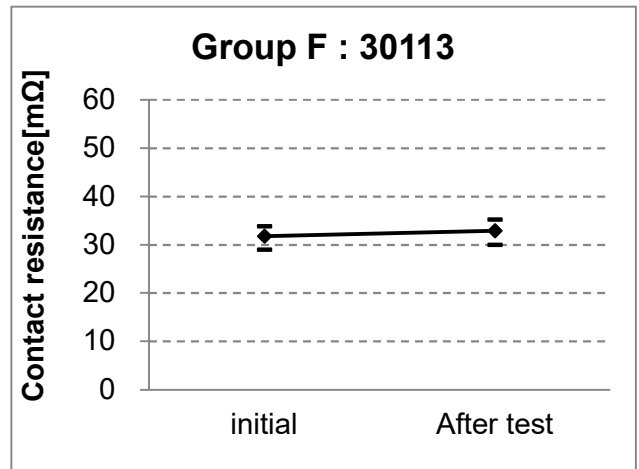
Graph16. Part No.30113 contact resistance



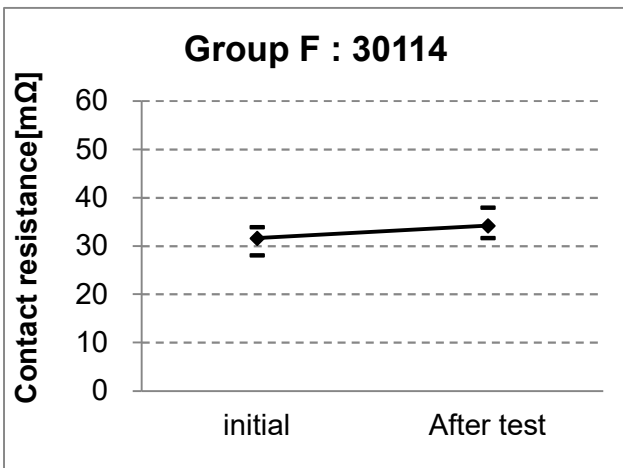
Graph17. Part No.30114 contact resistance



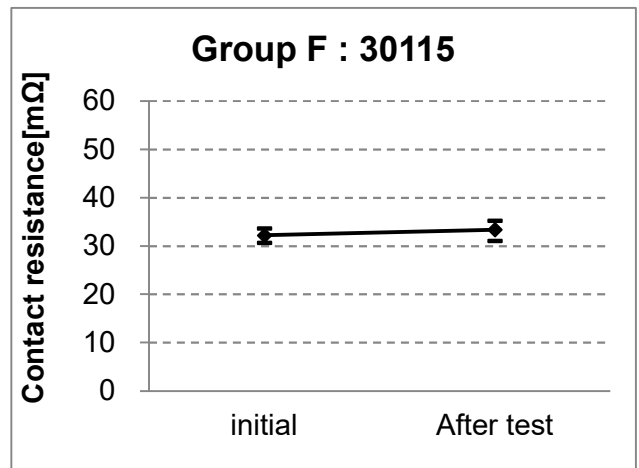
Graph18. Part No.30115 contact resistance



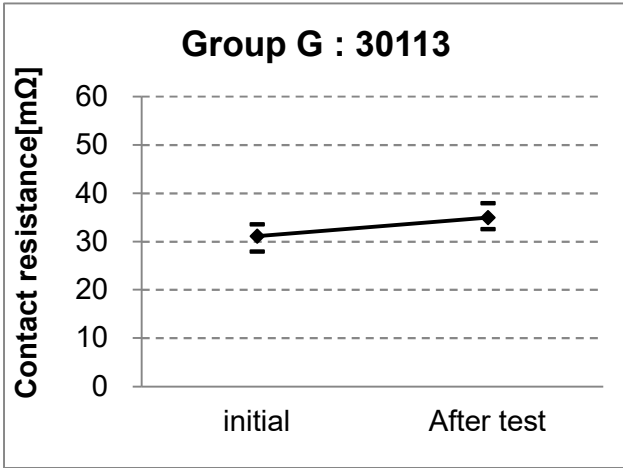
Graph19. Part No.30113 contact resistance



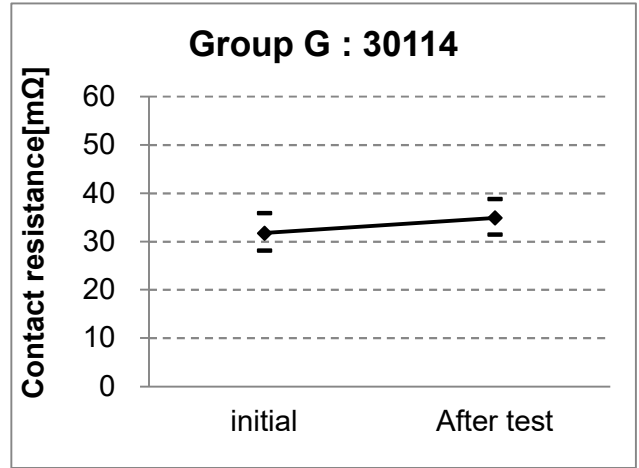
Graph20. Part No.30114 contact resistance



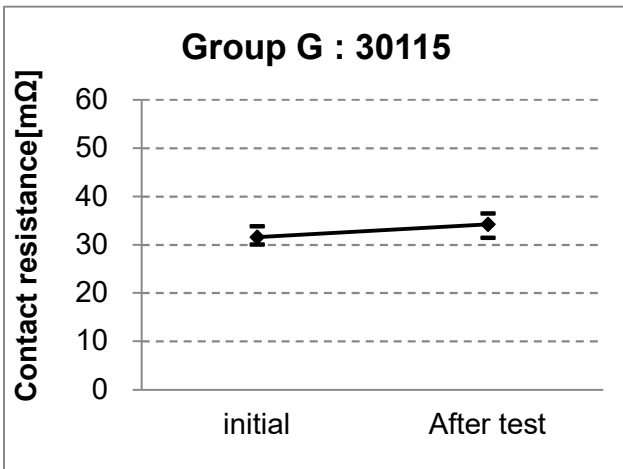
Graph21. Part No.30115 contact resistance



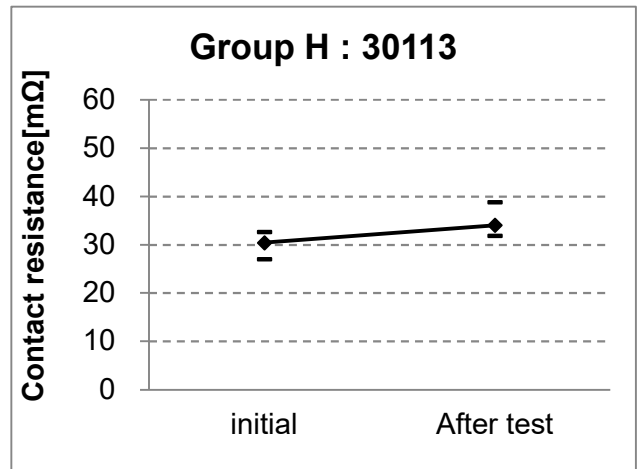
Graph22. Part No.30113 contact resistance



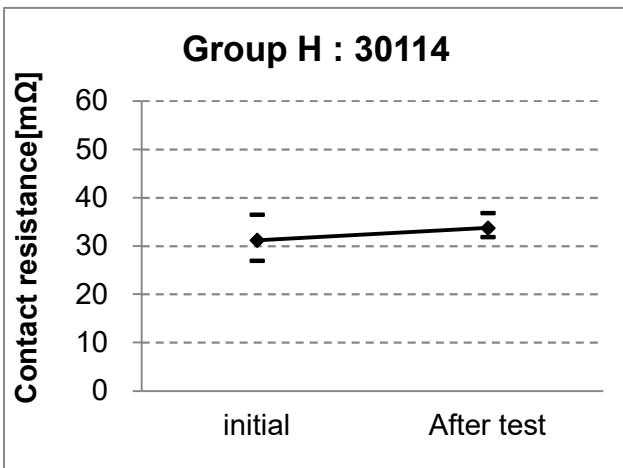
Graph23. Part No.30114 contact resistance



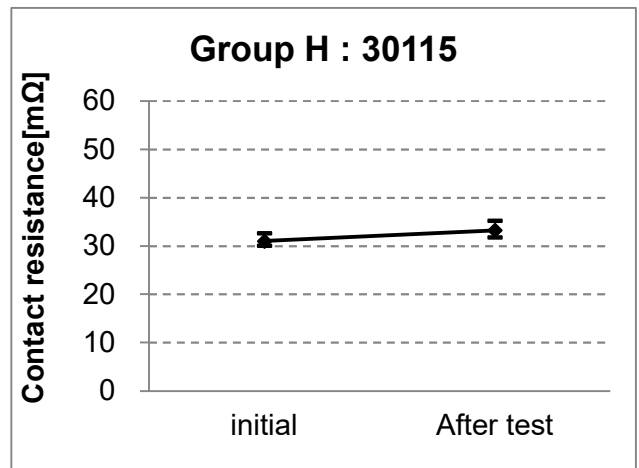
Graph24. Part No.30115 contact resistance



Graph25. Part No.30113 contact resistance



Graph26. Part No.30114 contact resistance



Graph27. Part No.30115 contact resistance