

# IX-UC2005/2006/2007

Part No. Receptacle: 30117/30118/30119

## Test Report

Product Specification no. PRS-2511

Rev.	ECN	Date	Prepared by	Checked by	Approved by
1	T21100	October 22, 2021	S. Suzuki		Y. Hashimoto
0	T18100	September 7, 2018	S. Suzuki		T. Hirakawa

## 1. Purpose

To evaluate the performance of IX-UC series Connector in accordance with PRS-2511.

## 2. Specimen

- (1) IX-UC2005 RECEPTACLE VERTICAL TYPE (Part No. 30117-024E-01)
- (2) IX-UC2006 RECEPTACLE STAND OFF TYPE (Part No. 30118-024E-01)
- (3) IX-UC2007 RECEPTACLE TOP MOUNT TYPE (Part No. 30119-024E-01)

## 3. Test Sequence

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

## 4. Result

See the data, Graph 1 to 24. For the details of the testing conditions and requirements, see PRS-2511.

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

## 5. Conclusion

All the specimens met the requirements of PRS-2511.

Table 1 Test Sequence and Sample Quantity

Test Item	Group								
	A	B	C	D	E	F	G	H	J
Contact resistance		2,8	1,3	1,3,5	1,3,5	1,3,5	1,3		
Insulation resistance		3,9							
Dielectric withstanding voltage		4,10							
Temperature rising	1								
Mating force		1,7							
Unmating force		5,11							
Durability		6							
Vibration				4					
High temperature life (Preconditioning)				2					
High temperature life			2						
Thermal shock					2				
Thermal disturbance						4			
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.

※Numbers indicate sequence in which tests are performed.

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Group	Contents of measurement		Spec.	Unit	Q'ty	n	Data					Judge.			
							AVE.	MAX.	MIN.	S	X±3s				
A	Temperature rising														
	30117	After test	ΔT 30 MAX.	°C	5	-			28.3	Max.		PASS			
	30118	After test	ΔT 30 MAX.			-			28.1	Max.		PASS			
	30119	After test	ΔT 30 MAX.			-			23.5	Max.		PASS			
B	Durability														
	Contact resistance														
	30117	Initial	40	MAX.	mΩ	5	120	30.89	33.2	29.1	0.86	33.47	PASS		
		After 10000 cycles	50	MAX.				36.16	39.0	33.1	1.16	39.64	PASS		
	30118	Initial	40	MAX.			120	31.44	34.1	29.5	0.95	34.29	PASS		
		After 10000 cycles	50	MAX.				36.38	39.2	31.6	1.22	40.04	PASS		
	30119	Initial	40	MAX.			120	31.85	34.4	29.7	0.98	34.79	PASS		
		After 10000 cycles	50	MAX.				36.71	40.0	33.0	1.25	40.46	PASS		
	Mating force														
	30117	Initial	20 MAX. 5 MIN.	N	5	-	15.64	16.3	14.6	-	-	PASS			
		After 10000 cycles					13.33	14.0	12.6	-	-	PASS			
	30118	Initial	20 MAX. 5 MIN.			-	16.27	16.8	15.6	-	-	PASS			
		After 10000 cycles					14.13	14.9	13.3	-	-	PASS			
	30119	Initial	20 MAX. 5 MIN.			-	11.18	12.6	10.5	-	-	PASS			
		After 10000 cycles					7.70	8.6	7.3	-	-	PASS			
	Unmating force														
	30117	Initial	20 MAX. 8 MIN.	N	5	-	15.48	16.1	14.3	-	-	PASS			
		After 10000 cycles	20 MAX. 6 MIN.				13.11	13.8	12.6	-	-	PASS			
	30118	Initial	20 MAX. 8 MIN.			-	16.25	17.2	15.2	-	-	PASS			
		After 10000 cycles	20 MAX. 6 MIN.				13.95	14.5	13.3	-	-	PASS			
	30119	Initial	20 MAX. 8 MIN.			-	12.72	13.3	12.2	-	-	PASS			
		After 10000 cycles	20 MAX. 6 MIN.				9.68	10.8	8.2	-	-	PASS			
	Insulation resistance														
	30117	Initial	100	MIN.	MΩ	5	-			100	Min.	PASS			
		After test	100	MIN.						100	Min.	PASS			
	30118	Initial	100	MIN.			-	100	Min.	PASS					
		After test	100	MIN.				100	Min.	PASS					
	30119	Initial	100	MIN.			-	100	Min.	PASS					
		After test	100	MIN.				100	Min.	PASS					
	Dielectric withstanding voltage														
	30117	Initial	No abnormalities such as creeping discharge, flashover, insulator breakdown occur.	-	5	-	No abnormality					PASS			
		After test					No abnormality					PASS			
	30118	Initial					-	5	-	No abnormality					PASS
		After test								No abnormality					PASS
	30119	Initial					-	5	-	No abnormality					PASS
		After test								No abnormality					PASS
Appearance															
30117	After test	No abnormality adversely affecting the performance shall occur.	-	5	-	No abnormality					PASS				
30118	After test		-	5	-	No abnormality					PASS				
30119	After test		-	5	-	No abnormality					PASS				
C	High temperature life														
	Contact resistance														
	30117	Initial	40	MAX.	mΩ	5	120	31.52	34.1	29.5	0.97	34.43	PASS		
		After test	50	MAX.				36.48	39.2	33.4	1.16	39.96	PASS		
	30118	Initial	40	MAX.			120	30.87	33.4	28.2	1.14	34.29	PASS		
		After test	50	MAX.				36.49	39.3	31.8	1.18	40.03	PASS		
	30119	Initial	40	MAX.			120	31.25	33.3	28.6	1.05	34.40	PASS		
		After test	50	MAX.				36.06	38.4	33.8	0.88	38.70	PASS		
	Appearance														
	30117	After test	No abnormality adversely affecting the performance shall occur.	-	5	-	No abnormality					PASS			
	30118	After test		-	5	-	No abnormality					PASS			
	30119	After test		-	5	-	No abnormality					PASS			

D High temperature life(preconditioning) → Vibration																		
Contact resistance																		
30117	Initial	40	MAX.	mΩ	5	120	31.84	34.4	29.3	1.07	35.05	PASS						
	After high temp.	50	MAX.				36.71	40.1	32.1	1.43	41.00	PASS						
	After test	50	MAX.				37.40	40.3	32.9	1.66	42.38	PASS						
30118	Initial	40	MAX.				mΩ	5	120	31.29	33.5	29.4	0.95	34.14	PASS			
	After high temp.	50	MAX.							36.42	39.3	33.4	0.99	39.39	PASS			
	After test	50	MAX.							37.57	39.5	34.9	1.18	41.11	PASS			
30119	Initial	40	MAX.							mΩ	5	120	31.64	34.0	29.2	0.90	34.34	PASS
	After high temp.	50	MAX.										36.51	40.1	30.9	2.04	42.63	PASS
	After test	50	MAX.										38.22	41.1	35.8	1.12	41.58	PASS
Electrical discontinuity																		
30117	During test	1	MAX.	μs	5	-							No discontinuity					PASS
30118	During test	1	MAX.	μs	5	-							No discontinuity					PASS
30119	During test	1	MAX.	μs	5	-	No discontinuity						PASS					
Appearance																		
30117	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality						PASS					
30118	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality					PASS						
30119	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality					PASS						

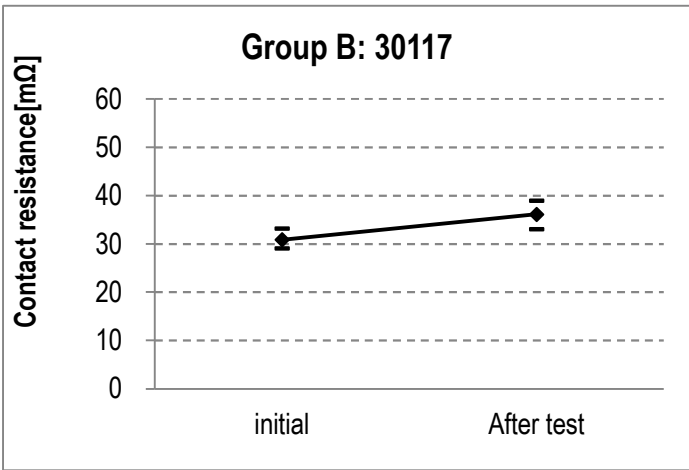
E Thermal shock → Cyclic temperature and humidity																		
Contact resistance																		
30117	Initial	40	MAX.	mΩ	5	120	30.84	33.2	28.2	1.08	34.08	PASS						
	After thermal shock	50	MAX.				35.19	39.5	29.6	1.89	40.86	PASS						
	After humidity	50	MAX.				36.61	39.6	32.5	1.49	41.08	PASS						
30118	Initial	40	MAX.				mΩ	5	120	31.35	33.5	29.3	0.79	33.72	PASS			
	After thermal shock	50	MAX.							36.68	39.3	33.4	1.07	39.89	PASS			
	After humidity	50	MAX.							37.70	39.5	34.9	1.25	41.45	PASS			
30119	Initial	40	MAX.							mΩ	5	120	31.99	34.4	30.3	0.80	34.39	PASS
	After thermal shock	50	MAX.										34.41	39.9	30.9	2.12	40.77	PASS
	After humidity	50	MAX.										35.08	40.0	29.9	2.15	41.53	PASS
Appearance																		
30117	After test	No abnormality adversely affecting the performance shall occur.		-	5	-							No abnormality					PASS
30118	After test	No abnormality adversely affecting the performance shall occur.		-	5	-							No abnormality					PASS
30119	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality						PASS					

F Mixed flow gas → Thermal disturbance																		
Contact resistance																		
30117	Initial	40	MAX.	mΩ	5	120	30.88	34.1	28.0	1.06	34.06	PASS						
	After gas	50	MAX.				37.01	40.0	31.4	1.84	42.53	PASS						
	After thermal disturbance	50	MAX.				36.73	39.8	33.5	1.37	40.84	PASS						
30118	Initial	40	MAX.				mΩ	5	120	31.34	34.1	28.6	0.97	34.25	PASS			
	After gas	50	MAX.							37.21	39.6	31.8	1.85	42.76	PASS			
	After thermal disturbance	50	MAX.							37.06	39.8	33.4	1.41	41.29	PASS			
30119	Initial	40	MAX.							mΩ	5	120	32.43	36.0	29.3	1.16	35.91	PASS
	After gas	50	MAX.										37.23	40.6	32.7	1.89	42.90	PASS
	After thermal disturbance	50	MAX.										37.69	40.6	34.0	1.32	41.65	PASS
Appearance																		
30117	After test	No abnormality adversely affecting the performance shall occur.		-	5	-							No abnormality					PASS
30118	After test	No abnormality adversely affecting the performance shall occur.		-	5	-							No abnormality					PASS
30119	After test	No abnormality adversely affecting the performance shall occur.		-	5	-	No abnormality						PASS					

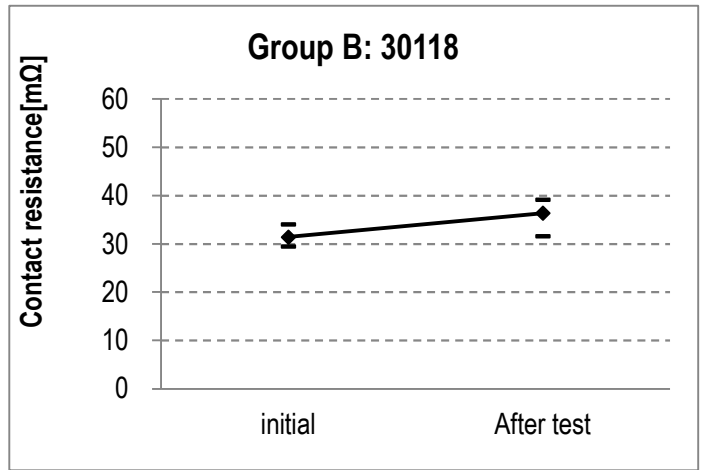
G	Salt water spray												
	Contact resistance												
	30117	Initial	40	MAX.	mΩ	5	120	30.98	33.6	28.5	1.00	33.98	PASS
		After test	50	MAX.				36.01	39.0	32.0	1.54	40.63	PASS
	30118	Initial	40	MAX.				31.42	34.1	28.9	1.05	34.57	PASS
		After test	50	MAX.				35.96	39.2	32.7	1.25	39.71	PASS
	30119	Initial	40	MAX.				31.76	34.0	28.6	1.08	35.00	PASS
		After test	50	MAX.				36.61	39.4	34.5	0.94	39.43	PASS
	Appearance												
	30117	After test	No abnormality adversely affecting the performance shall occur.			-	5	-	No abnormality				PASS
30118	After test				-	5	-	No abnormality				PASS	
30119	After test				-	5	-	No abnormality				PASS	

H	Solder ability												
	Solder wetting area												
	30117/30118/30119	After test	95	MIN.	%	5	-	95 MIN.				PASS	

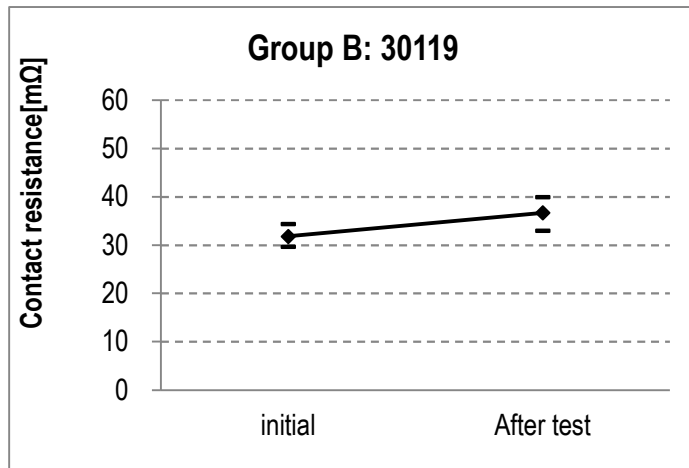
J	Resistance to reflow soldering heat												
	Appearance												
	30117	After test	No deformation or defect adversely affecting the performance occur.			-	5	-	No abnormality				PASS
	30118	After test				-	5	-	No abnormality				PASS
30119	After test				-	5	-	No abnormality				PASS	



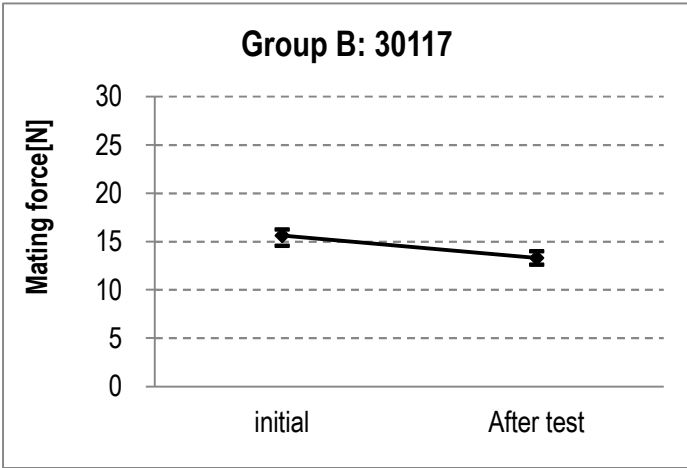
Graph1. Part No.30117 contact resistance



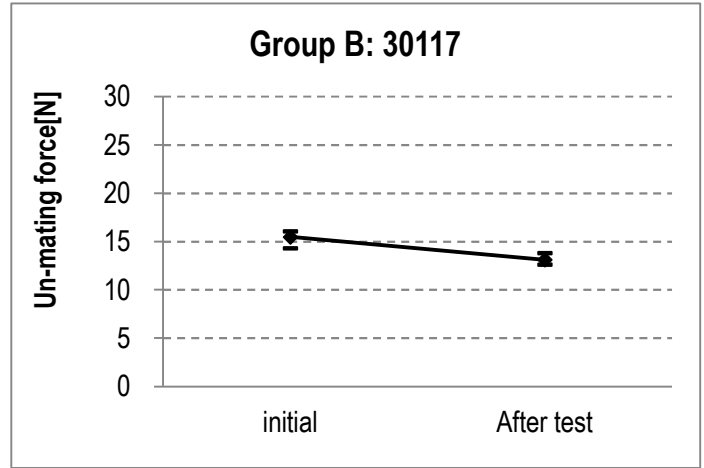
Graph2. Part No.30118 contact resistance



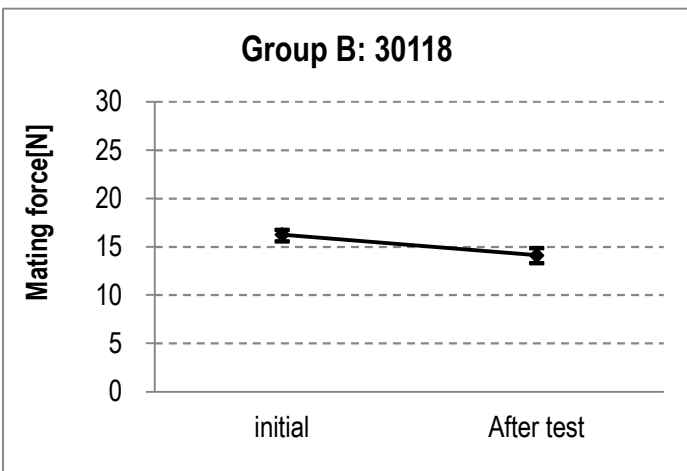
Graph3. Part No.30119 contact resistance



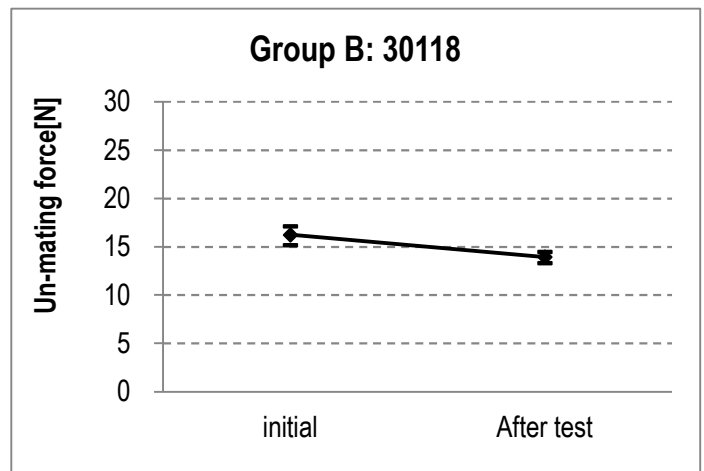
Graph4. Part No.30117 Mating force



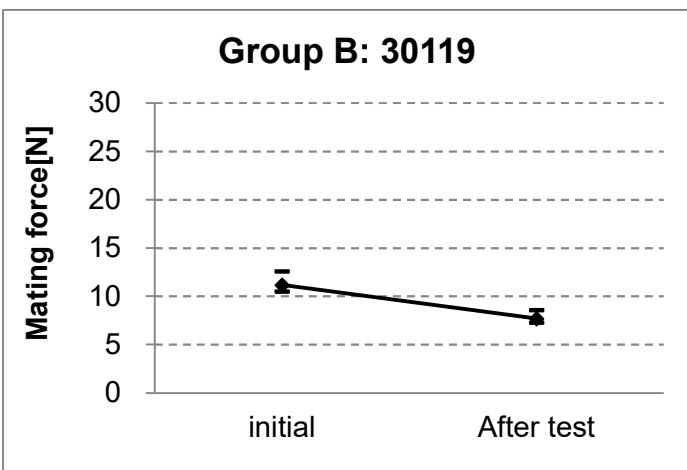
Graph5. Part No.30117 Unmating force



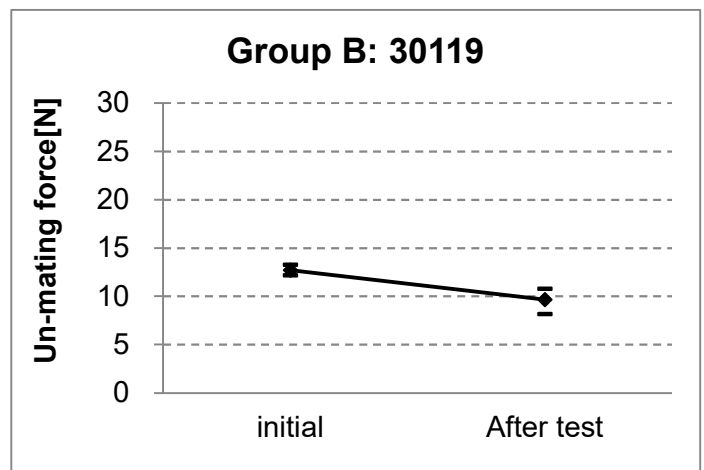
Graph6. Part No.30118 Mating force



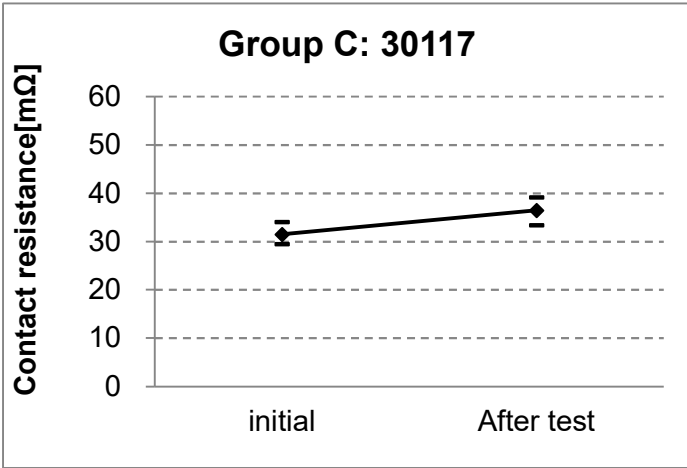
Graph7. Part No.30118 Unmating force



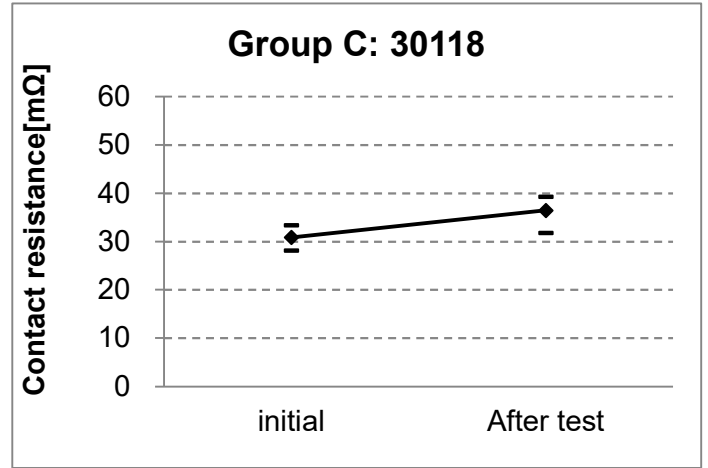
Graph8. Part No.30119 Mating force



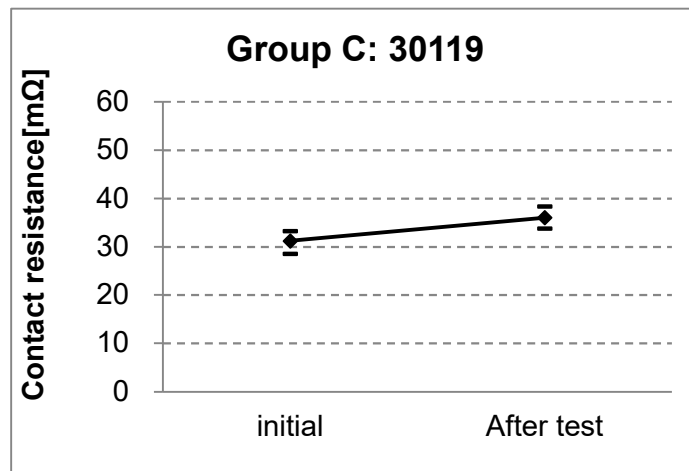
Graph9. Part No.30119 Unmating force



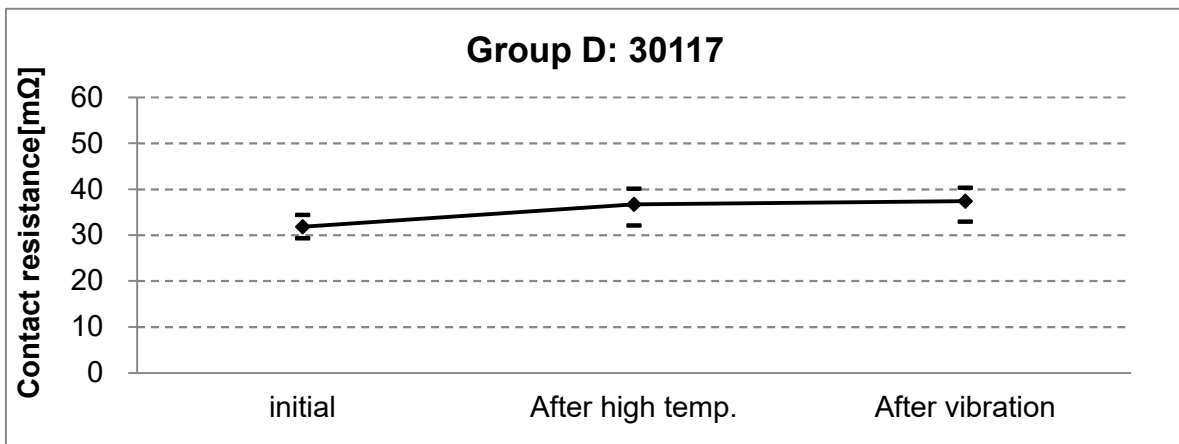
Graph10. Part No.30117 contact resistance



Graph11. Part No.30118 contact resistance

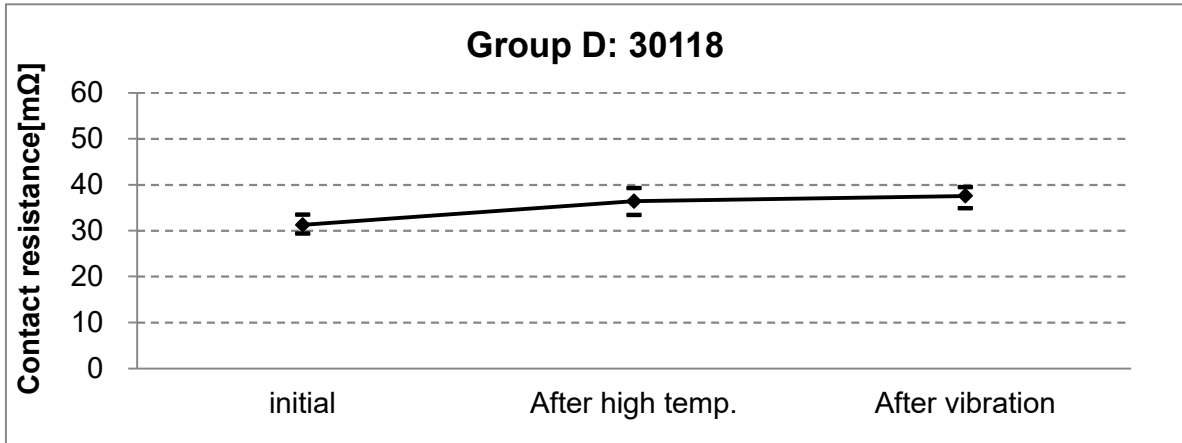


Graph12. Part No.30119 contact resistance

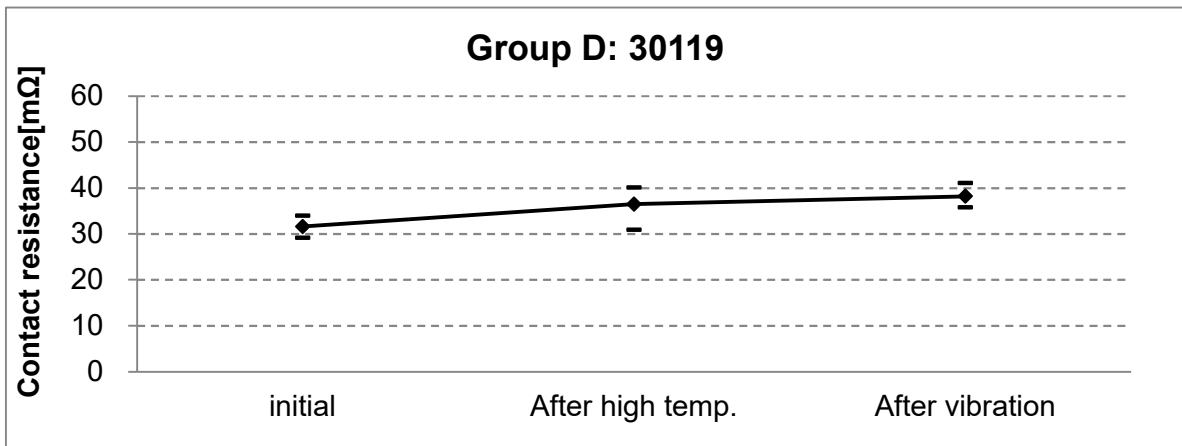


Graph13. Part No.30117 contact resistance

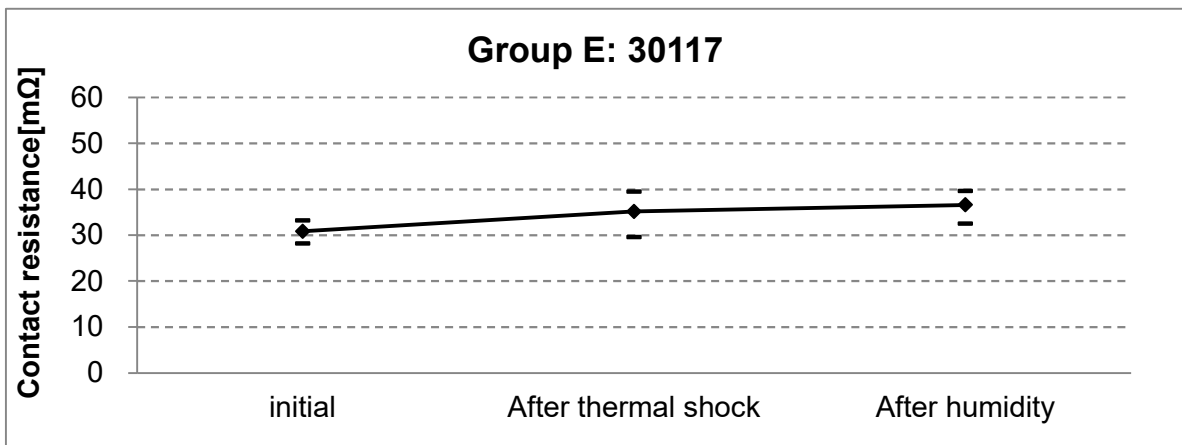




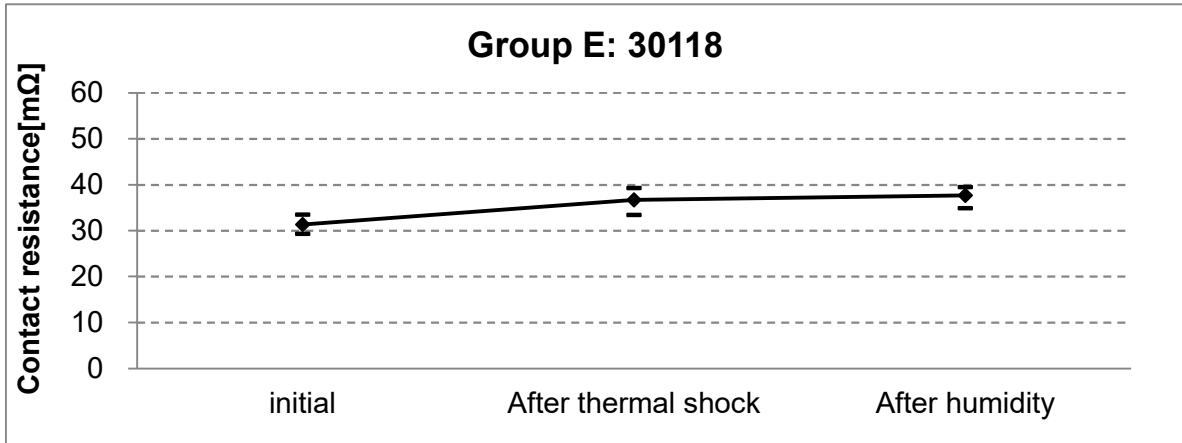
Graph14. Part No.30118 contact resistance



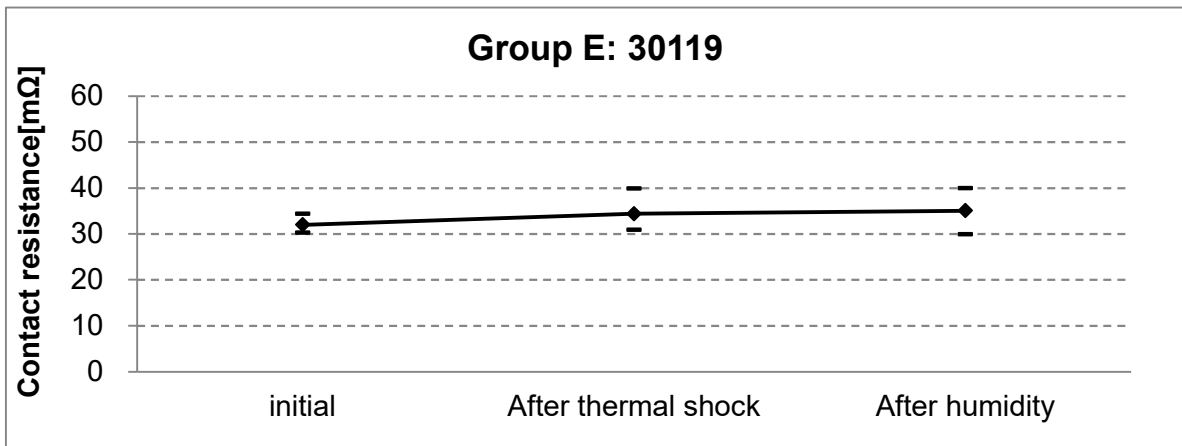
Graph15. Part No.30119 contact resistance



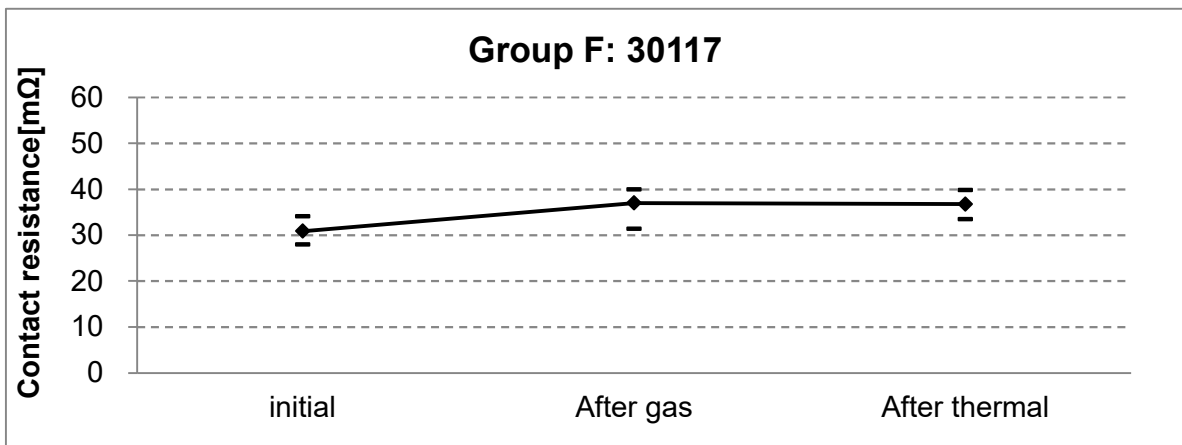
Graph16. Part No.30117 contact resistance



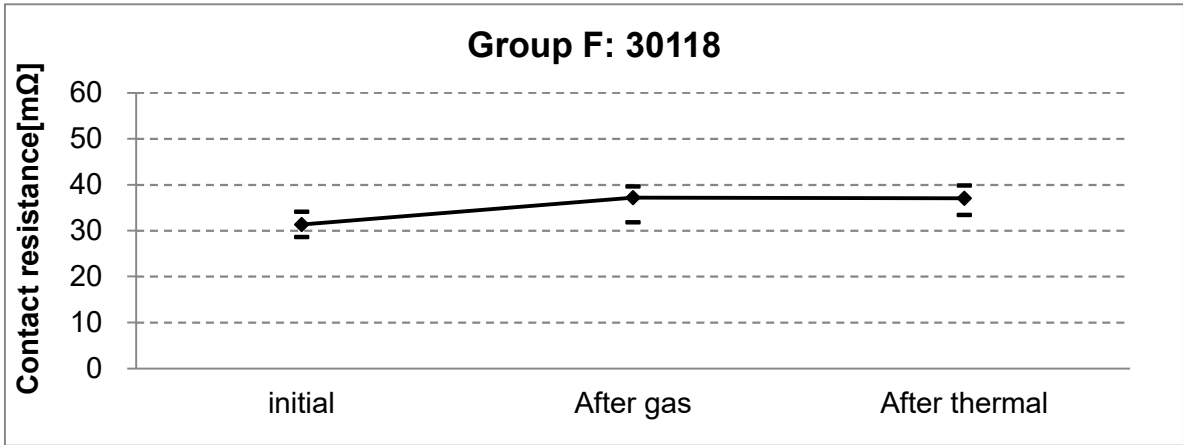
Graph17. Part No.30118 contact resistance



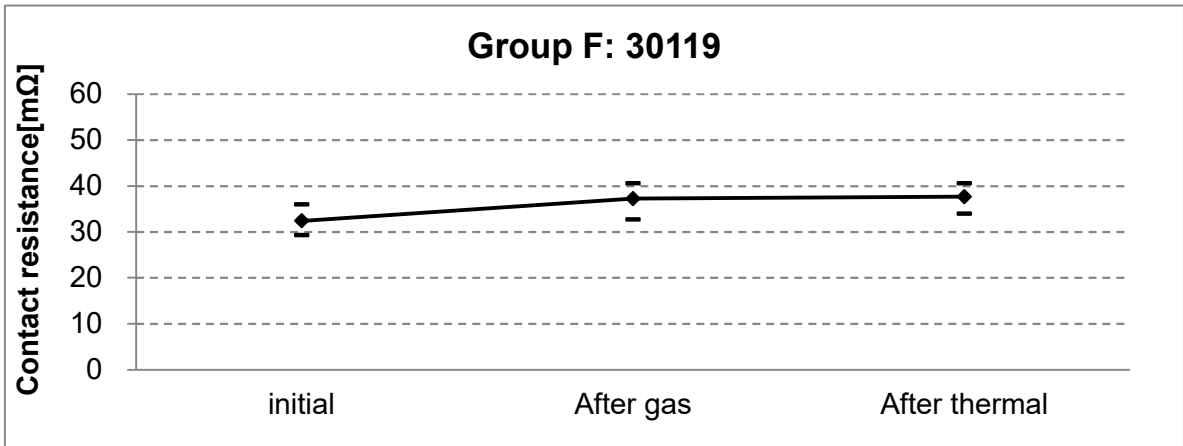
Graph18. Part No.30119 contact resistance



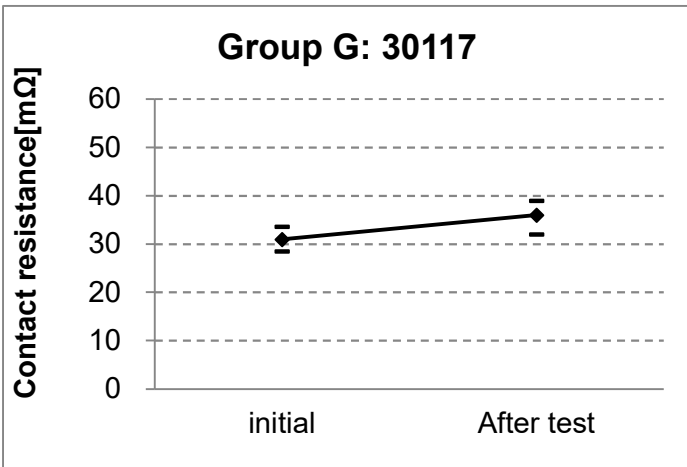
Graph19. Part No.30117 contact resistance



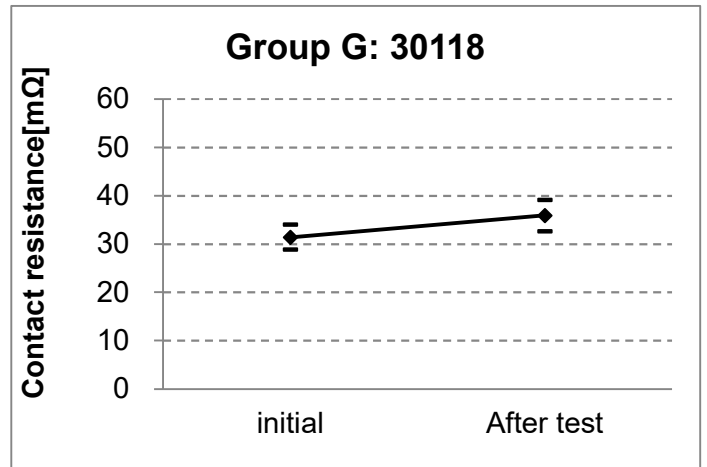
Graph20. Part No.30118 contact resistance



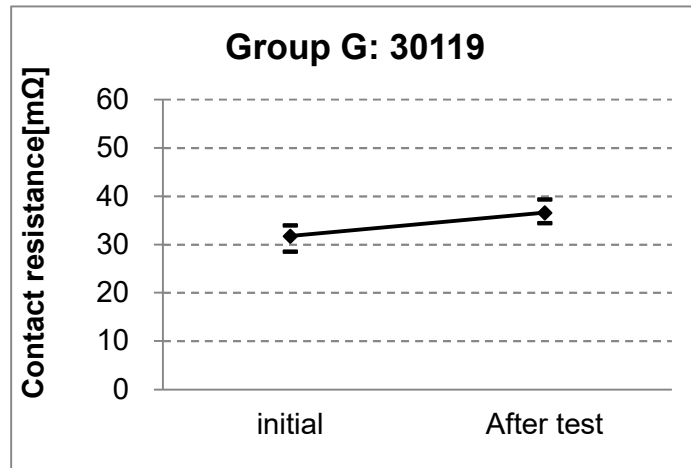
Graph21. Part No.30119 contact resistance



Graph22. Part No.30117 contact resistance



Graph23. Part No.30118 contact resistance



Graph24. Part No.30119 contact resistance