

MHF® I Connector with Lock

Part No. Plug: 20278-112R-32, Lock: 3376-000*

Test Report

Product Specification no. PRS-2396

0	T19171	December 19, 2019	K, Ikeshita	J. Tonai	Y. Hashimoto
Rev.	ECN	Date	Prepared by	Checked by	Approved by

MHF I Connector with Lock Test Report

1. Purpose

To evaluate the performance of MHF I Connector with Lock in accordance with PRS-2396.

2. Specimen

(1) Plug : P/N:20278-112R-32

Lock : P/N:3376-000*

Cable : AWG#32 coaxial cable (jacket diameter 1.32mm)

(2) Receptacle : part No.20279-001E-01(01E7)

*Part No.20279-001E-01、20279-001E-03 are different in the packing style

Only, so we tested part No. 20279-001E-01 as representative.

3. Test Sequence

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

4. Result

See Table 2, and after sheet 6 of 9. For the details of the testing conditions and requirements, see PRS-2396.

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

5. Conclusion

All the specimens met the requirements of PRS-2396.

5-1 Test Sequence and Sample Quantity

Table 1 Test Sequence and Sample Quantity

	Test Item	Group														
		A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
(1)	Contact Resistance						1 3	1 3	1 3	1 3	1 4	1 4		1 3		
(2)	Insulation resistance										2 5	2 5				
(3)	Dielectric withstanding voltage	1														
(4)	VSWR		1													
(5)	Un-mating force <Unlock state>			1												
(6)	Un-mating force <Lock state>				1											
(7)	Crimp strength					1										
(8)	Durability						2									
(9)	Contact resistance with force on the cable							2								
(10)	Vibration								2							
(11)	Shock									2						
(12)	Thermal shock										3					
(13)	Humidity											3				
(14)	Salt water spray												1			
(15)	High temperature life													2		
(16)	Solderability														1	
(17)	Reflow soldering heat resistance															1
Sample QTY pcs.		Plug	10	5	10	10	10	10	10	10	10	10	10	10	---	---
		Receptacle	10	5	---	10	10	10	10	10	10	10	10	10	10	10
Test Board		pcs.	10	5	---	10	10	10	10	10	10	10	10	10	---	10

※Numbers indicate sequence in which tests are performed.

MHF I Connector with Lock Test Report

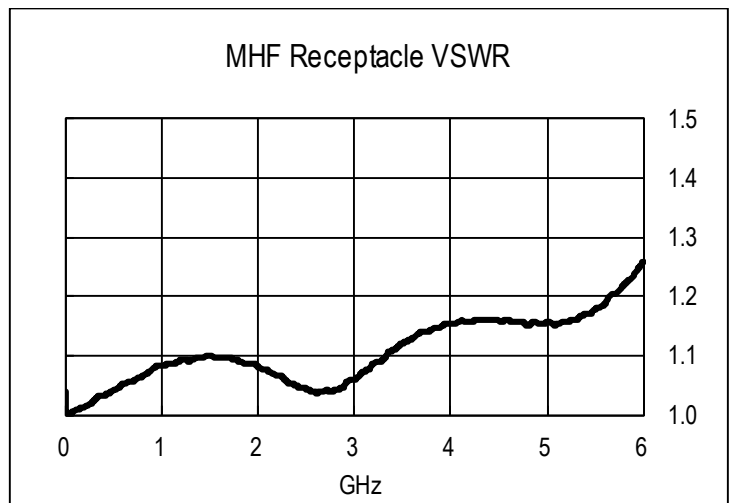
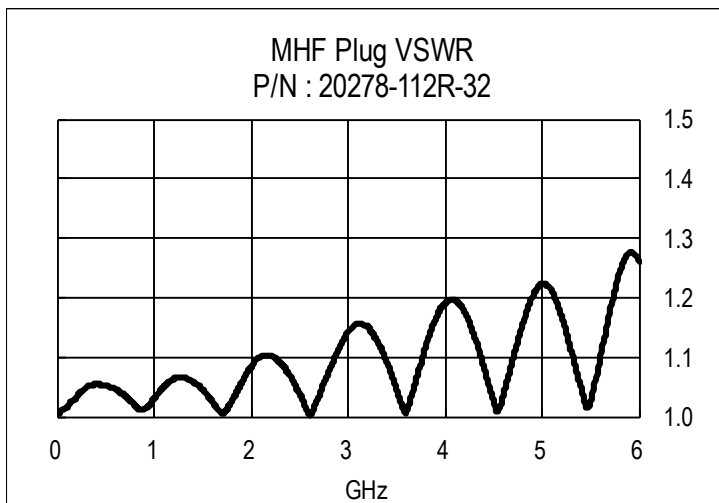
Table.2 Test result

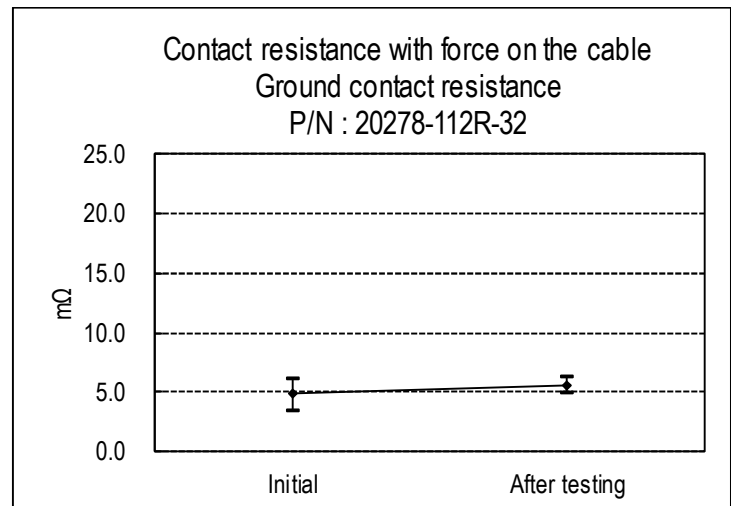
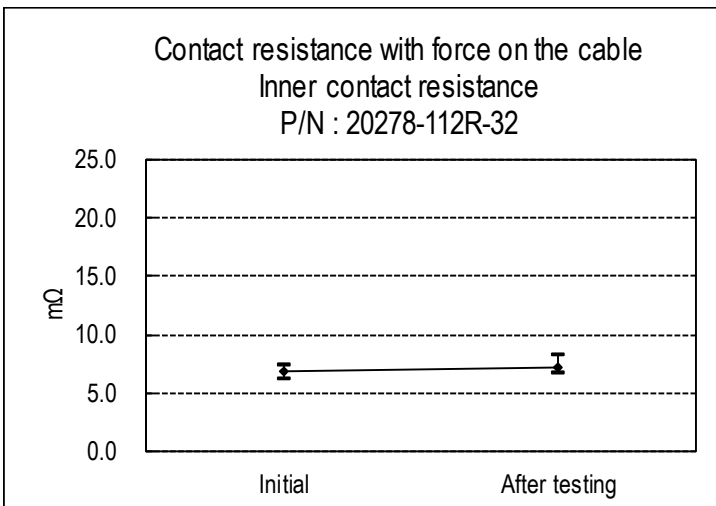
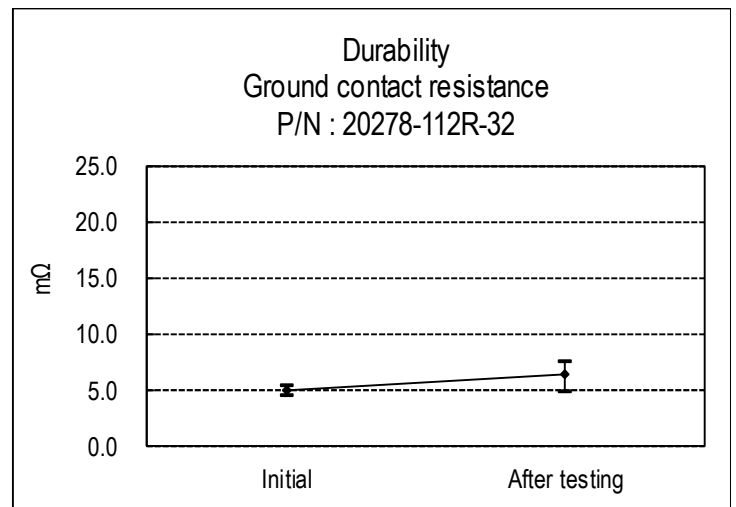
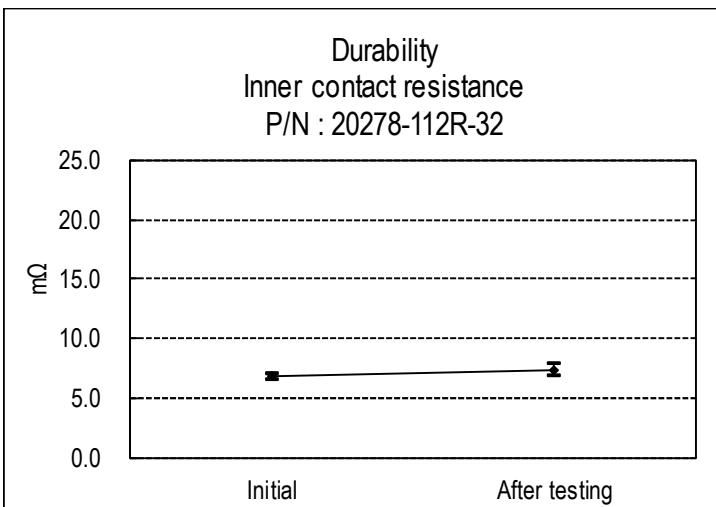
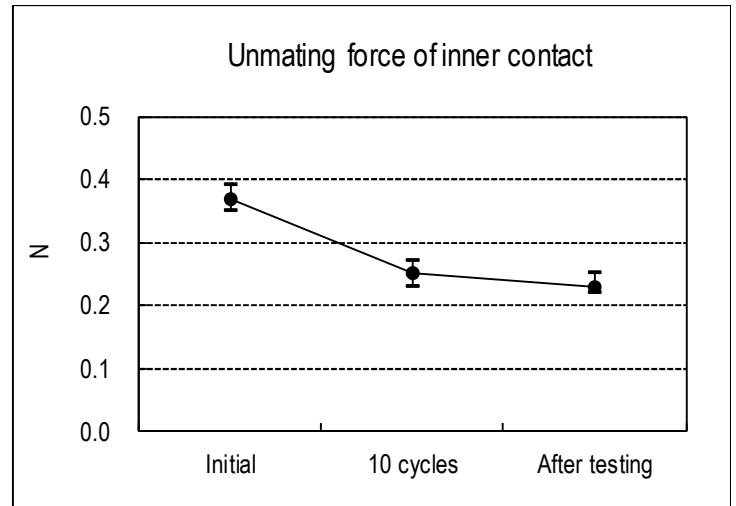
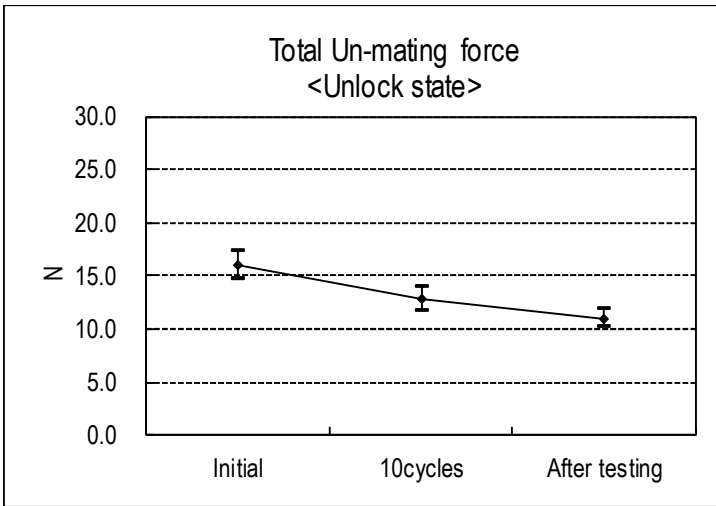
	Test items	Measurements	Spec.	n	Unit	AVE.	MAX.	MIN.	S	Judge	
A	Dielectric withstanding voltage										
		Initial	Spec : No creeping discharge,flashover,nor insulator breakdown shall occur.								
		20278-112R-32	-----	10	-----	No abnormality				OK	
B	VSWR	20278-112R-32	0.1~3GHz	1.3 MAX.	5	-----	1.143	1.16	1.13	0.009	OK
			3~6GHz	1.5 MAX.	5	-----	1.279	1.30	1.26	0.015	OK
	VSWR	20279-001E-01	0.1~3GHz	1.3 MAX.	5	-----	1.101	1.11	1.09	0.003	OK
			3~6GHz	1.4 MAX.	5	-----	1.257	1.27	1.24	0.012	OK
C	Un-mating force <Unlock state>										
	Total force	Initial	5 MIN.	10	N	16.11	17.4	14.8	0.77	OK	
			30 cycles	3 MIN.	10	N	11.04	11.9	10.2	0.56	OK
	Inner contact	Initial	0.15 MIN.	10	N	0.369	0.39	0.35	0.014	OK	
30 cycles			0.10 MIN.	10	N	0.230	0.25	0.22	0.011	OK	
D	Un-mating force <Lock state>										
		Initial	20 MIN.	10	N	36.89	38.0	35.9	0.88	OK	
E	Crimp strength										
		20278-112R-32	10 MIN.	10	N	19.52	20.9	18.3	0.86	OK	
F	Durability										
	Contact resistance of inner contact										
		Initial	20 MAX.	10	mΩ	6.77	7.0	6.5	0.22	OK	
		After testing	25 MAX.	10	mΩ	7.27	7.8	6.9	0.28	OK	
	Contact resistance of ground contact										
		Initial	10 MAX.	10	mΩ	4.96	5.5	4.5	0.26	OK	
		After testing	15 MAX.	10	mΩ	6.53	7.6	4.9	0.80	OK	
	Appearance	Initial	No abnormality	10	-----	No abnormality				OK	
After testing		No abnormality	10	-----	No abnormality				OK		
G	Contact resistance with force on cable										
	Contact resistance of inner contact										
		Initial	20 MAX.	10	mΩ	6.90	7.5	6.1	0.41	OK	
		After testing	25 MAX.	10	mΩ	7.20	8.2	6.6	0.43	OK	
	Contact resistance of ground contact										
		Initial	10 MAX.	10	mΩ	4.85	6.0	3.4	0.92	OK	
		After testing	15 MAX.	10	mΩ	5.51	6.3	4.9	0.49	OK	
	Electrical discontinuity		Spec. : No electrical discontinuity grater than 1μs shall occur.								
		-----	10	-----	Results : No discontinuity				OK		
	Appearance	Initial	No abnormality	10	-----	No abnormality				OK	
After testing		No abnormality	10	-----	No abnormality				OK		

	Test items	Measurements	Spec.	n	Unit	AVE.	MAX.	MIN.	S	Judge		
H	Vibration	Contact resistance of inner contact										
		Initial	20 MAX.	10	mΩ	6.67	7.2	6.1	0.37	OK		
		After testing	25 MAX.	10	mΩ	6.67	7.1	6.1	0.37	OK		
		Contact resistance of ground contact										
		Initial	10 MAX.	10	mΩ	5.03	5.7	4.6	0.38	OK		
		After testing	15 MAX.	10	mΩ	5.17	6.5	4.5	0.62	OK		
		Electrical discontinuity	Spec. : No electrical discontinuity grater than 1μs shall occur.									
			-----	10	-----	Results : No discontinuity					OK	
		Appearance	Initial	No abnormality		10	-----	No abnormality				OK
			After testing	No abnormality		10	-----	No abnormality				OK
J	Shock	Contact resistance of inner contact										
		Initial	20 MAX.	10	mΩ	6.67	7.2	6.1	0.37	OK		
		After testing	25 MAX.	10	mΩ	6.73	7.4	6.4	0.39	OK		
		Contact resistance of ground contact										
		Initial	10 MAX.	10	mΩ	5.03	5.7	4.6	0.38	OK		
		After testing	15 MAX.	10	mΩ	5.19	6.0	4.7	0.48	OK		
		Electrical discontinuity	Spec. : No electrical discontinuity grater than 1μs shall occur.									
			-----	10	-----	Results : No discontinuity					OK	
		Appearance	Initial	No abnormality		10	-----	No abnormality				OK
			After testing	No abnormality		10	-----	No abnormality				OK
K	Thermal shock	Contact resistance of inner contact										
		Initial	20 MAX.	10	mΩ	6.62	8.0	6.1	0.54	OK		
		After testing	25 MAX.	10	mΩ	6.61	7.6	5.9	0.52	OK		
		Contact resistance of ground contact										
		Initial	10 MAX.	10	mΩ	4.98	6.5	4.2	0.70	OK		
		After testing	15 MAX.	10	mΩ	5.26	6.4	4.3	0.75	OK		
		Insulation resistance										
		Initial	500 MIN.	10	MΩ	10,000 (Minimum value)					OK	
		After testing	100 MIN.	10	MΩ	10,000 (Minimum value)					OK	
		Appearance	Initial	No abnormality		10	-----	No abnormality				OK
After testing	No abnormality		10	-----	No abnormality				OK			

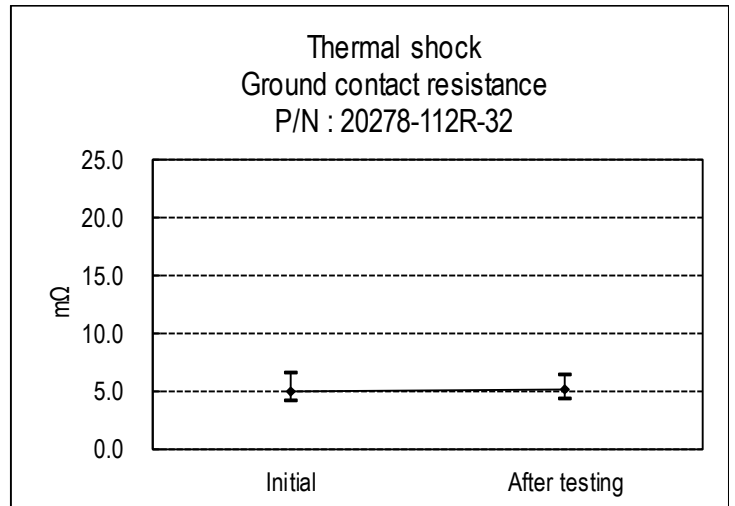
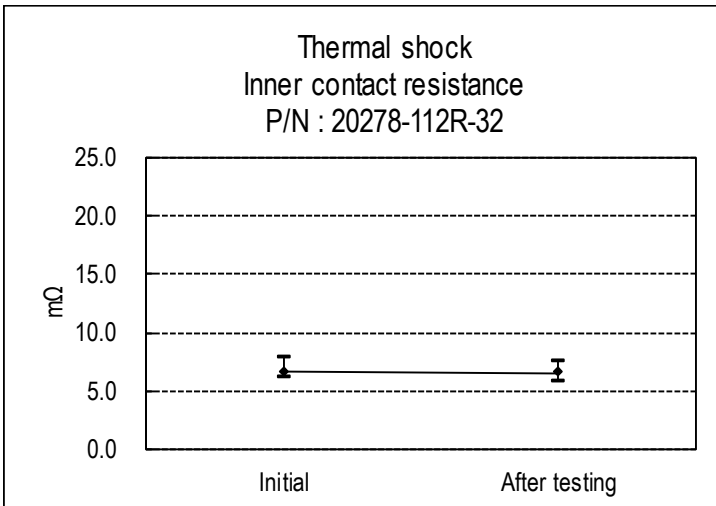
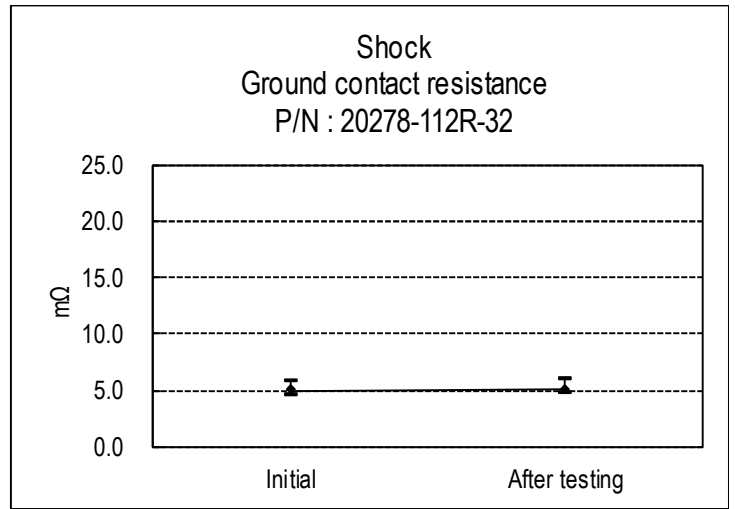
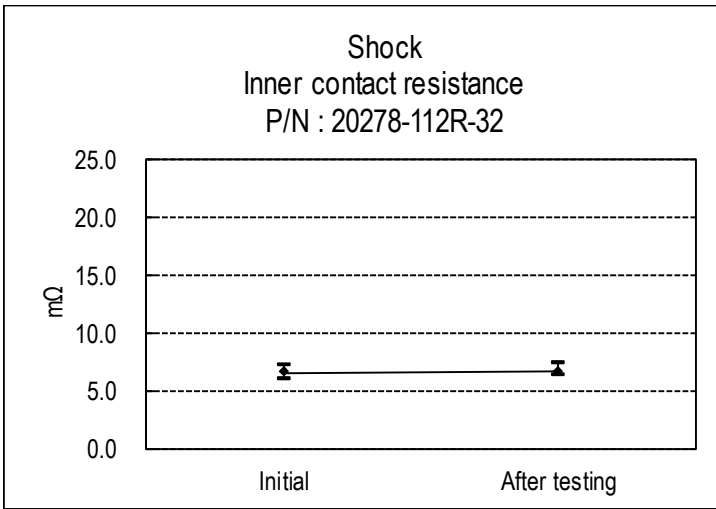
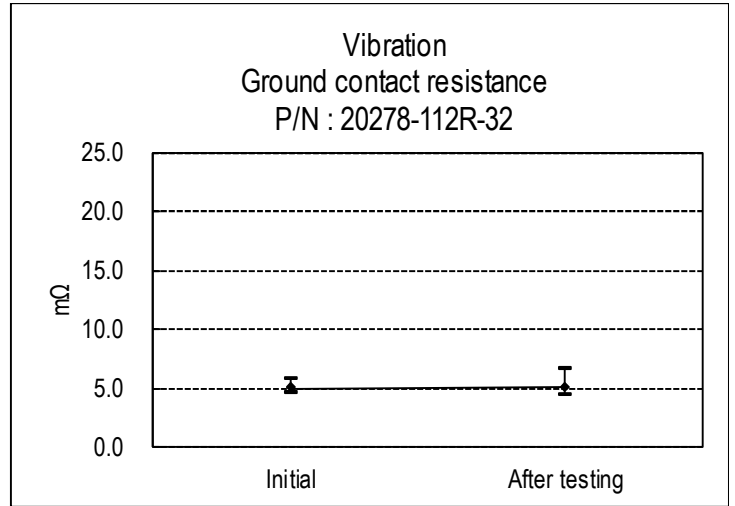
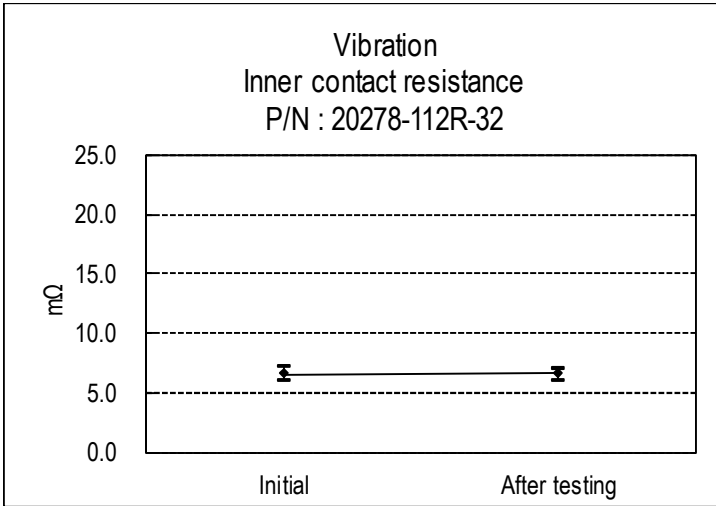
MHF I Connector with Lock Test Report

	Test items	Measurements	Spec.	n	Unit	AVE.	MAX.	MIN.	S	Judge
L	Humidity (Steady State)									
	Contact resistance of inner contact									
		Initial	20 MAX.	10	mΩ	6.76	7.2	6.4	0.27	OK
		After testing	25 MAX.	10	mΩ	6.41	6.9	6.0	0.26	OK
	Contact resistance of ground contact									
		Initial	10 MAX.	10	mΩ	4.55	6.5	3.3	1.08	OK
		After testing	15 MAX.	10	mΩ	4.97	6.8	4.2	0.78	OK
	Insulation resistance									
		Initial	500 MIN.	10	MΩ	10,000 (Minimum value)				OK
		After testing	100 MIN.	10	MΩ	10,000 (Minimum value)				OK
Appearance										
	Initial	No abnormality	10	-----	No abnormality				OK	
	After testing	No abnormality	10	-----	No abnormality				OK	
M	Salt water spray									
		Initial	No abnormality	10	-----	No abnormality				OK
		After testing	No abnormality	10	-----	No abnormality				OK
N	High temperature life									
	Contact resistance of inner contact									
		Initial	20 MAX.	10	mΩ	6.97	7.5	6.4	0.35	OK
		After testing	25 MAX.	10	mΩ	7.34	8.2	6.6	0.50	OK
	Contact resistance of ground contact									
		Initial	10 MAX.	10	mΩ	5.00	5.9	4.4	0.41	OK
		After testing	15 MAX.	10	mΩ	5.97	7.4	5.3	0.67	OK
	Appearance									
	Initial	No abnormality	10	-----	No abnormality				OK	
	After testing	No abnormality	10	-----	No abnormality				OK	
P	Solderability		No abnormality	10	-----	No abnormality				OK
Q	Reflow soldering heat resistance		No abnormality	10	-----	No abnormality				OK





MHF I Connector with Lock Test Report



MHF I Connector with Lock Test Report

