

MP-A 02

Part No. 3182-0001

Test Report

Product Specification no. PRS-2082

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Rev.	ECN	Date	Prepared by	Checked by	Approved by

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MP-A 02 Test Report

1. Purpose

To evaluate the performance of MP-A 02Connector in accordance with PRS-2082.

2. Specimen

MP-A 02 (Part No. 3182-0001)

3. Test Sequence

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

4. Result

See Table 2-1 to 2-3, Graph 1-1 to 1-13. For the details of the testing conditions and requirements, see PRS-2082. The "n" in the tables show the number of measurement points.

5. Conclusion

All the specimens met the requirements of PRS-2082.

Table 1 Test Sequence and Sample Quantity

Test Item					Gre	oup				
iest item	Α	В	С	D	Е	F	G	Н	J	K
Contact resistance		1,3	1,3	1,3	1,3	1,3	1,3	1,3		
Mating force	1,4									
Un-mating force	2,5									
Durability	3	2								
Vibration			2							
Shock				2						
Thermal shock					2					
High temperature life						2				
Humidity (Steady State)							2			
Low-temperature test								2		
Solder ability									1	
Soldering heat resistance										1
Specimen quantity.	10	10	5	5	5	5	5	5	5	5

[※]Numbers indicate test sequences

Table 2-1 Test Result

	Test Item				l		Da	ata		Ι
	Measurements		Spec.	n	Unit	AVE.	MAX. MIN. σ			Judge.
	Mating Force			ļ		, <u> </u>		1		ļ
		Initial				7.010	8.20	6.10	0.743	OK
	Cable Clamp 3mm	5cycles		10	N	3.120	3.80	2.50	0.487	OK
		Initial	25 MAX.			7.780	9.10	6.60	0.760	OK
	Cable Clamp 6mm	5cycles		10	N	3.780	4.50	3.20	0.426	OK
		Initial				8.050	9.00	7.40	0.521	OK
	Cable Jacket φ1.13	5cycles		10	N	3.250	3.60	2.90	0.259	OK
A	Un-mating Force	Jodyoloc	ļ			0.200	0.00	2.00	0.200	O.K
	_	Initial	2 MIN.			2.710	3.50	2.30	0.363	OK
	Cable Clamp 3mm	5cycles	1 MIN.	10	N	1.950	2.30	1.60	0.242	OK
		Initial	2 MIN.			2.960	3.60	2.50	0.372	OK
	Cable Clamp 6mm	5cycles	1 MIN.	10	N	2.190	2.60	1.50	0.328	OK
		Initial	2 MIN.			3.890	4.60	3.40	0.378	OK
	Cable Jacket φ1.13	5cycles	1 MIN.	10	N	3.030	3.70	2.40	0.430	OK
		Jocycles	I IVIIIN.			3.030	3.70	2.40	0.430	UK
	Durability									
	Cable clamp 3mm									
	Cable Clarify Sillin	limitim!	Τ	1	1	E 07E	6.40	F E 4	0.470	OV
	Contact Resistance	Initial	70 MAX	10	mΩ	5.875	6.12	5.54	0.172	OK
		5cycles	111	<u> </u>	· ·	5.970	6.56	5.52	0.308	OK
_	Apearance		onormality advers			g tne pertor				014
В		After test	_	10	-		No abn	ormality		OK
	Cable clamp 6mm	I	T					I = 40	1 0 40=	
	Contact Resistance	Initial	70 MAX	10	mΩ	5.709	6.01	5.49	0.185	OK
		5cycles	194		<u> </u>	5.938	6.29	5.50	0.214	OK
	Apearance	Spec. No abnormality adversely affecting the performance shall occur.								
	'	After test	est – 10 - No abnormality						OK	
_	lver e									
	Vibration									
	Cable clamp 3mm	_	1	,		1	1	ı		
	Contact Resistance	Initial	70 MAX	5	mΩ	6.728	6.93	6.45	0.189	OK
	Contact recipiance	After test				6.550	6.88	6.10	0.303	OK
	Electrical discontinuity	Spec. No electrical discontinuity greater than 1µs shall occur.								
	Electrical discontinuity	During test - 5 - No discontinuity								OK
	Anegrance	Spec. No abnormality adversely affecting the performance shall occur.								•
С	Apearance	After test	_	5	-		No abn	ormality		OK
	Cable clamp 6mm									
	Contact Resistance	Initial	70 144	5	mΩ	6.027	6.26	5.84	0.195	OK
	Contact Resistance	After test	70 MAX)	11177	6.338	OK			
	Cloatrical discontinuity	Spec. No el	ectrical discontinu	uity g	reater	than 1µs s	hall occur.		-	
	Electrical discontinuity	During test								OK
			onormality advers		fectin	g the perfor				•
	Apearance	After test - 5 - No abnormality							OK	
_	1	7 itto toot								<u> </u>

Table 2-2 Test Result

Shock Cable clamp 3mm Contact Resistance Initial To MAX 5 mΩ 6.728 6.93 6.45 0.189 O.189 O.18	Test Item			Spec. n				Judge.				
Cable clamp 3mm	Mea	surements	Spec.		Offic	AVE.	MAX.	MIN.	Judge.			
Initial	Shock											
After test	Cable clamp 3mm											
After test	Contact Posistano	Initial	70 MAY	5	m0	6.728	6.93	6.45	0.189	OK		
During test — 5 — No discontinuity Ot	Contact Nesistance	After test	70 101	3	111122	6.737	6.95	6.18	0.318	OK		
Apearance During test —	Electrical discontin	Spec. No e										
After test -	Electrical discontin	During test	_	5	-		No disc	ontinuity		OK		
Cable clamp 6mm	Angaranco	Spec. No a	bnormality advers	ely a	ffectin	g the perfor	mance sha	ıll occur.		-		
Initial	D Apearance	After test	_	5	-		No abn	ormality		OK		
After test	Cable clamp 6mm	<u>.</u>		•								
After test Spec. No electrical discontinuity greater than 1μs shall occur. During test — 5 - No discontinuity Other Spec. No abnormality adversely affecting the performance shall occur. After test — 5 - No abnormality Other Spec. No abnormality O	Contact Posistana	Initial	70 MAY	5	m0	6.027	6.26	5.84	0.195	OK		
During test —	Contact Resistance	After test	701014	5	111122	6.514	6.96	6.14	0.306	OK		
Apearance Spec. No abnormality adversely affecting the performance shall occur.	Cloatrical discontin	Spec. No e	lectrical discontin	uity g	reater	than 1µs sl	hall occur.	•	•	•		
After test	Electrical discontin	During test	_	5	-		No disc	ontinuity		OK		
Thermal Shock Cable clamp 3mm	Angerones	Spec. No a	bnormality advers	ely a	ffecting	g the perfor	mance sha	all occur.		•		
Cable clamp 3mm Initial 70 MAX 5 mΩ 6.455 6.86 5.88 0.416 0.416 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90	Apearance	After test	_	5	-		No abn	ormality		OK		
Cable clamp 3mm Initial 70 MAX 5 mΩ 6.455 6.86 5.88 0.416 0.416 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.57 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90 6.731 6.90 6.731 6.90 6.731 6.90 6.731 0.131 0.4 6.731 6.90		•			•					•		
Initial	Thermal Shock											
After test 70 MAX 5 MΩ 6.731 6.90 6.57 0.131 OHE	Cable clamp 3mm											
After test	Contact Desistance	Initial		_	m 0	6.455	6.86	5.88	0.416	OK		
	Contact Resistance	After test		11177	6.731	6.90	6.57	0.131	OK			
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Angaranaa	Spec. No a	bnormality advers	ely a	ffecting	g the perfor	mance sha	ill occur.				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	E Apearance	After test	_	5	-		No abn	ormality		OK		
After test 70 MAX 5 mΩ 6.517 6.83 6.29 0.278 OR	Cable clamp 6mm	<u>.</u>		•								
After test Spec. No abnormality adversely affecting the performance shall occur.	Contact Besistans	Initial	70.141/	m0	6.108	6.42	5.84	0.254	OK			
After test	Contact Resistance	After test	70 IVIAX	5	11177	6.517	6.83	6.29	0.278	OK		
High temperature life Cable clamp 3mm Contact Resistance Initial After test 70 MAX 5 mΩ 6.277 6.49 6.17 0.139 Other Contact Resistance Apearance Spec. No abnormality adversely affecting the performance shall occur. After test - 5 - No abnormality Other Contact Resistance Initial After test 70 MAX 5 mΩ 6.164 6.31 5.83 0.202 Other Contact Resistance Apearance Spec. No abnormality adversely affecting the performance shall occur. After test 70 MAX 5 mΩ 6.164 6.31 5.83 0.202 Other Contact Resistance Spec. No abnormality adversely affecting the performance shall occur. Spec. No abnormality adversely affecting the performance shall occur.	A	Spec. No a										
	Apearance	After test	·							OK		
	•	•		•	•					•		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	High temperature li)										
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Cable clamp 3mm											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Contact Desistant	Initial	70 MAX	F	m ^	6.277	6.49	6.17	0.139	OK		
Appearance After test - 5 - No abnormality OF	Contact Resistance	After test		Э	mız	6.511	6.82	6.24	0.228	OK		
Cable clamp 6mm Contact Resistance $\begin{array}{c ccccccccccccccccccccccccccccccccccc$	A											
	F Apearance	After test	<u> </u>	5	-	- '	No abn	ormality		OK		
Contact Resistance $\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Cable clamp 6mm	Į.	•	,								
After test 70 MAX 5 M12 6.622 6.78 6.40 0.174 OF Spec. No abnormality adversely affecting the performance shall occur.	·	Initial	70.14437		mΩ	6.164	6.31	5.83	0.202	ОК		
Apearance Spec. No abnormality adversely affecting the performance shall occur.	Contact Resistance		70 MAX	5						OK		
TADESTANCE TO THE PROPERTY OF			bnormality advers	elv a	ffecting				1 *****			
	Apearance	After test								OK		

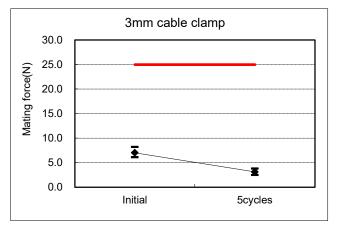
Table 2-3 Test Result

Test Item Measurements		Spec. n Ur			Data					
		Spec.		Unit	AVE.	MAX. MIN. σ			Judge.	
Humidity (Steady state)										
Cable clamp 3mm										
Comtont Doninton	Initial	70 MAX	5	mΩ	6.124	6.40	5.91	0.189	OK	
Contact Resistance	After test		5	11122	6.197	6.51	6.00	0.206	OK	
Angerones	Spec. No ab	Spec. No abnormality adversely affecting the performance shall occur.								
G Apearance	After test	— 5 - No abnormality						OK		
Cable clamp 6mm										
Contact Resistance	Initial	70 MAX	5	mΩ	6.147	6.61	5.89	0.298	OK	
Contact Resistance	After test	70 IVIAX	5	111122	6.321	6.54	6.14	0.145	OK	
Angeronee	Spec. No ab	normality advers	sely a	ffecting	g the perfor	mance sha	all occur.			
Apearance	After test	_	5	-		No abn	ormality		OK	
	<u>.</u>									
Low-temperature test										
Cable clamp 3mm										
Contact Desistance	Initial	70 MAX	E	m ()	6.680	6.97	6.40	0.261	OK	
Contact Resistance	After test		5	mΩ	6.369	6.73	6.03	0.257	OK	
Angerones	Spec. No ab	normality advers	sely a	ffecting	g the perfor	mance sha	ill occur.	•		
Apearance	After test	— 5 - No abnormality						OK		
Cable clamp 6mm	•		•	•						
Contact Desistance	Initial	70 14437	5		6.574	6.82	6.32	0.210	OK	
Contact Resistance	After test	70 MAX		mΩ	6.459	6.70	6.06	0.241	OK	
An	Spec. No ab	normality advers	sely a	ffecting	g the perfor	mance sha	II occur.		•	
Apearance	After test	<u> </u>	5	-	No abnormality				OK	
	· · · · · · · · · · · · · · · · · · ·	!					<u> </u>			
, Surface Mount Soldera	bility test									
Solder wetting area	After test	95 MIN	5	%	6 95 MIN.				OK	
<u>.</u>	•	•	•						•	
Resistance to Reflow S	Soldering Heat									
Cable clamp 3mm	<u> </u>									
	Spec. No ab	normality advers	sely a	ffecting	g the perfor	mance sha	ıll occur.			
Apearance	After test		5	<u> </u>	No abnormality					
Cable clamp 6mm	I	1					•		OK	
·	Spec. No ab	normality advers	sely a	ffecting	the perfor	mance sha	all occur.			
Apearance	After test	, _	5		· ·		ormality		OK	

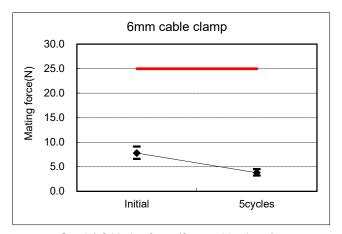
5

No abnormality

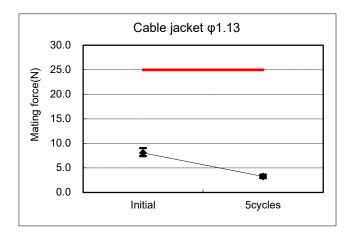
OK



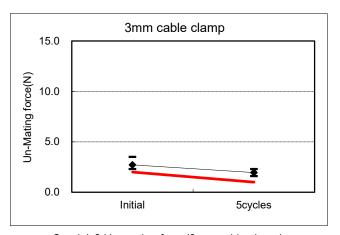
Graph1-1 Mating force(3mm cable clamp)



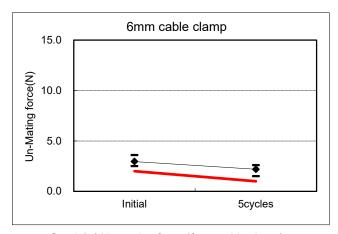
Graph1-3 Mating force (6mm cable clamp)



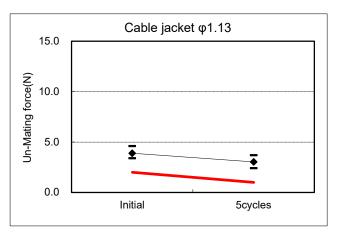
Graph1-5 Mating force(Cable jacket φ1.13)



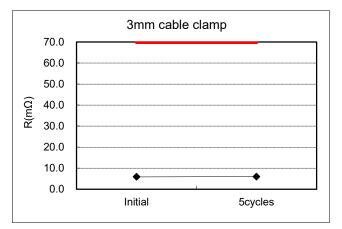
Graph1-2 Un-mating force(3mm cable clamp)

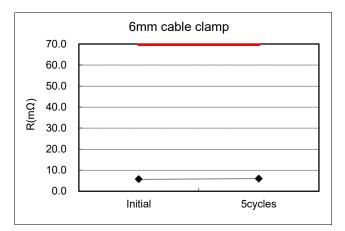


Graph1-4 Un-mating force (6mm cable clamp)

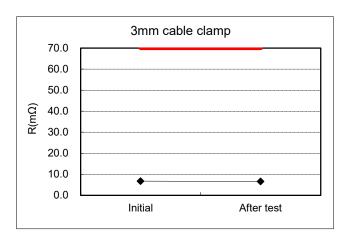


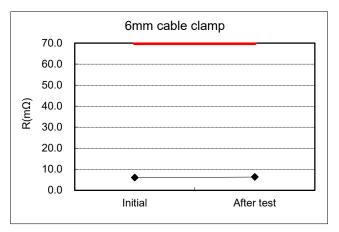
Graph1-6 Un-mating force(Cable jacket φ1.13)



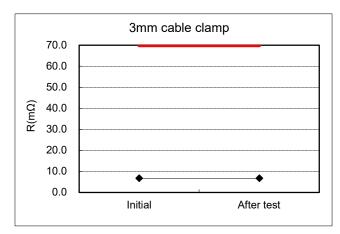


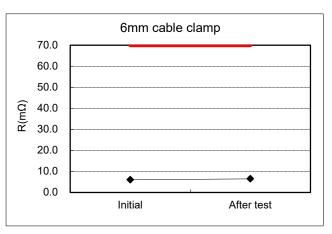
Graph1-7 Durability





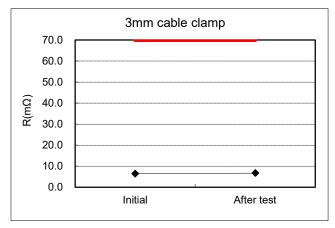
Graph1-8 Vibration

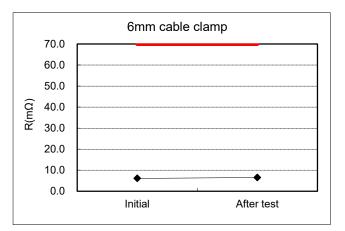




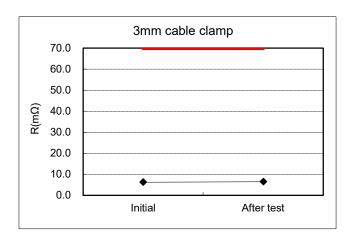
Graph1-9 Shock

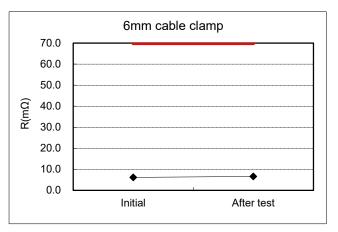
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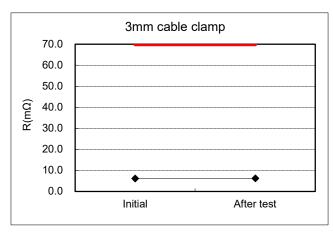


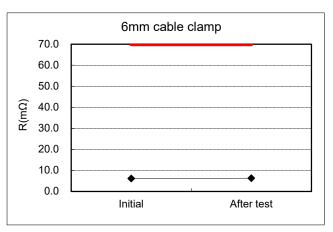
Graph1-10 Thermal Shock



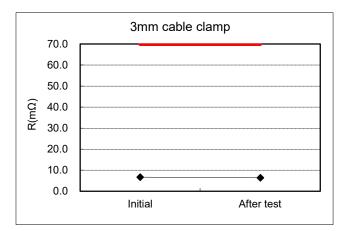


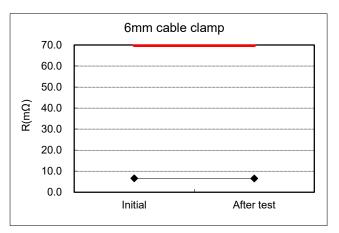
Graph1-11 High temperature life





Graph1-12 Humidity (Steady state)





Graph1-13 Low-temperature test