

MHF[®] 4L Connector (AWG#34φ0.83 Cable)

Part No. PLUG: 20565-001R-83 RECEPTACLE: 20449-001E-**

Test Report

Product Specification no. PRS-2062

0	T15054	May 7, 2015	S.Suzuki	T.Tagawa	T.Takano
Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. 目的 / Purpose

MHF4L コネクタについて製品規格(PRS-2062)に基づき評価を行う。

Testing was performed on the MHF4L Connector to determine meets the requirement of I-PEX specification, PRS-2062.

2. 結果 / Conclusion

全ての試料が製品規格(PRS-2062)の条件を満足した。

All the specimen met the requirements of PRS-2062.

3. 試料 / Sample

MHF4L Plug Connector : P/N. 20565-001R-83

Cable: AWG#34 coaxial cable (jacket diameter 0.83mm)

MHF4 Receptacle Connector: P/N. 20449-001E-**

4. 試験方法 / Method

製品規格(PRS-2062)参照。

Refer to product specification PRS-2062.

4-1 試験順序及び評価数量 / Test Sequence and Sample Quantity

試験項目 / Test Item		Group														
		A	B	C	D	E	F	G	H	J	K	L	M	N	P	
(1)	接触抵抗 Contact Resistance					1,3	1,3	1,3	1,5	1,3	1,5	1,3	1,3			
(2)	絶縁抵抗 Insulation resistance								2,6		2,6					
(3)	耐電圧 Dielectric withstanding voltage	1							3,7		3,7					
(4)	VSWR		1													
(5)	挿入力/抜去力 mating force/Unmating force			1												
(6)	ケーブル保持力 Cabel retention force				1											
(7)	耐久性 Durability					2										
(8)	耐振動性 Vibration						2									
(9)	耐衝撃性 Shock							2								
(10)	熱衝撃 Thermal shock								4							
(11)	高温寿命 High temperature life									2						
(12)	湿度(定常状態) Humidity steady state										4					
(13)	塩水噴霧 Salt Water Spray											2				
(14)	硫化水素ガス H ₂ S Gas												2			
(15)	半田付け性 Solder ability														1	
(16)	半田耐熱性 Soldering Heat Resistance															1
Sample QTY pcs.	Plug	10	10	10	10	10	10	10	10	10	10	10	10	10	-----	-----
	Receptacle	10	10	10	-----	10	10	10	10	10	10	10	10	10	10	10
Test Board pcs.		10	10	10	-----	10	10	10	10	10	10	10	10	10	10	10

5.結果/Results

	Test items	Measurements	Spec.	n	Unit	AVE.	MAX.	MIN.	S	Judge		
	試験項目	測定内容	規格	試料数	単位	平均	最大	最小	S	判定		
A	Dielectric withstanding voltage 耐電圧	Initial	Spec : No creeping discharge, flashover, nor insulator breakdown shall occur. 規格: 沿面放電, 空中放電, 絶縁破壊等の異常の無き事									
		20565-001R-83(φ0.83)	-----	10	-----	Results : No abnormality(異常無し)				OK		
B	VSWR Plug	20565-001R-83 (φ0.83)	0.1~3GHz	1.3 MAX.	10	-----	1.104	1.12	1.09	0.008	OK	
			3~6GHz	1.45 MAX.	10	-----	1.224	1.26	1.20	0.016	OK	
	VSWR Receptacle		0.1~3GHz	1.3 MAX.	10	-----	1.149	1.15	1.14	0.005	OK	
			3~6GHz	1.4 MAX.	10	-----	1.131	1.15	1.11	0.022	OK	
C	Mating force 挿入力	20565-001R-83 (φ0.83)	Initial	30 MAX.	10	N	17.65	18.4	16.7	0.76	OK	
			30 cycles		10	N	9.38	9.9	8.9	0.37	OK	
	Un mating force 抜去力	20565-001R-83 (φ0.83)	Initial	20 MAX. 5 MIN.	10	N	13.12	14.5	11.9	1.19	OK	
			30 cycles	20 MAX. 3 MIN.	10	N	9.57	11.3	8.4	1.16	OK	
D	Cable retention force ケーブル保持力	20565-001R-83(φ0.83)	8 MIN.	10	N	13.73	14.6	13.3	0.43	OK		
E Durability / 耐久性												
E	20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗										
		Initial	20 MAX.	10	mΩ	8.86	10.7	7.1	1.28	OK		
			After testing	-----	10	mΩ	8.41	9.8	7.5	0.80	-----	
			ΔR	20 MAX.	10	mΩ	-0.45	2.0	-2.6	1.61	OK	
		Contact resistance of ground contact / 外部導体接触抵抗										
		Initial	20 MAX.	10	mΩ	6.29	7.1	5.3	0.61	OK		
			After testing	-----	10	mΩ	6.30	6.8	5.8	0.33	-----	
			ΔR	20 MAX.	10	mΩ	0.01	1.0	-0.8	0.58	OK	
		Appearance 外観	Initial	No abnormality	10	-----	No abnormality (異常無し)				OK	
			After testing	No abnormality	10	-----	No abnormality (異常無し)				OK	
F Vibration / 耐振動性												
F	20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗										
		Initial	20 MAX.	10	mΩ	5.97	7.1	5.2	0.65	OK		
			After testing	-----	10	mΩ	6.85	9.7	5.2	1.21	-----	
			ΔR	20 MAX.	10	mΩ	0.88	2.8	-0.1	0.96	OK	
		Contact resistance of ground contact / 外部導体接触抵抗										
		Initial	20 MAX.	10	mΩ	5.63	6.6	4.8	0.53	OK		
			After testing	-----	10	mΩ	5.00	6.0	4.2	0.70	-----	
			ΔR	20 MAX.	10	mΩ	-0.63	0.5	-1.4	0.59	OK	
		Electrical discontinuity 電流瞬断	Spec : No electrical discontinuity grater than 1μsec. shall occur. 規格: 1μ秒以上の電流瞬断の無い事							-----		
			-----	10	-----	Results : No discontinuity				OK		
		Appearance 外観	Initial	No abnormality	10	-----	No abnormality (異常無し)				OK	
			After testing	No abnormality	10	-----	No abnormality (異常無し)				OK	
		G Shock / 耐衝撃性										
		G	20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗								
Initial	20 MAX.			10	mΩ	6.85	9.7	5.2	1.21	OK		
	After testing			-----	10	mΩ	6.96	9.3	5.2	1.25	-----	
	ΔR			20 MAX.	10	mΩ	0.11	1.2	-1.0	0.84	OK	
Contact resistance of ground contact / 外部導体接触抵抗												
Initial	20 MAX.			10	mΩ	5.00	6.0	4.2	0.70	OK		
	After testing			-----	10	mΩ	5.09	6.2	4.5	0.52	-----	
	ΔR			20 MAX.	10	mΩ	0.09	0.9	-1.1	0.74	OK	
Electrical discontinuity 電流瞬断	Spec : No electrical discontinuity grater than 1μsec. shall occur. 規格: 1μ秒以上の電流瞬断の無い事							-----				
	-----			10	-----	Results : No discontinuity				OK		
Appearance 外観	Initial			No abnormality	10	-----	No abnormality (異常無し)				OK	
	After testing			No abnormality	10	-----	No abnormality (異常無し)				OK	

Test items	Measurements	Spec.	n	Unit	AVE.	MAX.	MIN.	S	Judge	
試験項目	測定内容	規格	試料数	単位	平均	最大	最小	S	判定	
H Thermal shock / 熱衝撃										
20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗									
	Initial	20 MAX.	10	mΩ	6.34	9.0	5.2	1.15	OK	
	After testing	-----	10	mΩ	6.98	8.6	4.8	1.30	-----	
	ΔR	20 MAX.	10	mΩ	0.64	2.7	-0.8	1.16	OK	
	Contact resistance of ground contact / 外部導体接触抵抗									
	Initial	20 MAX.	10	mΩ	5.63	6.6	4.8	0.53	OK	
	After testing	-----	10	mΩ	5.00	6.0	4.2	0.70	-----	
	ΔR	20 MAX.	10	mΩ	-0.63	0.5	-1.4	0.59	OK	
	Insulation resistance	Initial	500 MIN.	10	MΩ	10,000 (minimum vale)				OK
		After testing	100 MIN.	10	MΩ	10,000 (minimum vale)				OK
	Dielectric withstanding voltage	Initial	No abnormality	10	-----	No abnormality (異常無し)				OK
		After testing	No abnormality	10	-----	No abnormality (異常無し)				OK
	Appearance 外觀	Initial	No abnormality	10	-----	No abnormality (異常無し)				OK
		After testing	No abnormality	10	-----	No abnormality (異常無し)				OK
	J High temperature life / 高温寿命									
20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗									
	Initial	20 MAX.	10	mΩ	6.02	7.4	5.2	0.76	OK	
	After testing	-----	10	mΩ	7.01	8.7	6.1	0.92	-----	
	ΔR	20 MAX.	10	mΩ	0.99	1.9	0.3	0.57	OK	
	Contact resistance of ground contact / 外部導体接触抵抗									
	Initial	20 MAX.	10	mΩ	5.75	7.0	5.1	0.60	OK	
	After testing	-----	10	mΩ	6.61	7.3	6.1	0.40	-----	
	ΔR	20 MAX.	10	mΩ	0.86	1.9	-0.2	0.67	OK	
	Appearance 外觀	Initial	No abnormality	10	-----	No abnormality (異常無し)				OK
		After testing	No abnormality	10	-----	No abnormality (異常無し)				OK
	K Humidity(Steady State) / 湿度(定常状態)									
	20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗								
		Initial	20 MAX.	10	mΩ	6.04	7.0	5.1	0.68	OK
		After testing	-----	10	mΩ	6.06	7.7	5.0	0.87	-----
		ΔR	20 MAX.	10	mΩ	0.02	1.6	-1.7	1.22	OK
Contact resistance of ground contact / 外部導体接触抵抗										
Initial		20 MAX.	10	mΩ	5.94	6.5	5.4	0.35	OK	
After testing		-----	10	mΩ	6.30	7.4	5.4	0.71	-----	
ΔR		20 MAX.	10	mΩ	0.36	1.1	-0.8	0.70	OK	
Insulation resistance / 絶縁抵抗										
		Initial	500 MIN.	10	MΩ	10,000 (minimum vale)				OK
		After testing	100 MIN.	10	MΩ	10,000 (minimum vale)				OK
Dielectric withstanding voltage		Initial	No abnormality	10	-----	No abnormality (異常無し)				OK
		After testing	No abnormality	10	-----	No abnormality (異常無し)				OK
Appearance 外觀		Initial	No abnormality	10	-----	No abnormality (異常無し)				OK
		After testing	No abnormality	10	-----	No abnormality (異常無し)				OK

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Test items	Measurements	Spec.	n	Unit	AVE.	MAX.	MIN.	S	Judge	
試験項目	測定内容	規格	試料数	単位	平均	最大	最小	S	判定	
L Salt water spray / 塩水噴霧 20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗									
	Initial	20 MAX.	10	mΩ	7.41	8.4	6.5	0.59	OK	
	After testing	-----	10	mΩ	6.08	7.2	5.2	0.58	-----	
	ΔR	20 MAX.	10	mΩ	-1.33	0.4	-2.7	0.84	OK	
	Contact resistance of ground contact / 外部導体接触抵抗									
	Initial	20 MAX.	10	mΩ	5.89	6.6	5.3	0.44	OK	
	After testing	-----	10	mΩ	6.14	6.8	5.3	0.51	-----	
	ΔR	20 MAX.	10	mΩ	0.24	1.5	-0.3	0.59	OK	
	Appearance 外観	Initial	No abnormality	10	-----	No abnormality (異常無し)				OK
		After testing	No abnormality	10	-----	No abnormality (異常無し)				OK
M H2S Gas / 硫化水素ガス 20565-001R-83 (φ0.83)	Contact resistance of inner contact / 中心導体接触抵抗									
	Initial	20 MAX.	10	mΩ	6.68	7.9	5.4	0.93	OK	
	After testing	-----	10	mΩ	6.31	7.5	5.1	0.84	-----	
	ΔR	20 MAX.	10	mΩ	-0.37	0.7	-1.3	0.77	OK	
	Contact resistance of ground contact / 外部導体接触抵抗									
	Initial	20 MAX.	10	mΩ	5.72	6.3	5.1	0.43	OK	
	After testing	-----	10	mΩ	6.57	7.3	6.1	0.42	-----	
	ΔR	20 MAX.	10	mΩ	0.84	1.6	-0.1	0.49	OK	
	Appearance 外観	Initial	No abnormality	10	-----	No abnormality (異常無し)				OK
		After testing	No abnormality	10	-----	No abnormality (異常無し)				OK
N Solderability 半田付け性	Spec.:More than 95% of the dipped surface becomes wet and the pinhole that should not gather at one point is less than 5%.									
	規格:浸した面積の95%以上に半田が付着し、かつピンホール空隙が1箇所集中せず、5%以下である事。									
	-----		10	-----	No abnormality (異常無し)				OK	
P Reflow soldering heat resistance 半田耐熱性	Spec.:Abnormality adversely affecting the performance should not occur.									
	規格:機能を損なう変形及び欠陥の無い事。									
	-----		10	-----	No abnormality (異常無し)				OK	





