

ISH®
WIRE TO WIRE 1.5mm 2P
Part No. V0171-91002-01, V0170-91002-01

Test Report

Product Specification no.PRS-3039

0	T26067	August 7, 2026	K.Tanaka	K.Tsusu	T.Takeda
Rev.	ECN	Date	Prepared by	Checked by	Approved by

1. Purpose

To evaluate the performance of ISH® WIRE TO WIRE 1.5mm 2P Connector in accordance with PRS-3039.

2. Specimen

- MALE HOUSING : V0171-91002-01
- FEMALE HOUSING: V0170-91002-01
- MALE TERMINAL 1.5mm : VT016-01
- FEMALE TERMINAL 1.5mm : VT011-04

3. Test Sequence

All the evaluations were based on the PRS-3039

4. Result

See Table 1 to 3, Graph 1 to 4. For the details of the testing conditions and requirements, see PRS-3039.

The “n” in the tables show the number of measurement points.

5. Conclusion

All the specimens met the requirements of PRS-3039.

6-1. Initial characteristics

Table 1. Initial characteristics①

	Measurement		Specification	Set	n	Unit	Data				Judge.
							Avg.	Max.	Min.	s	
Initial characteristics	Terminal appearance		No detrimental deformation	5	5	-	No abnormalities				Pass
	Terminal outer dimension		Satisfy drawing dimension	5	5	-	No abnormalities				Pass
	Housing appearance		No detrimental deformation	5	5	-	No abnormalities				Pass
	Housing outer dimension		Satisfy drawing dimension	5	5	-	No abnormalities				Pass
	Feeling (insertion/removal)		No discomfort	5	5	-	No abnormalities				Pass
	Connector mating force		26N MAX.	5	5	N	18.74	19.0	18.1	0.40	Pass
	Connector unmating force		26N MAX.	5	5	N	12.74	13.9	12.3	0.64	Pass
	Connector retention force	Direction 1	100N MIN.	5	5	N	128.49	130.7	126.8	1.49	Pass
	Insulation resistance	Between terminals	100MΩ MIN.	5	5	-	10,000MΩ Min.				Pass
		Between terminal and housing	100MΩ MIN.	5	5	-	10,000MΩ Min.				Pass
	Withstanding voltage	Between terminals	No insulation breakdown or erosion	5	5	-	No abnormalities				Pass
		Between terminal and housing	No insulation breakdown or erosion	5	5	-	No abnormalities				Pass
	Temperature rise		ΔT=50℃ MAX.	5	5	℃	22.66	24.6	20.7	1.48	Pass
	Leak current		1mA MAX.	5	5	-	1mA MAX.				Pass
	Audible click		60dB MIN.	5	5	dB	77.58	79.9	75.1	1.73	Pass
	Terminal crimp strength		150N MIN.	-	10	N	169.04	177.4	164.6	4.98	Pass
	Terminal insertion force		0.5N~3.0N	-	10	N	4.094	4.17	4.01	0.059	Pass
	Terminal removal force		3.5N~4.5N	-	10	N	4.138	4.25	3.99	0.118	Pass
	Terminal contact force		4N MIN.	-	10	N	8.532	8.59	8.48	0.041	Pass
	Voltage drop		10mV/A MAX.	5	10	mV/A	1.107	1.20	1.01	0.063	Pass
	Dry circuit resistance		10mΩ MAX.	5	10	mΩ	0.721	0.80	0.64	0.057	Pass
	Microcut		1μsMIN. 7ΩMAX.	-	-	-	1μsMIN. 7ΩMAX.				Pass
	Terminal retention force	With secondary lock	49N MIN.	5	10	N	132.30	138.0	126.5	4.47	Pass
		Without secondary lock	20N MIN.	5	10	N	72.50	75.7	70.3	2.24	Pass
	Terminal to housing insertion force		10N MAX.	5	10	N	4.78	4.9	4.6	0.13	Pass
	Hinge insertion force	INLINE MALE	29.4N MAX.	5	5	N	12.06	14.5	10.1	2.27	Pass
		FEMALE	29.4N MAX.	5	5	N	6.57	6.6	6.6	0.02	Pass
	Hinge removal force	INLINE MALE	14.6N MIN.	5	5	N	36.46	37.1	36.1	0.55	Pass
		FEMALE	14.6N MIN.	5	5	N	39.27	40.2	38.7	0.82	Pass
	Sn whisker		125μm MAX.	5	5	-	125μm MAX.				Pass

6-2. Environmental Performances

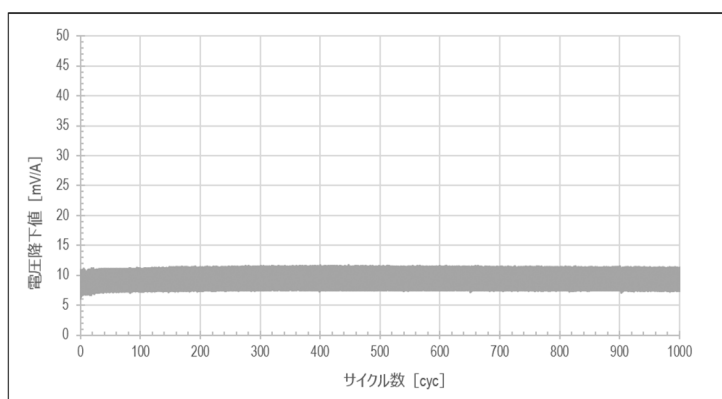
Table 2. Environmental Performances①

Item	Measurement		Requirements	Set	n	Unit	Data				Judge.
							Avg.	Max.	Min.	s	
Thermal a going	Housing appearance		No detrimental deformation	5	5	-	No abnormalities				Pass
	Feeling (insertion/removal)		No discomfort	5	5	-	No abnormalities				Pass
	Connector retention force	Direction 1	100N MIN.	5	5	N	128.55	130.8	125.3	2.07	Pass
	Terminal crimp strength	1.5mmMALE	130N MIN.	-	10	N	183.15	197.6	172.5	7.65	Pass
		1.5mm FEMALE	130N MIN.	-	10	N	253.74	273.4	229.2	15.81	Pass
	Dry circuit resistance	Initial	10mΩ MAX.	5	10	mΩ	0.853	0.97	0.74	0.074	Pass
		After test	20mΩ MAX.	5	10	mΩ	0.914	1.10	0.74	0.134	Pass
	Male Terminal retention force	With secondary lock	49N MIN.	5	10	N	139.710	147.50	126.60	6.010	Pass
		Without secondary lock	20N MIN.	5	10	N	59.630	61.50	56.90	1.270	Pass
	Female Terminal retention force	With secondary lock	49N MIN.	5	10	N	120.87	129.8	109.4	6.66	Pass
		Without secondary lock	20N MIN.	5	10	N	66.10	69.5	63.1	2.05	Pass
Low temperature a going	Housing lock strength without terminals		49N MIN.	5	5	N	132.45	133.8	130.7	1.49	Pass
	Housing appearance		No detrimental deformation	5	5	-	No abnormalities				Pass
	Feeling (insertion/removal)		No discomfort	5	5	-	No abnormalities				Pass
	Dry circuit resistance	Initial	10mΩ MAX.	5	10	mΩ	0.821	0.99	0.67	0.101	Pass
		After test	20mΩ MAX.	5	10	mΩ	1.040	1.10	1.00	0.050	Pass
	Male Terminal retention force	With secondary lock	49N MIN.	5	10	N	135.52	144.20	127.70	6.17	Pass
		Without secondary lock	20N MIN.	5	10	N	58.73	61.80	56.20	1.79	Pass
	Female Terminal retention force	With secondary lock	49N MIN.	5	10	N	130.47	134.60	126.10	2.56	Pass
		Without secondary lock	20N MIN.	5	10	N	63.88	65.30	62.30	1.17	Pass
	Housing lock strength without terminals		49N MIN.	5	5	N	126.29	127.00	124.50	1.02	Pass
	Housing appearance		No detrimental deformation	5	5	-	No abnormalities				Pass
Thermal shock	Feeling (insertion/removal)		No discomfort	5	5	-	No abnormalities				Pass
	Connector retention force	Direction 1	100N MIN.	5	5	N	130.110	135.14	127.70	3.160	Pass
	Terminal crimp strength	1.5mmMALE	130N MIN.	-	10	N	248.03	258.0	232.7	7.62	Pass
		1.5mm FEMALE	130N MIN.	-	10	N	169.69	174.4	164.1	3.04	Pass
	Dry circuit resistance	Initial	10mΩ MAX.	5	10	mΩ	1.10	1.10	0.90	0.08	Pass
		After test	20mΩ MAX.	5	10	mΩ	1.060	1.20	0.90	0.110	Pass
	Male Terminal retention force	With secondary lock	49N MIN.	5	10	N	143.66	147.50	136.00	3.38	Pass
		Without secondary lock	20N MIN.	5	10	N	64.86	75.30	56.90	7.83	Pass
	Female Terminal retention force	With secondary lock	49N MIN.	5	10	N	128.88	133.50	123.00	3.17	Pass
		Without secondary lock	20N MIN.	5	10	N	67.63	72.80	63.20	3.47	Pass
	Housing lock strength without terminals		49N MIN.	5	5	N	126.29	127.00	124.50	1.02	Pass
Resistance to humidity	Housing appearance		No detrimental deformation	5	5	-	No abnormalities				Pass
	Connector retention force	Direction 1	100N MIN.	5	5	N	136.456	138.73	133.39	2.069	Pass
	Insulation resistance	Between terminals	100MΩ MIN.	5	5	-	1,000MΩ Min.				Pass
		Between terminal and housing	100MΩ MIN.	5	5	-	1,000MΩ Min.				Pass
	Withstanding voltage	Between terminals	No insulation breakdown or erosion	5	5	-	No abnormalities				Pass
		Between terminal and housing	No insulation breakdown or erosion	5	5	-	No abnormalities				Pass
	Leak current		1mA MAX.	5	5	-	0.1mA Max.				Pass
	Dry circuit resistance	Initial	10mΩ MAX.	5	10	mΩ	0.996	1.17	0.88	0.127	Pass
		After test	20mΩ MAX.	5	10	mΩ	1.18	1.5	0.9	0.17	Pass
	Male Terminal retention force	With secondary lock	49N MIN.	5	10	N	138.42	149.7	125.2	7.40	Pass
		Without secondary lock	20N MIN.	5	10	N	67.26	74.0	55.8	6.30	Pass
	Female Terminal retention force	With secondary lock	49N MIN.	5	10	N	133.50	136.3	127.5	2.80	Pass
		Without secondary lock	20N MIN.	5	10	N	66.84	73.0	64.4	2.70	Pass
	Housing lock strength without terminals		49N MIN.	5	5	N	126.29	127.00	124.50	1.02	Pass

6-2. Environmental Performances

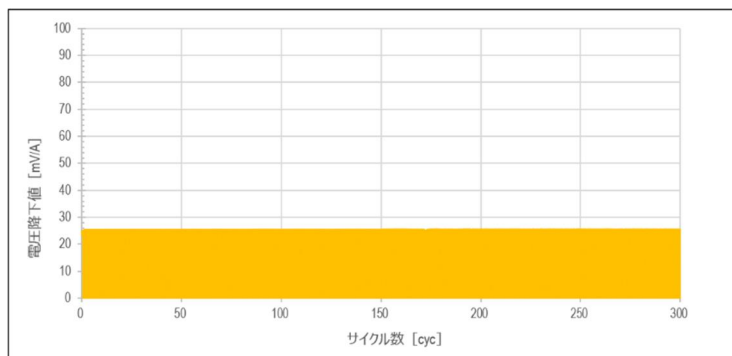
Table 3. Environmental Performances②

Item	Measurement	Requirements	Set	n	Unit	Data				Judge.
						Avg.	Max.	Min.	s	
Corrosion gas	Terminal appearance	No detrimental deformation	5	5	-	No abnormalities				Pass
	Housing appearance	No detrimental deformation	5	5	-	No abnormalities				Pass
	Terminal crimp strength	1.5mm MALE	-	10	N	172.20	174.6	167.9	2.11	Pass
		1.5mm FEMALE	-	10	N	255.08	274.0	237.0	12.67	Pass
	Voltage drop	Initial	5	10	V/A	1.030	1.12	0.94	0.060	Pass
		After test	5	10	V/A	1.560	1.77	1.40	0.120	Pass
Vibration with temperature change	Terminal appearance	No detrimental deformation	5	5	-	No abnormalities				Pass
	Housing appearance	No detrimental deformation	5	5	-	No abnormalities				Pass
	Terminal contact force	4N MIN.	-	10	N	6.030	6.10	5.90	0.100	Pass
	Voltage drop	Initial	5	10	V/A	1.070	1.30	0.90	0.090	Pass
		After test	5	10	V/A	1.240	1.80	0.90	0.210	Pass
	Dry circuit resistance	Initial	5	10	mΩ	0.880	1.04	0.73	0.081	Pass
		After test	5	10	mΩ	0.765	1.50	0.41	0.283	Pass
	Microcut	1μsMIN. 7ΩMAX.	5	5	-	No resistance above 7Ω persisted for 1μs or longer during the test.				Pass

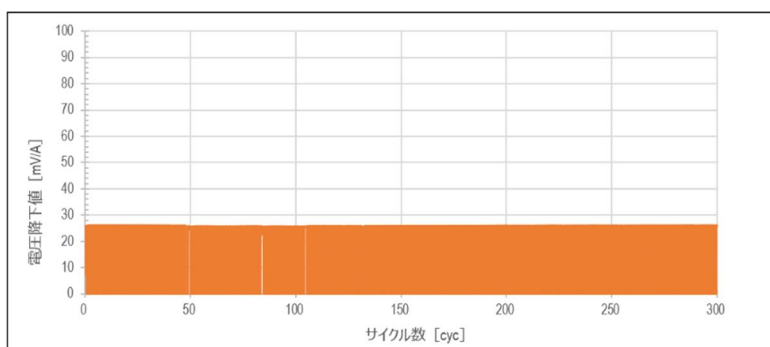


Graph 1. 1.5 mm Terminal Resistance Variation Monitor(Thermal shock)

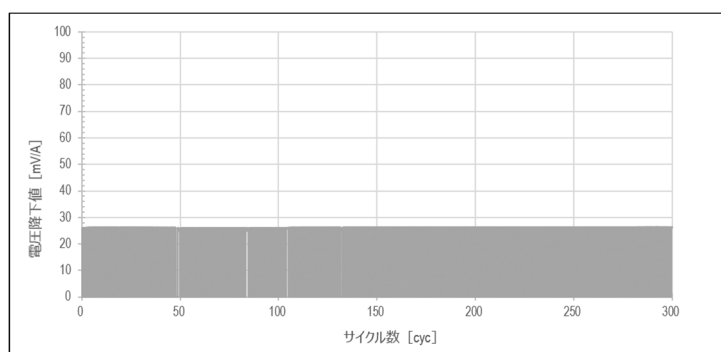
6-2. Environmental Performances



Graph2. 1.5 mm Terminal Resistance Variation Monitor (Vibration with temperature change * Front and Back)



Graph3. 1.5 mm Terminal Resistance Variation Monitor (Vibration with temperature change * Up and Down)



Graph4. 1.5 mm Terminal Resistance Variation Monitor (Vibration with temperature change * Left and Right)