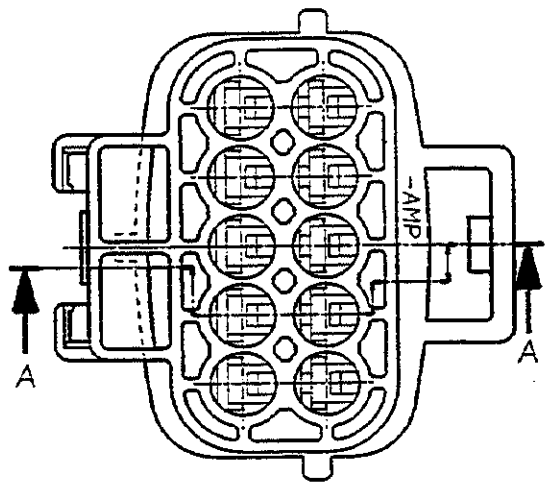
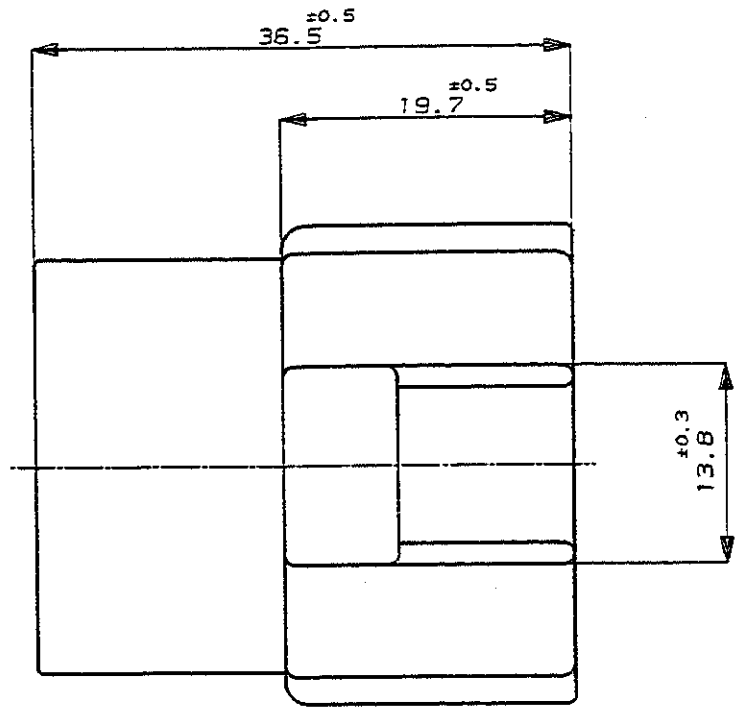
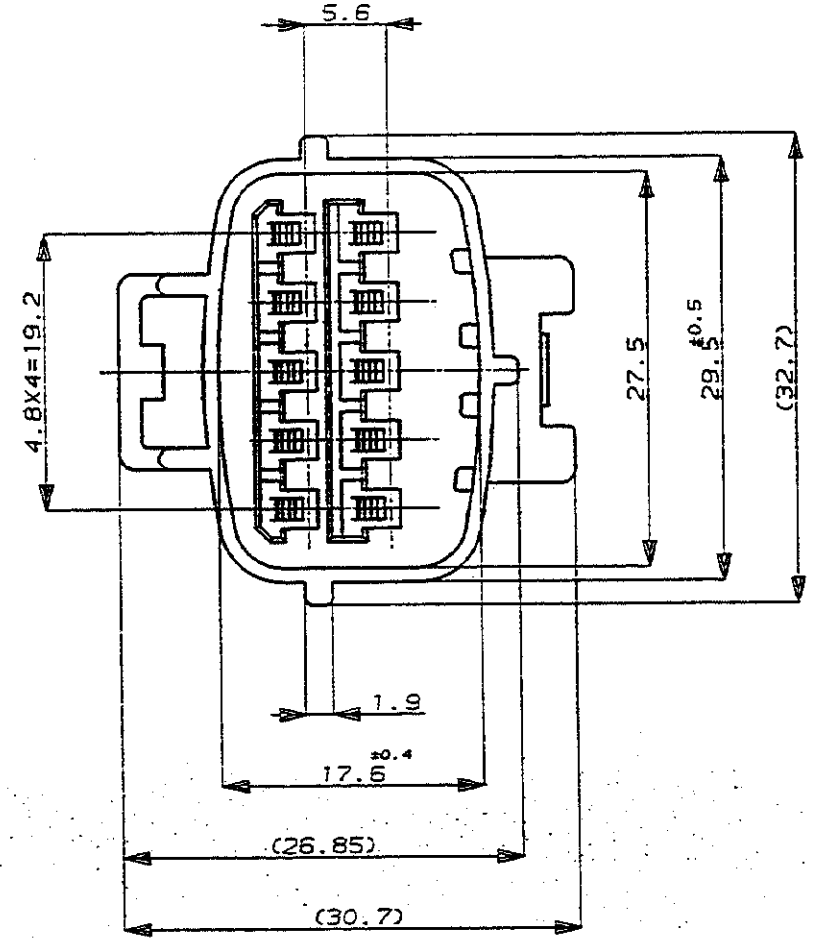
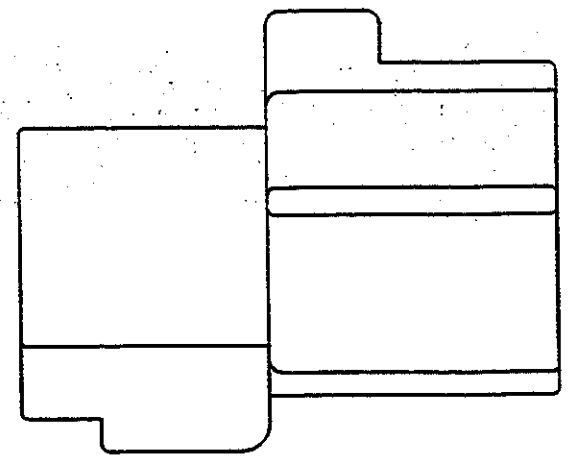
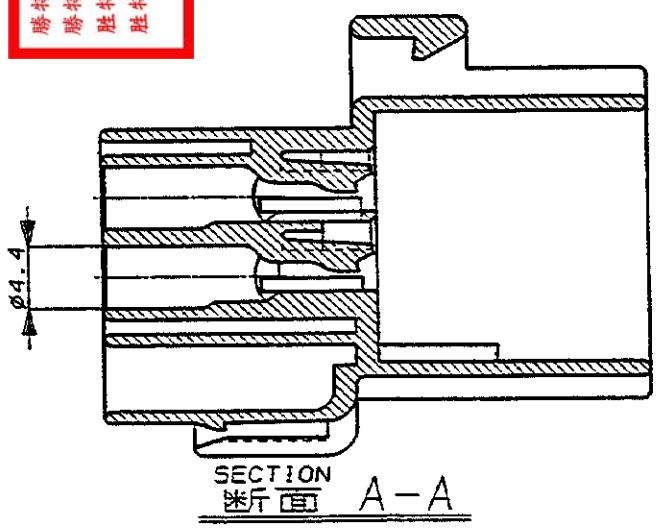
-2 ; 本 ☒
-2 AS SHOWN











注 ：

1 かん合相手型番：174655
2 本品はダブルロックプレートP/N 174658を装着して使用する

NOTE ;

1 FOR PLUG HOUSING (P/N174655)
2 THIS PART MUST BE USED WITH DOUBLE LOCK PLATE (P/N174658)

LTR	REVISION RECORD	DR	CHK	DATE
B	変更 REVISED J-10986	TSMO	"/1	'89
A	変更 REVISED J-10135	TS	MT	5/22 '89
0	作成 RELEASED	YF	TS/MT	11/4 '88

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AMP PRODUCTS COVERED BY PATENTS AND OR PATENTS PENDING

AMP | AMP (JAPAN), LTD. Tokyo, Japan

WIRE RANGE	mm² (AWG –)
INSULATION DIA	– mmø
MATERIAL	PBT
FINISH	BLACK 黒
DR.	K. Oda 7/7'87
DE.	K. Oda 7/7'87
CHK.	M Matsuzaka 7/9'87
APP.	M Yoshi 11/4'88

NAME 10P. ECONOSEAL J-MARK II+ CONNECTOR
10極 エコノシール J マーク II+
CAP HOUSING
キャップハウジング

GENERAL TOLERANCE
0<≦6 : ±0.2
10<≦30 : ±0.25
30<≦100 : ±0.3
ANGLES : ±3°

SIZE A3 | LOC J | NUMBER C-174657
SCALE 2:1 | REV. B | SHEET 1 OF 1

CUSTOMER DRAWING

NUMBER C-174657
3rd ANGLE PROJECTION
METRIC
C-CAP
10P>5.
MAZDA>U.
CAD>U.
E16683>U.
DIMENSIONS IN MILLIMETERS. DO NOT SCALE PRINT
PRINT DIST

勝特力電材超市-龍山店 886-3-5773766
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胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
http://www.100y.com.tw

AMP-J
REV. 10/'83

1. Scope:

1.1 Contents:

This specification covers the requirements for product performance, test methods and quality assurance provisions of ECONOSEAL-J Mark Ⅱ+ Connector.

The applicable product descriptions and part number are as follows:

Part Number		Descriptions
171630 171662		.070 Series Receptacle Contact
171631 171661		.070 Series Tab Contact
NBR Bis-containing 172746 172888 176886 178210	NBR non-Bis type 2822352 2822354 2822355 2822356	Rubber Plug for .070
900324(Silicone) 900325(Silicone)		
NBR Bis-containing 172748	NBR non-Bis type 2822357	Cavity Plug for .070
NBR Bis-containing 174877	NBR non-Bis type 2822388	1-Position Plug Housing for .070 Series
174878		Double Lock Plate for .070 Series 1-Position Plug Housing
174879		1-Position Cap Housing for .070 Series
174880		Double Lock Plate for .070 Series 1-Position Cap Housing
NBR Bis-containing 917851	NBR non-Bis type 2822348	.070 Series 2-Position Plug Housing
174352		.070 Series 2-Position Plug Housing
174353		Double Lock Plate for .070 Series 2-Position Plug Housing
174354		.070 Series 2-Position Cap Housing
174355		Double Lock Plate for .070 Series 2-Position Cap Housing
NBR Bis-containing 174357	NBR non-Bis type 2822390	.070 Series 3-Position Plug Housing
174358		Double Lock Plate for .070 Series 3-Position Plug Housing
174359		.070 Series 3-Position Cap Housing
174360		Double Lock Plate for .070 Series 3-Position Cap Housing
NBR Bis-containing 174257	NBR non-Bis type 2822391	.070 Series 4-Position Plug Housing
174258		Double Lock Plate for .070 Series 4-Position Plug Housing

Fig.1 (Continued)

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* : Trademark

Part Number		Descriptions
174259		.070 Series 4-Position Cap Housing
174260		Double Lock Plate for .070 Series 4-Position Cap Housing
NBR Bis-containing 174262	NBR non-Bis type 2822346	.070 Series 6-Position Plug Housing
174263		Double Lock Plate for .070 Series 6-Position Plug Housing
174264		.070 Series 6-Position Cap Housing
174265		Double Lock Plate for .070 Series 6-Position Cap Housing
NBR Bis-containing 174982	NBR non-Bis type 2822393	.070 Series 8-Position Plug Housing
174983		Double Lock Plate for .070 Series 8-Position Plug Housing
174984		.070 Series 8-Position Cap Housing
174985		Double Lock Plate for .070 Series 8-Position Cap Housing
NBR Bis-containing 174655	NBR non-Bis type 2822395	.070 Series 10-Position Plug Housing
174656		Double Lock Plate for .070 Series 10-Position Plug Housing
174657		.070 Series 10-Position Cap Housing
174658		Double Lock Plate for .070 Series 10-Position Cap Housing
NBR Bis-containing 174661	NBR non-Bis type 2822638	.070 Series 12-Position Plug Housing
174662		Double Lock Plate for .070 Series 12-Position Plug Housing
174663		.070 Series 12-Position Cap Housing
174664		Double Lock Plate for .070 Series 12-Position Cap Housing
NBR Bis-containing 174371	NBR non-Bis type 2822359	.070 Series 2-Position Plug Housing（A）
NBR Bis-containing 174372	NBR non-Bis type 2822360	.070 Series 2-Position Plug Housing（B）
NBR Bis-containing 174373	NBR non-Bis type 2822361	.070 Series 2-Position Plug Housing（C）
NBR Bis-containing 174374	NBR non-Bis type 2822362	.070 Series 2-Position Plug Housing（D）

Fig.1(End)

2. Applicable Documents:

The following documents form a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 TE Specifications:

A. 109-5000 : Test Specification, General Requirements for Test Methods
B. 114-5082 : Application Specification, Crimping Contacts for ECONOSEAL-J Mark Ⅱ+ 114-5230 Connector
C. 501-5322 : Qualification Test Report
D. 412-5325 : ECONOSEAL-J Mark Ⅱ+ Connector

2.2 Reference Documents:

JASO D 605	:	Automotive Multi-pole Connectors
JASO D 7101	:	Test Methods for Molded Plastic Parts
JIS C 3406	:	Low Voltage Cables for Automobiles
JIS D 0203	:	Method of Moisture, Rain and Spray Test for Automobile Parts
JIS D 0204	:	Method of High and Low Temperature Test for Automobile Parts
JIS D 1601	:	Vibration Testing Method for Electronic Components
JIS D 0205	:	General Rules of Weatherability for Automobile Testing
JIS K 6301	:	Physical Testing Methods for Vulcanized Rubber
JIS K 2202	:	Gasoline for Automobiles

2.3 Definition of Terms:

2.3.1 Contact:
An electrically conductive metallic member, used independently or as a component of a connector assembly to form circuit connection by contacting.

2.3.2 Housing:
A dielectric component member of a connector made of insulating material that encapsulate contact in its contact cavities. In this product line, cap housing that encapsulates tab contacts, and plug housing that encapsulates receptacle contacts are available.

2.3.3 Double Lock Plate:
Attached to the housing, this plate is intended to detect improper contact mating as well as to increase contact retention force.

2.3.4 Rubber Plug:
Attached to wire side of tab contact and receptacle contact, this plug is purposed for water-proofing.

2.3.5 Cavity Plug:
This plug is used for blinding housing holes of unused contact position for such connector as having two or more positions.

2.3.6 Seal Ring:
This ring is attached to plug housing and serves for water-proofing when mated with cap housing.

2.3.7 Connector:

A connector is an assembly of housing and crimped wire contacts with rubber plugs loaded in all contact positions, and further equipped with double lock plate. In this product line, cap housing assembled with tab contact and plug housing assembled with both receptacle contact and seal ring are available.

3. Requirements:

3.1 Design and Construction:

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2 Materials:

A. Contact: Pretinned brass or plain brass with selective gold plating over nickel underplate, conforming to Copper Alloy 260 of ASTM B 36, or pretinned phosphor bronze or plain phosphor bronze with selective gold plating over nickel underplate.

B. Housing and Double Lock Plate: Molded Polybuthlene-terephthalate (PBT) conforming to UL 94 V-2

C. Accessories and Hardware:

Rubber Plug: Nitrile Butadiene Rubber or Silicon

Cavity Plug: Nitrile Butadiene Rubber

Seal Ring: Nitrile Butadiene Rubber or Silicon

3.3 Ratings:

A. Temperature Rating: －30℃ to + 105℃ (Ambient Temperature + Temperature Rise due to energized current)

3.3.1 Applicable Wires:

Part Number		Applicable Wire Conductor Size (mm^2)	Insulation Diameter (mm)
Contact	Rubber Plug		
171630 171631	172746,2822352 178210,2822356	AV and AVS 0.2, 0.3, 0.5 one wire	1.4～2.4
171661 171662	172888,2822354 176886,2822355	AV and AVS (Note 1) 0.5, 0.85, 1.25 one wire	2～2.6

Note 1：1.25mm^2 wire is applied to AVS only.

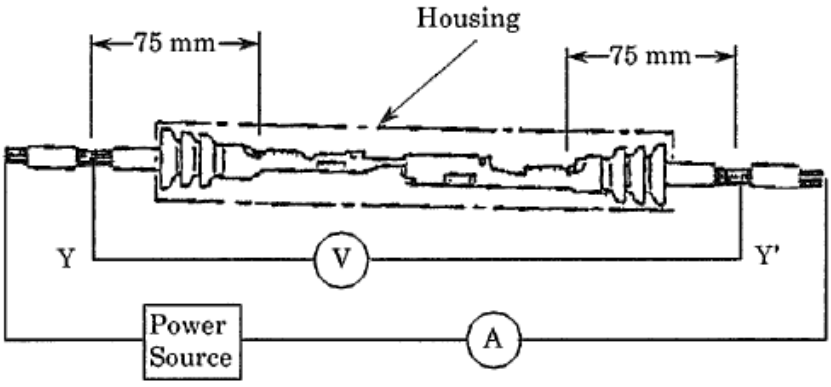
2：AVS stands for thin wire for automobile.

3.4 Performance and Test Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Para. 3.5. All tests are performed at ambient temperature unless otherwise specified.

3.5 Test Requirements and Procedures Summary:

<table>
<tr><th>Para.</th><th>Test Items</th><th colspan="2">Requirements</th><th>Procedures</th></tr>
<tr><td>3.5.1</td><td>Confirmation of Product</td><td colspan="2">Product shall be conforming to the requirements of applicable product drawing and Application Specification 114-5082</td><td>Visually, dimensionally and functionally inspected per applicable inspection plan.</td></tr>
<tr><td rowspan="9">3.5.2</td><td rowspan="9">Connector Mating Force</td><td>No. of Pos.</td><td>Mating Force N Max.</td><td rowspan="9">Measure the force required to mate connector using locking latch by operating at 100mm approx. a minute, with the locking mechanism of housing set in effect.</td></tr>
<tr><td>1</td><td>39</td></tr>
<tr><td>2</td><td>49</td></tr>
<tr><td>3</td><td>59</td></tr>
<tr><td>4</td><td>68.6</td></tr>
<tr><td>6</td><td>78.5</td></tr>
<tr><td>8</td><td>98</td></tr>
<tr><td>10</td><td>118</td></tr>
<tr><td>12</td><td>137</td></tr>
<tr><td>3.5.3</td><td>Contact Mating Force</td><td colspan="2">2.94～7.85N：
per .070 Ser. Contact</td><td>Measure the force required to mate contact by operating the head at a rate of 100mm approx. a minute.</td></tr>
<tr><td rowspan="9">3.5.4</td><td rowspan="9">Connector Unmating Force</td><td>No. of Pos.</td><td>Mating Force N Max.</td><td rowspan="9">Measure the force required to unmate connector using locking latch by operating at 100mm a minute, without the locking mechanism of housing set in effect.</td></tr>
<tr><td>1</td><td>29</td></tr>
<tr><td>2</td><td>39</td></tr>
<tr><td>3</td><td>49</td></tr>
<tr><td>4</td><td>68.6</td></tr>
<tr><td>6</td><td>78.5</td></tr>
<tr><td>8</td><td>98</td></tr>
<tr><td>10</td><td>118</td></tr>
<tr><td>12</td><td>137</td></tr>
<tr><td>3.5.5</td><td>Contact Unmating Force</td><td colspan="2">2.94～7.85N：
.070 Ser. Contact</td><td>Apply an axial pull-off load to one of mated contacts. Measure the force required to unmate contact by operating the head at a rate of 100mm approx. a minute.</td></tr>
</table>

<table>
<tr><th>Para.</th><th>Test Items</th><th colspan="2">Requirements</th><th>Procedures</th></tr>
<tr><td rowspan="9">3.5.6</td><td rowspan="9">Double Lock Plate Loading Force</td><td>No. of Pos.</td><td>Loading Force N Max.</td><td rowspan="9">Fix housing of the testing machine, and insert locking plate in axial direction by operating the head at a rate of 100mm approx. a minute. Measure the force required to complete loading of locking plate.</td></tr>
<tr><td>1</td><td>29</td></tr>
<tr><td>2</td><td>39</td></tr>
<tr><td>3</td><td>39</td></tr>
<tr><td>4</td><td>39</td></tr>
<tr><td>6</td><td>39</td></tr>
<tr><td>8</td><td>59</td></tr>
<tr><td>10</td><td>59</td></tr>
<tr><td>12</td><td>59</td></tr>
<tr><td>3.5.7</td><td>Termination Resistance (Low Level)</td><td colspan="2">3m Ω max. (Initial)
10m Ω max. (Final)</td><td>Measure by applying closed circuit current of 50mA max. at open circuit voltage of 50mV max. to the mated contact test circuit in housing. Fig.2.</td></tr>
<tr><td>3.5.8</td><td>Termination Resistance (Specified Current)</td><td colspan="2">Millivolt Drop:
3mV/A max. (Initial)
10mV/A max. (Final)</td><td>Measure by applying 1A at 12V DC to contacts in mated connectors, by probing at 75mm apart from wire crimp after temperature becomes stabilized. (Probing at Y and Y' in Fig.2) Fig.2.</td></tr>
<tr><td colspan="5">Termination Resistance (Low Level):


Termination resistance is obtained after deducting the millivolt drop of 150mm-long wire used for termination.
Probing points Y and Y' shall be pretreated by uniform soldering in order to stabilize measurement reading during the test.
Fig.2 Measurement of Termination Resistance</td></tr>
</table>

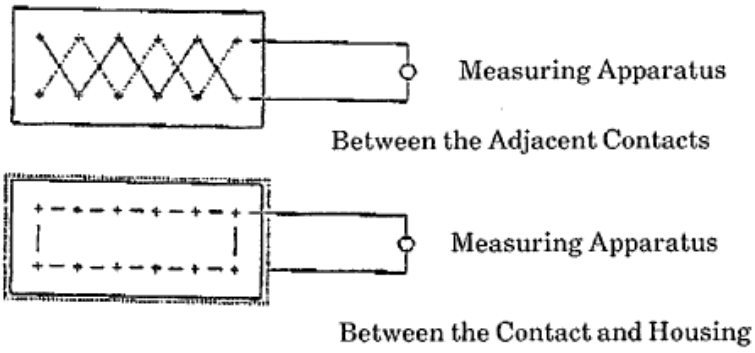
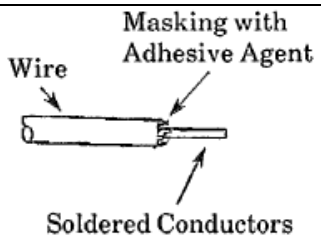
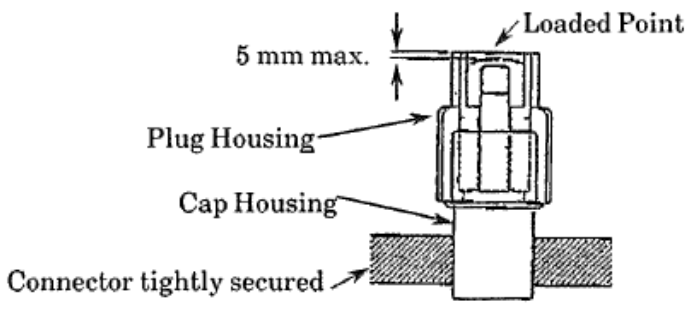
<table>
<tr><th>Para.</th><th>Test Items</th><th>Requirements</th><th>Procedures</th></tr>
<tr><td>3.5.9</td><td>Insulation Resistance</td><td>100MΩ min. (Initial)</td><td>Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connectors.</td></tr>
<tr><td>3.5.10</td><td>Dielectric Strength</td><td>Connector must withstand test potential of 1.0kVAC for 1 minute. No physical damage shall be evident after the test.


Fig.3</td><td>Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. Fig.3.</td></tr>
<tr><td>3.5.11</td><td>Handling Ergonomics</td><td>No abnormal touch shall be perceived during mating/ unmating, that may cause pain or fatigue on separator’s hand.</td><td>Repeat mating and unmating of connectors by hands.</td></tr>
<tr><td>3.5.12</td><td>Crimp Tensile Strength</td><td><table><tr><th colspan="2">Wire Size</th><th>Crimp Tensile</th></tr><tr><th>mm²</th><th>(AWG)</th><th>N Min</th></tr><tr><td>0.2</td><td>(#24)</td><td>68.6</td></tr><tr><td>0.3</td><td>(#22)</td><td>78.5</td></tr><tr><td>0.5</td><td>(#20)</td><td>88.3</td></tr><tr><td>0.85</td><td>(#18)</td><td>127</td></tr><tr><td>1.25</td><td>(#16)</td><td>177</td></tr></table></td><td>Apply an axial pull-off load to crimped wire of contact secured on the tester, at a rate of 100mm (4.0”) a minute.

TE Spec. 109-5205</td></tr>
<tr><td>3.5.13</td><td>Contact Retention Force</td><td>Contact shall not dislodge a distance greater than 78.5N Min.</td><td>Apply an axial load to 0.85mm², 100mm long crimped contact on housing. Measure the force required to dislodge the contact from housing.

TE Spec. 109-30</td></tr>
</table>

Para.	Test Items	Requirements	Procedures
3.5.14	Housing Locking Retention Force:	98 N min.	Fix mated pair of connectors on testing machine, and apply an axial separating force to one of them. Measure the force required to separate the connectors, with or without breakage of locking leg.
3.5.15	Watertight Sealing	49kPa (4.9mN/mm²) min. (Initial) 29.4kPa (2.9mN/mm²) min. (Final)  Fig.4	Blow compressed air into mated pair of connectors through a small hole. For this test, wire ends are sealed with solder and adhesive masking. Place the connectors in 30cm deep water, and must withstand the air pressure of 9.8kPa (1mN/mm²) for 30 seconds. Increase pressure at a rate of 9.8kPa (1mN/ mm²) each time until air leakage takes place.
3.5.16	Temperature Life:	Must meet the specified requirements after testing in the sequence specified in Fig.7.	Expose mated connectors under elevated temperature at 120±2℃ for 120 hours. Recondition in the room temperature before subsequent measurement.
3.5.17	Resistance to Cold	Must meet the specified requirements after testing in the sequence specified in Fig.7.	Expose mated pair of connectors under the cold atmosphere at －50 ±5℃ for 120 hours. Recondition in the room temperature before the subsequence measurement.
3.5.18	Resistance to “Kojiri”	Must meet the specified requirements after testing in the sequence specified in Fig.9.  Fig.5	Tightly secure a connector on a sturdy bench, and mate the counterpart connector. In the unmating way, apply 196N·cm (T) force in right-left directions at every 1mm graduation along the disengaging full stroke. Making one disengagement a cycle repeat for 25 cycles. When the first direction cycles are completed, apply another 25 cycles to the traverse directions or manually repeat mating / unmating of connectors for 50 cycles with Kojiri motion mode. Fig.5.

<table>
<tr><th>Para.</th><th>Test Items</th><th>Requirements</th><th>Procedures</th></tr>
<tr><td>3.5.19</td><td>Resistance to Liquid Detergents:</td><td>Must meet the specified requirements after testing in the sequence specified in Fig.9.</td><td>Immerse mated connectors into commercially suppliable car washer liquid detergent at 50±2℃ for 2 hours. After the durations, rinse in tap water for 5 minutes, and have it dried before subsequent measurement.</td></tr>
<tr><td>3.5.20</td><td>Resistance to Coolant</td><td>Must meet the specified requirements after testing in the sequence specified in Fig.9.</td><td>Immerse mated connectors into commercially suppliable L.L.C (long life coolant) at 50±2℃ for 2 hours. After the duration, lines in tap water for 5 minutes, and have it dried before subsequent measurement.</td></tr>
<tr><td>3.5.21</td><td>Resistance to Oil</td><td>Must meet the specified requirements after testing in the sequence specified in Fig.9.</td><td>Immerse mated connectors into oils the following in the specified sequence:
<table>
<tr><th>No.</th><th>Oil Names</th><th>Temperature</th><th>Dura-tion</th></tr>
<tr><td>1</td><td>Engine Oil (SAE 10w)</td><td>50±2℃</td><td>60 min.</td></tr>
<tr><td>2</td><td>Kerosene Linse</td><td>Room Temp.</td><td>5 min.</td></tr>
<tr><td>3</td><td>Motor Gasoline</td><td>Room Temp.</td><td>60 min.</td></tr>
<tr><td>4</td><td>Drying w/o Powered Ventilation</td><td>Room Temp.</td><td>AS Req'd</td></tr>
</table></td></tr>
<tr><td>3.5.22</td><td>Resistance to Ozone</td><td>Must meet the specified requirements after testing in the sequence specified in Fig.9.</td><td>Suspend mated connector in a closed container, and expose in ozone atmosphere of 50±5ppm concentration per JIS K 6301 , Para.16, at 40±2℃ for 24 hours. After the duration, recondition in the room temperature, before subsequent measurement. Record cracking condition of tested rubber surfaces, according to JIS K 6301, Para.16.6.</td></tr>
<tr><td>3.5.23</td><td>Weather Aging:</td><td>Must meet the specified requirements after testing in the sequence specified in Fig.9.</td><td>Expose mated connectors under the sunshine carbon are light beam per JIS D 0205, Para.5.4 (WAN-1S), Aging Tester, at 63±3℃ for 150 hours. Record cracking condition of tested rubber surfaces, according to JIS K 6301, Para.16.6.</td></tr>
</table>

Para.	Test Items	Requirements	Procedures
3.5.24	Dust Bombardment	Must meet the specified requirements after testing in the sequence specified in Fig.9.	Subject mated connectors to ejection of Port 1 and cement or Kanto loam dust powder dispersed by compressed air blowing at a rate of 1.5kg per 10 seconds at every other 15 minutes for the total of 1 hour. After completion of duration, repeat mating / unmating for 3 cycles.
3.5.25	Temperature Rising	50℃ max. Must meet the specified requirements after testing in the sequence specified in Fig.9.	Subject mated connectors with all the contacts series wired, to be energized with the current of the intensity obtained by Fig.6. Measure temperature rising in a draft-free chamber after temperature becomes stabilized.
3.5.26	Water Sprinkle	Must meet the specified requirements after testing in the sequence specified inFig.9. Current Leakage:100 μA max.	Suspend mated connector in a closed chamber. Subject it to heat at 120±3℃ for 40 minutes followed by sprinkling of water at room temperature for 20 minutes. Making this a cycles, repeat for 48 cycles per JIS D 0203. S1. Energize the contacts with 12VDC, and monitor the circuits for current leakage. Connected 2 meter lead wires are drawn out of the chamber for measurement.
3.5.27	Compound Environ-mental Testing (Optionally performed by customer's requirements)	Must meet the requirements after testing in the sequence specified in Fig.9.	Subject mated connectors, with all the loaded contacts series-wired as shown in Fig.7, to 44m/s² (4.5G) Vibration to reciprocate between 20-200 Hz one cycle every 3 minutes for 100 hours each to three axial directions. Measure termination resistance (low level) at completion of each axis vibration cycle. During vibration, apply test current of the intensity obtain by Table 1, for 45 minutes ON, and 15 minutes OFF for 300 cycles, in the heat cycle test condition to reciprocate between 80±3℃, −30±3℃, in 80-95% R.H. atmosphere. Fig.8.

<table>
<tr><th>Para.</th><th>Test Items</th><th>Requirements</th><th>Procedures</th></tr>
<tr><td>3.5.28</td><td>Current Cycling</td><td>Must meet the specified requirements after testing in the sequence specified in Fig.9.</td><td>Subject mated contact to test current of the intensity obtained by Fig.6 applied for 300 cycles intermittently 45 minutes ON, 15 minutes OFF to the series wired contacts.</td></tr>
<tr><td colspan="3">
<table>
<tr><th>Wire Size (mm^2)</th><th>Test Current (DC A)</th></tr>
<tr><td>0.2</td><td>7</td></tr>
<tr><td>0.3</td><td>9</td></tr>
<tr><td>0.5</td><td>11</td></tr>
<tr><td>0.85</td><td>14.5</td></tr>
<tr><td>1.25</td><td>18.5</td></tr>
</table>
<table>
<tr><th>No. of Positions</th><th>Reduction Coefficient</th></tr>
<tr><td>1</td><td>1</td></tr>
<tr><td>2～3</td><td>0.75</td></tr>
<tr><td>4～5</td><td>0.6</td></tr>
<tr><td>6～8</td><td>0.55</td></tr>
<tr><td>9～12</td><td>0.5</td></tr>
</table>
Fig.6

Note: Applying current is obtained by calculation by multiplying the current value of applicable wire size and the reduction coefficient according to the number of contact loading of the connector.
</td></tr>
<tr><td>3.5.29</td><td>Vibration Sinusoidal High Frequency</td><td>No electrical discontinuity greater than 1 microsecond shall occur.
Fig.9.</td><td>Subject mated connectors to 20-200 Hz traversed in 3 minutes with $44 m/s^2$ (4.5G) accelerated velocity; 2 hours each for “X” and “Y” axis, and 4 hours for “Z” axis. Monitor circuit for electrical discontinuity greater than 1 μ sec. taking place in the series-wired contacts.</td></tr>
</table>

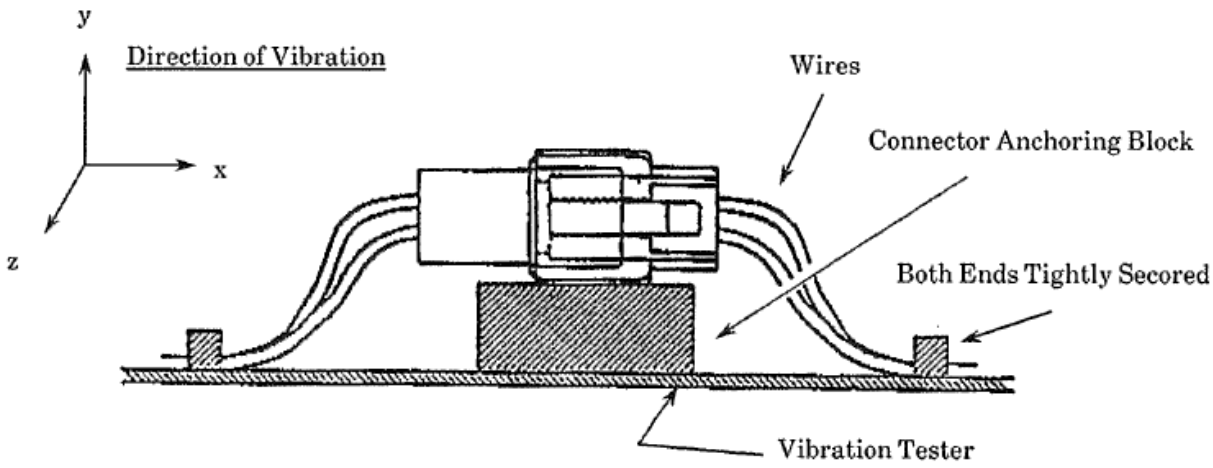

y
Direction of Vibration
x
z
Wires
Connector Anchoring Block
Both Ends Tightly Secored
Vibration Tester

Fig.7

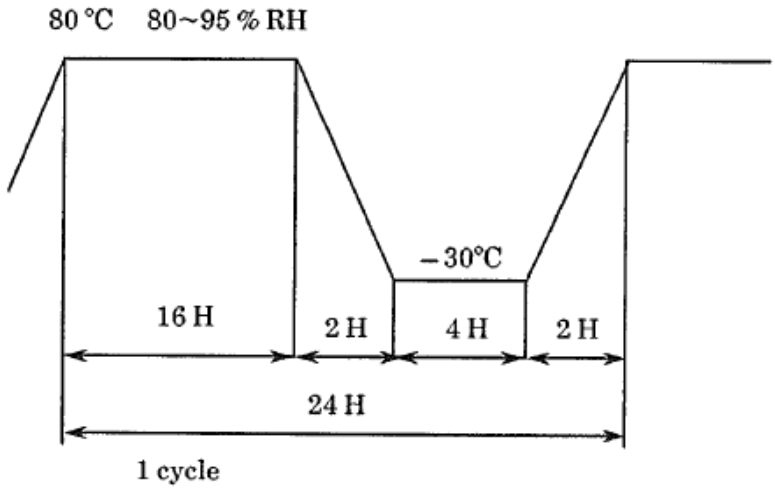

80 °C 80~95 % RH
−30°C
16 H
2 H
4 H
2 H
24 H
1 cycle

Fig.8

4. Product Qualification and Requalification Testing:

Test of Examination	Sample Groups											
	1	2	3	4	5	6	7	8	9	10	11	12
	Test Sequence											
Examination of Product	1	1	1	1	1	1	1	1	1,4	1,4	1	1
Connector Mating Force				2,10								
Contact Engaging Force	2											
Connector Unmating Force				4,11								
Contact Separating Force	3											
Double Lock Plate Loading Force			2									
Termination Resistance Low Level				3,6 8		2,6 8,10			2,5	2,5	2,4	2,4
Termination Resistance Specified Current					2,5		2,5 7					
Watertight Sealing				9		12	8	3	6	6		
Insulation Resistance						3,11						
Dielectric Withstanding Strength					4							
Handling Ergonomics							3					
Contact Retention Force			3									
Housing Retention Force				12								
Temperature Life				5								
Resistance to Cold				7								
Water Sprinkle								2				
Resistance to Kojiri							4					
Crimp Tensile Strength		2										
Composite Environmental Test							6					
Resistance to Liquid Detergents						4						
Resistance to Coolant						5						
Resistance to Oil						7						
Resistance to Ozone									3			
Weather Aging										3		
Dust Bombardment						9						
Temperature Rise vs Current					3							
Vibration Sinusoidal High Frequency											3	
Current Cycling												3

Fig.9

(a) The numbers in the columns indicate the sequence in which the tests are performed.

5. Quality Assurance Provisions:

5.1 Test Conditions:

Unless otherwise specified all the tests shall be performed in any combination of the following test conditions.

Temperature	15～35℃
Relative Humidity	45～75%
Atmospheric Pressure	86.7～107KPa (650～800mmHg)

Fig.10

5.2 Sample Preparation:

5.2.1 Samples:

The samples to be employed for the tests shall be prepared in accordance with 114-5082, TE Application Specification, Crimping .070 & .250 Series Contact for AMP-ECONOSEAL "J" Mark Ⅱ+ Connector, by using the wires specified in Table 8. No sample shall be reused, unless otherwise specified.

5.2.2 Number of Samples:

The number of contact and connector samples shall be consisting of more than 10 pieces contacts for testing contact, and more than 2 sets of connectors for testing connector.

5.2.3 Wires Used:

The wires to be employed for the tests shall be the ones specified in Fig.11.

Wire Size		Wire Strand Composition		Cross-Sectional Area		Remarks
Nominal	AWG	Strand Diameter (mm)	Number of Strands	mm²	CMA	
0.2	#24	0.20	7	0.22	434	Wires AV and thin wires (AVS) for automobiles. JIS C 3406
0.3	#22	0.26	7	0.37	733	
0.5	#20	0.32	7	0.56	1111	
0.85	#18	0.32	11	0.88	1746	
1.25	#16	0.32	16	1.29	2540	

Fig.11

6.1 Crimping and Assembly Processing:

In order to maintain reliable termination performance of housing and contacts, crimping contact shall be performed in accordance with 114-5082, TE Application Specification, Crimping .070 & .250 Series Contact for ECONOSEAL "J" Mark Ⅱ+ Connector.

Manufacturing harness and extracting contacts shall be performed in accordance with Customer Manual 412-5325, ECONOSEAL "J" Mark Ⅱ+ Connectors.