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※A part of evaluation data is provided as an example.

We provide individual evaluation data of a particular product or unpublished data after a request by e-mail. please contact us individually for data not listed on the site.

※individual evaluation data of a particular product can be downloaded from the Product Search page.

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Initial Contact Resistance	TEST REPORT
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Product : SD Memory Card Socket
Data No. : AXA2S73062-M-001
Page No. : 1 / 1

**Purpose**

Confirm characteristics of initial contact resistance in accordance with spec.

**Sample**

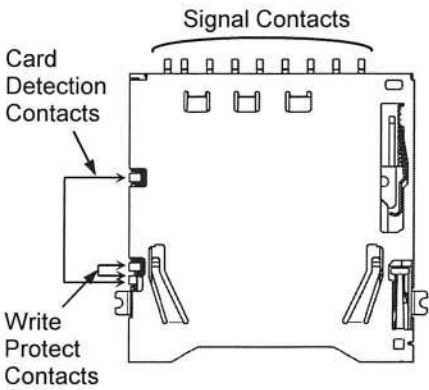
SD Memory card socket (Applicable to SDIO S-type, Standard type)  
 Stand-off 0mm (With the function of card jump-out prevention)  
 <AXA2S73062-M> (n=5)

**Test condition**

Measure the resistance between terminals by milliohm meter.  
 (According to the method of JIS C 5402 [IEC 60512])  
 SD memory card: Test card (Made by Panasonic)

**Criteria**

Contact resistance  
 Signal contacts: 100 mΩ max.  
 Card detection contacts: 150 mΩ max.  
 Write protect contacts: 150 mΩ max.



**Test result**

Signal contacts: 45 Contacts, Detection contacts: 15 contacts [mΩ]

	Signal contacts	Detection contacts	
		Card detection contacts	Write protect contacts
Avg.	16.050	41.750	33.683
Max.	19.79	42.26	35.02
Min.	13.50	41.25	32.14

**Judgment**

No problems were observed.

Insulation Resistance

TEST REPORT

Product : SD Memory Card Socket

Data No. : AXA2S73062-M-002

Page No. : 1 / 1

Purpose

Confirm characteristics of insulation resistance in accordance with spec.

Sample

SD Memory card socket (Applicable to SDIO S-type, Standard type)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

Test condition

The insulation resistance between contiguity terminals (mating card) and between shell and each contact (unmating card) is measured.  
Measured at D.C. 500 V megger for 1 minute.

Criteria

Insulation resistance: 1,000MΩ min. (Initial)

Test result

Contiguity terminals: 50 contacts. Between shell and each contact: 60 contacts

Measurement part	Test result
Contiguity terminals	More than 1,000MΩ
Between shell and each contact	

Judgment

No problems were observed.

Date: April 05, 2011

HONDA TSUSHIN KOGYO CO., LTD.

Drawn by *T. Sato*

Reviewed by \_\_\_\_\_

Checked by *T. Sato*

Approved by *K. Takahashi*

## Purpose

Confirm characteristics of breakdown voltage resistance in accordance with spec.

## Sample

SD Memory card socket (Applicable to SDIO S-type, Standard type.)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

## Test condition

The breakdown voltage resistance between contiguity terminals (mating card) and between shell and each contact (unmating card) is measured.  
A.C. 500 V are impressed for 1 minute and it measure with 1mA of detection current.

## Criteria

There are no short and damage.

## Test result

Contiguity terminals: 50 contacts. Between shell and each contact: 60 contacts

Measurement part	Test result
Contiguity terminals	There are no short and damage at A.C. 500 V for 1 minute.
Between shell and each contact	

## Judgment

No problems were observed.

Date: April 05, 2011

HONDA TSUSHIN KOGYO CO., LTD.

Drawn by

*T. Sato*

Reviewed by

\_\_\_\_\_

Checked by

*T. Sato*

Approved by

*K. Takahashi*

# Card Insertion and Removal Force

## TEST REPORT

Product : SD Memory Card Socket

Data No. : AXA2S73062-M-004

Page No. : 1 / 1

### Purpose

Confirm characteristics of card insertion and removal force in accordance with spec.

### Sample

SD Memory card socket (Applicable to SDIO S-type, Standard type,)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

### Test condition

It measures with an exclusive examination machine.  
SD memory card: Test card (Made by Panasonic)

### Criteria

Card insertion force: 40N max.  
Card removal force: 1N min. 40N max.

### Test result

	Card insertion force	Card removal force
Avg.	9.658	9.581
Max.	9.90	9.86
Min.	9.28	9.37

[N]

- >Card insertion force: The load for cum-lock
- >Card removal force: The load for cum-unlock

### Judgment

No problems were observed.

Date: April 05, 2011

HONDA TSUSHIN KOGYO CO., LTD.

Drawn by

*T. Sato*

Reviewed by

—

Checked by

*T. Sato*

Approved by

*K. Takahashi*

## Purpose

Confirm characteristics of resistant to soldering heat (reflow soldering) in accordance with spec.

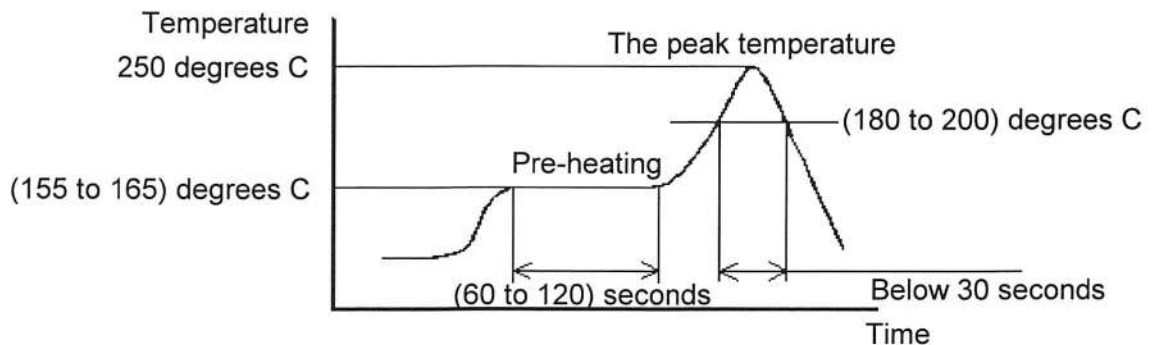
## Sample

SD Memory card socket (Applicable to SDIO S-type, Standard type)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

## Test condition

Reflow solder

- 1) Used solder: M705 (Made by SENJU METAL INDUSTRY CO., LTD.)
- 2) Screen thickness: 120 $\mu$ m
- 3) P.C.B. thickness: 1.0mm (FR-4)
- 4) Reflow temperature profile:

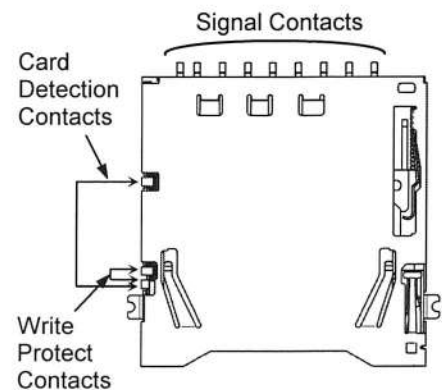


Recommended condition of reflow temperature profile

## Criteria

After 2 times reflow

- a) Appearance: There is no deforming, camber and crack of molded parts.
- b) Insulation resistance: 1,000 M $\Omega$  min. (at D.C. 500 V)
- c) Breakdown voltage resistance: A.C. 500 V / 1 minute. (Detection current: 1mA)
- d) Contact resistance:
  - Signal contacts: 100m $\Omega$ .
  - Card detection contacts: 150m $\Omega$  min.
  - Write protect contacts: 150m $\Omega$  min.
- e) Card insertion force: 40N max.
- f) Card removal force: 1N min. 40N max.



Date: April 05, 2011

HONDA TSUSHIN KOGYO CO., LTD.

Drawn by

*T. Sege*

Reviewed by

—

Checked by

*T. Sato*

Approved by

*K. Takahashi*

## Test result

a) Appearance: There was no deforming, camber and crack of molded parts.

b) Insulation resistance:

Measurement part	Test result
Contiguity terminals	More than 1,000 MΩ
Between shell and each contact	

c) Breakdown voltage resistance:

Measurement part	Test result
Contiguity terminals	There are no short and damage at A.C. 500 V for 1 minute.
Between shell and each contact	

d) Contact resistance:

[mΩ]

	Signal contacts	Detection contacts	
		Card detection contacts	Write protect contacts
Avg.	15.988	42.382	34.208
Max.	20.99	43.66	34.84
Min.	13.75	40.83	33.73

e) Card insertion force: [N]

	Test result
Avg.	9.632
Max.	9.97
Min.	9.25

f) Card removal force: [N]

	Test result
Avg.	9.663
Max.	9.93
Min.	9.37

## Judgment

No problems were observed.

Date: April 05, 2011



Purpose

Confirm characteristics of resistant to soldering heat (manual soldering) in accordance with spec.

Sample

SD Memory card socket (Applicable to SDIO S-type, Standard type)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

Test condition

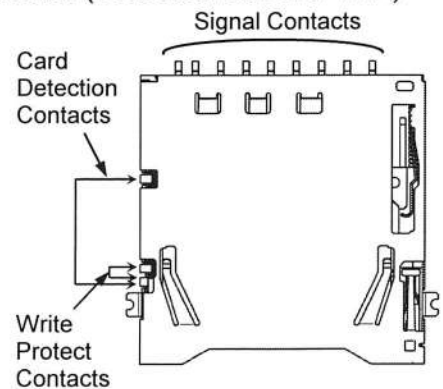
Manual solder

- 1) Used solder: M705 (Made by SENJU METAL INDUSTRY CO., LTD.)
- 2) P.C.B. thickness: 1.0mm (FR-4)
- 3) Soldering condition:
  - Soldering iron temperature: 300 degrees C
  - Soldering time: 5 seconds

Criteria

After manual solder

- a) Appearance: There is no deforming, camber and crack of molded parts.
- b) Insulation resistance: 1,000 MΩ min. (at D.C. 500 V)
- c) Breakdown voltage resistance: A.C. 500 V / 1 minute. (Detection current: 1mA)
- d) Contact resistance:
  - Signal contacts: 100mΩ.
  - Card detection contacts: 150mΩ min.
  - Write protect contacts: 150mΩ min.
- e) Card insertion force: 40N max.
- f) Card removal force: 1N min. 40N max.



Test result

- a) Appearance: There was no deforming, camber and crack of molded parts.
- b) Insulation resistance:

Measurement part	Test result
Contiguity terminals	More than 1,000 MΩ
Between shell and each contact	

- c) Breakdown voltage resistance:

Measurement part	Test result
Contiguity terminals	There are no short and damage at A.C. 500 V for 1 minute.
Between shell and each contact	

Date: April 05, 2011

HONDA TSUSHIN KOGYO CO., LTD.

Drawn by *T. Sege*

Reviewed by *—*

Checked by *T. Satō*

Approved by *K. Takemura*

d) Contact resistance: [mΩ]

	Signal contacts	Detection contacts	
		Card detection contacts	Write protect contacts
Avg.	12.281	44.081	31.906
Max.	20.71	45.13	33.20
Min.	15.85	42.22	30.26

e) Card insertion force: [N]

	Test result
Avg.	9.730
Max.	10.25
Min.	9.31

f) Card removal force: [N]

	Test result
Avg.	9.513
Max.	9.93
Min.	9.11

## Judgment

No problems were observed.

## Purpose

Confirm characteristics of resistant to humidity in accordance with spec.

## Sample

SD Memory card socket (Applicable to SDIO S-type, Standard type,)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

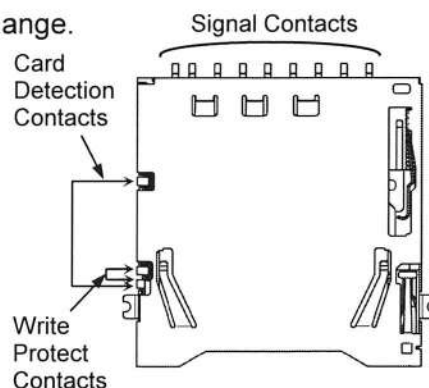
## Test condition

Temperature: +40 degrees C  
Humidity of the upper limit: 95%RH  
Humidity of the lower limit: 90%RH  
Exposure condition: Mating card

## Criteria

After 500 hours exposure

- Appearance: There is no deforming, camber and crack of molded parts.
- Insulation resistance: 100 MΩ min. (at D.C. 500 V)
- Breakdown voltage resistance: A.C. 500 V / 1 minute. (Detection current: 1mA)
- Contact resistance:
  - Signal contacts: After test 40mΩ maximum change.
  - Card detection contacts: 150mΩ min.
  - Write protect contacts: 150mΩ min.
- Card insertion force: 40N max.
- Card removal force: 1N min. 40N max.



## Test result

- Appearance: There was no deforming, camber and crack of molded parts.
- Insulation resistance:

Measurement part	Test result
Contiguity terminals	More than 100 MΩ
Between shell and each contact	

- Breakdown voltage resistance:

Measurement part	Test result
Contiguity terminals	There are no short and damage at A.C. 500 V for 1 minute.
Between shell and each contact	

Date: April 05, 2011

HONDA TSUSHIN KOGYO CO., LTD.

Drawn by

*T. Sege*

Reviewed by

—

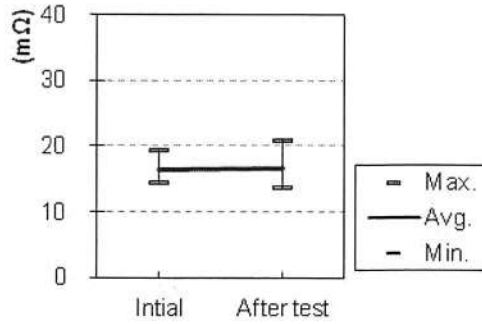
Checked by

*T. Sato*

Approved by

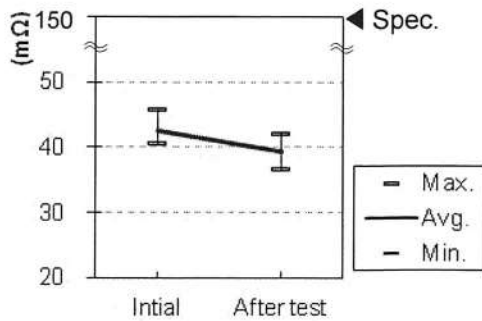
*K. Takahashi*

d) Contact resistance:  
Signal contacts

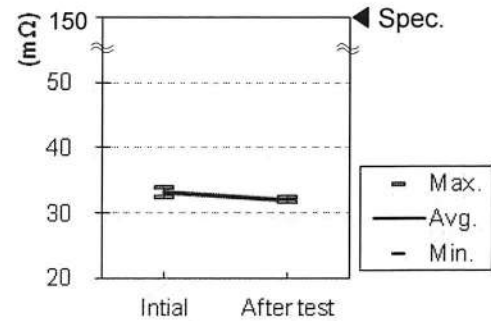


$\Delta R_c$ [mΩ]	
Avg.	0.292
Max.	3.10
Min.	-2.22

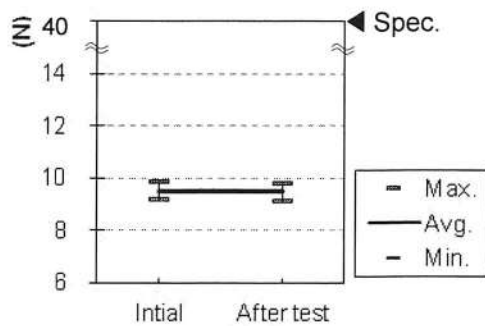
Card detection contacts



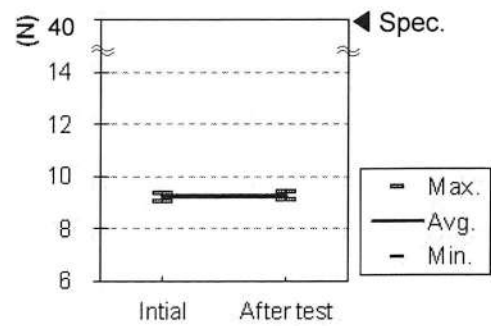
Write protect contacts



e) Card insertion force:



g) Card removal force:



Judgment

No problems were observed.

# Thermal Shock Resistance

## TEST REPORT

Product : SD Memory Card Socket

Data No. : AXA2S73062-M-011

Page No. : 1 / 2

### Purpose

Confirm characteristics of thermal shock resistance in accordance with spec.

### Sample

SD Memory card socket (Applicable to SDIO S-type, Standard type,)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

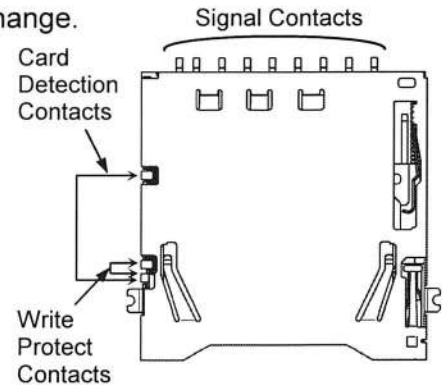
### Test condition

Temperature of the upper limit: +85 degrees C  
Temperature of the lower limit: -55 degrees C  
Time: 30 minutes each  
Exposure condition: Mating card

### Criteria

After 5 cycles exposure

- a) Appearance: There is no deforming, camber and crack of molded parts.
- b) Insulation resistance: 100 MΩ min. (at D.C. 500 V)
- c) Breakdown voltage resistance: A.C. 500 V / 1 minute. (Detection current: 1mA)
- d) Contact resistance:
  - Signal contacts: After test 40mΩ maximum change.
  - Card detection contacts: 150mΩ min.
  - Write protect contacts: 150mΩ min.
- e) Card insertion force: 40N max.
- f) Card removal force: 1N min. 40N max.



### Test result

- a) Appearance: There was no deforming, camber and crack of molded parts.

- b) Insulation resistance:

Measurement part	Test result
Contiguity terminals	More than 100 MΩ
Between shell and each contact	

- c) Breakdown voltage resistance:

Measurement part	Test result
Contiguity terminals	There are no short and damage at A.C. 500 V for 1 minute.
Between shell and each contact	

Date: April 05, 2011

HONDA TSUSHIN KOGYO CO., LTD.

Drawn by

*T. Ito*

Reviewed by

\_\_\_\_\_

Checked by

*T. Ito*

Approved by

*K. Takahashi*

# Thermal Shock Resistance

## TEST REPORT

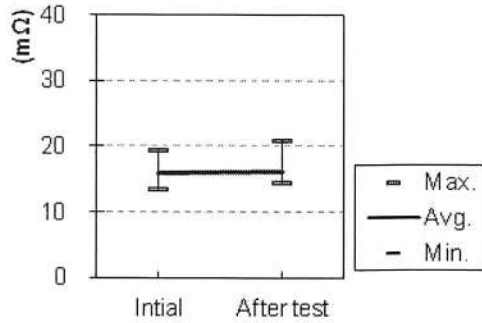
Product : SD Memory Card Socket

Data No. : AXA2S73062-M-011

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### d) Contact resistance:

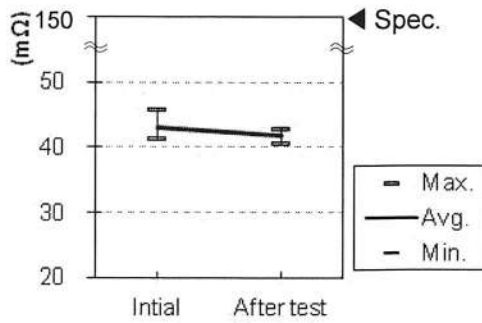
Signal contacts



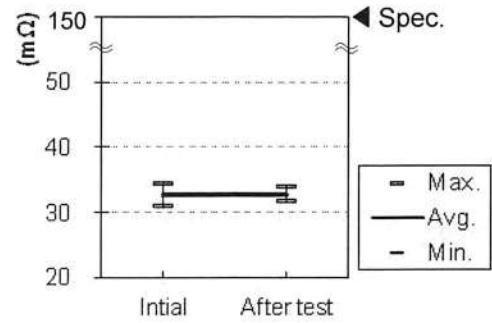
$\Delta R_c$  [mΩ]

Avg.	0.324
Max.	3.16
Min.	-2.29

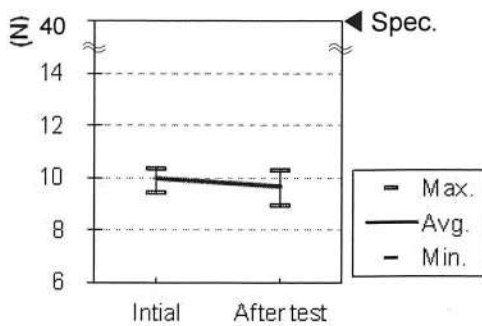
Card detection contacts



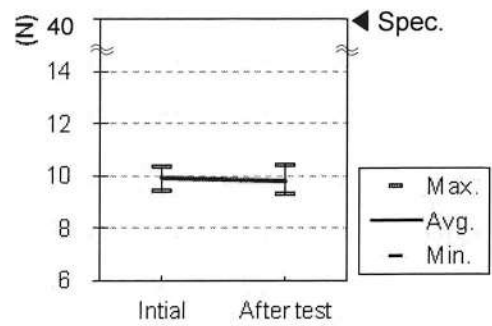
Write protect contacts



### e) Card insertion force:



### g) Card removal force:



### Judgment

No problems were observed.

Date: April 05, 2011

<b>Hydrogen sulfide</b>	<b>TEST REPORT</b>
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Product : SD Memory Card Socket
Data No. : AXA2S73062-M-015
Page No. : 1 / 2

**Purpose**

Confirm characteristics of hydrogen sulfide in accordance with spec.

**Sample**

SD Memory card socket (Applicable to SDIO S-type, Standard type,)  
Stand-off 0mm (With the function of card jump-out prevention)  
<AXA2S73062-M> (n=5)

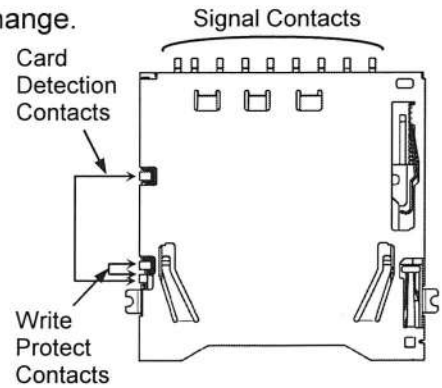
**Test condition**

Concentration: 3ppm  
Temperature: +40 degrees C  
Humidity: 80%RH  
Exposure condition: Mating card

**Criteria**

After 96 hours exposure

- a) Appearance: There is no deforming, camber and crack of molded parts.
- b) Insulation resistance: 100 MΩ min. (at D.C. 500 V)
- c) Breakdown voltage resistance: A.C. 500 V / 1 minute. (Detection current: 1mA)
- d) Contact resistance:
  - Signal contacts: After test 40mΩ maximum change.
  - Card detection contacts: 150mΩ min.
  - Write protect contacts: 150mΩ min.



**Test result**

a) Appearance: There was no deforming, camber and crack of molded parts.

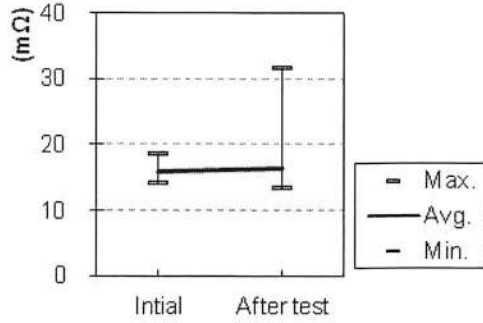
b) Insulation resistance:

Measurement part	Test result
Contiguity terminals	More than 100 MΩ
Between shell and each contact	

c) Breakdown voltage resistance:

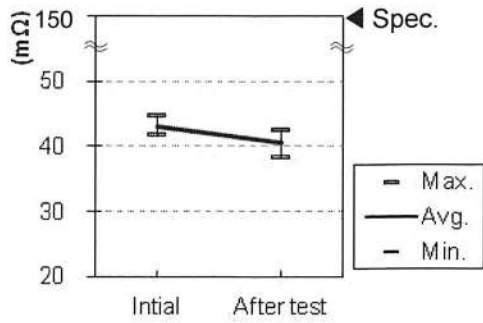
Measurement part	Test result
Contiguity terminals	There are no short and damage at A.C. 500 V for 1 minute.
Between shell and each contact	

d) Contact resistance:  
Signal contacts

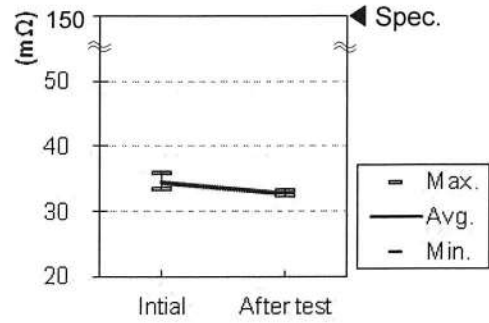


$\Delta R_c$	[mΩ]
Avg.	0.661
Max.	16.23
Min.	-2.63

Card detection contacts



Write protect contacts



Judgment

No problems were observed.