COMMON PARTS/MATERIALS, SPACE USE, APPLICATION DATA SHEET FOR

Part Description	CONNECTORS, COAXIAL, RADIO FREQUENCY, HIGH RELIABILITY, SPACE USE CABLE PLUG, STRAIGHT
Part Number and Type	J2060/HA14-33C3 J2060/HA14-33C4 J2060/HA14-31A9 J2060/HA14-31A5 J2060/HA14-31A6
Applicable Specification	JAXA-QTS-2060 JAXA-QTS-2060 Appendix H JAXA-QTS-2060/H401

March 2025

Prepared and Established by Waka Manufacturing Co., Ltd.

Issued by Japan Aerospace Exploration Agency

This document is the English version of JAXA QTS/ADS which was originally written and authorized in Japanese and carefully translated into English for international users. If any question arises as to the context or detailed description, it is strongly recommended to verify against the latest official Japanese version.

The release date of the English version of this data sheet: 24 March 2026

Record of revisions

Rev.	Date	Description
NC	24 Feb. 2014	Original
A	28 Sept. 2016	Reflected the change of document by Waka Manufacturing Co., Ltd. Document No: JX012 (Rev. A)
B	21 Mar. 2025	Reflected the change of document by Waka Manufacturing Co., Ltd. Document No: JX012 (Rev. B)
		The remainder of this page is intentionally left blank.

JX-012

Revision history

Rev.	Date	Description
NC	24 Feb. 2014	Original
A	28 Sep. 2016	Paragraph 3.3.2: Corrected an error on the caption beneath the image. Paragraph 3.3.2 c): Corrected a minor wording error. Paragraph 3.3.2 d): Changed from “between external conductor and external jacket” to “between insulator and external conductor” and corrected a minor wording error. Paragraph 3.3.2 g): Added the wording, “over the ferrule to its end” for clarification. Paragraph 3.3.3 b): Corrected a minor wording error. Paragraph 10.1 Contact Information: Changed the contact address, telephone/Fax numbers due to the head quarter relocation.
B	21 Mar. 2025	・ Revised in accordance with the revised general specification JAXA-QTS-2060F. 1) Changed terminology to align the standardized nomenclature for connectors and contacts. (for Japanese version only.) 2) Items (a), (b) and (c) of paragraph 4.2, and item (e) of paragraph 4.3: Changed wording from "Insertion/removal force" to "connector mating and unmating force." 3) Item (d) of paragraph 4.1: Changed wording from “corona level” to “partial discharge.” 4) Item (c) of paragraph 4.2: Changed wording from “coupling characteristics” to “contact insertion and removal characteristics.” 5) Items (a) and (b) of paragraph 4.3: Changed wording from “intermittent contact” to “electrical interruption.” ・ Paragraph 3.1. Rating Corrected wording error in item c). ・ Paragraph 8. Storage conditions Deleted the text of “Suppliers” since "Suppliers" is not defined in this data sheet. (for Japanese version only.) ・ Paragraph 9. NOTES Itemized and corrected editorial error. ・ Figure 3 Added note under the dimension table in order to define the dimension "A" of ID numbers 31A9, 31A5 and 31A6 as coupling dimensions.

JX-012

Contents

COMMON PARTS AND MATERIALS, SPACE USE,
APPLICATION DATA SHEET FOR

1. GENERAL

1.1 Scope

This Application Data Sheet details additional general information necessary for parts selection and/or equipment design that is not contained in JAXA-QML. Users are encouraged to look into other information sources for specific applications, and responsible for their decisions on part selection and usage.

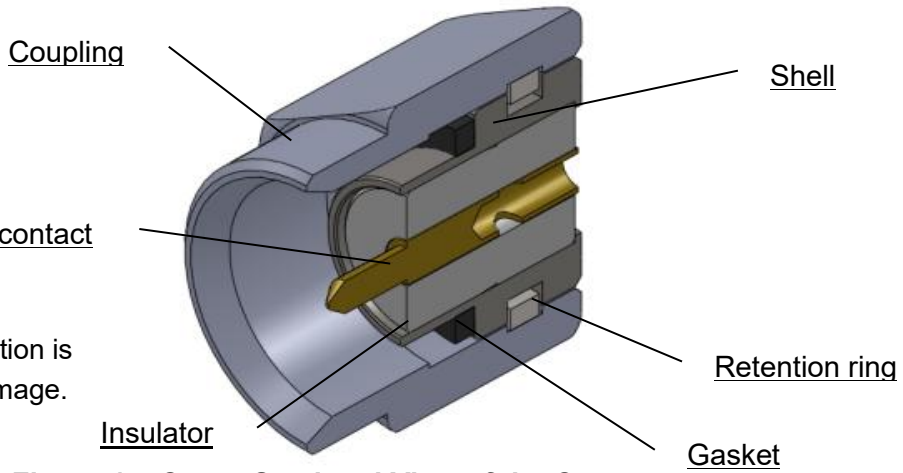
1.2 Applicable Documents

JAXA-QTS-2060	Connectors, High Reliability, Space Use, General Specification for
JAXA-QTS-2060 Appendix H	Connectors, Coaxial, Radio Frequency
JAXA-QTS-2060/H401	Connectors, Coaxial, Radio Frequency, High Reliability, Space Use, Cable Plug, Straight Detail Specification For

2. SUMMARY OF PRODUCTS

2.1 Outline

Connectors described in this data sheet are high reliability parts for electronic equipment to be installed on satellites and/or launch vehicles. They are coaxial radio frequency connectors which are generally referred to as SMA connectors.
Shells are round in shape and the mating parts contains the male connector with coupling nut and the female connector with an external thread to prevent mis-mating.
The contact of the connectors is a coaxial type only and the insulation is made out of Teflon which makes it a low-loss connector even at the radio frequency.
The connectors are compatible with ESA and MIL-certified connectors.
Cross-sectional view of the connector shall be shown in Figure 1.



Note: The screw section is not included in this image.

Figure 1. Cross-Sectional View of the Connector

2.2 Structure of Part Numbers for Connectors

The names of the sections of the connectors shall be in accordance with Appendix H of JAXA-QTS-2060 and as follows.

2.2.1 Part Number

The part number of the connectors is assigned based on the series, configuration, and identification number and the example is as follows.

Example J2060 / HA - 14 - 31A5

HA	14	31A5
Series (HA:SMA)	Configuration (Table1)	Identification number (Paragraph 2.2.1.1)

Table 1. Configuration

1st digit number	Connector type	2nd digit number	Configuration/attachment
1	Cable plug	4	Straight

2.2.1.1 Identification Number

The identification number for connectors shall indicate material, finish, termination style and applicable cable using one number or one alphabet as shown below. See Table 2 for details.

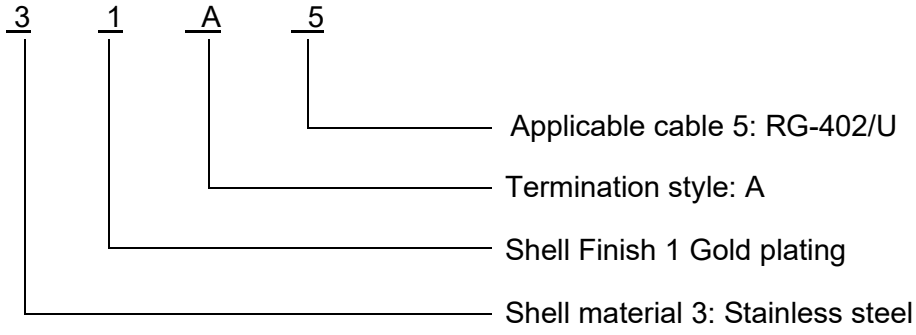


Table 2. Part Number

Item		Applicable paragraph of JAXA-QTS-2060, Appendix H	Description			
Part number		H.1.2	Example: J2060/HA14-33A5			
Series		H.1.2.1	HA: SMA			
Style		H.1.2.2	Connector type	1: Cable plug		
			Connector configuration	4: Straight		
Identification number	Material (shell)	H.1.2.3	3: Stainless steel			
	Finish (shell)		1: Gold plating 3: Passivation			
	Termination style		Symbol	Center contact	External electrode	Captivation
			A	Solder	Solder	NA
			C	Solder	Crimp	NA
	Applicable cable		No.	Cable name	No.	Cable name
			3	RG-316/U	5	RG-402/U (UT-141)
			4	RG-400/U	6	RG-405/U (UT-085)
			9	RG-401/U (UT-250)	-	-

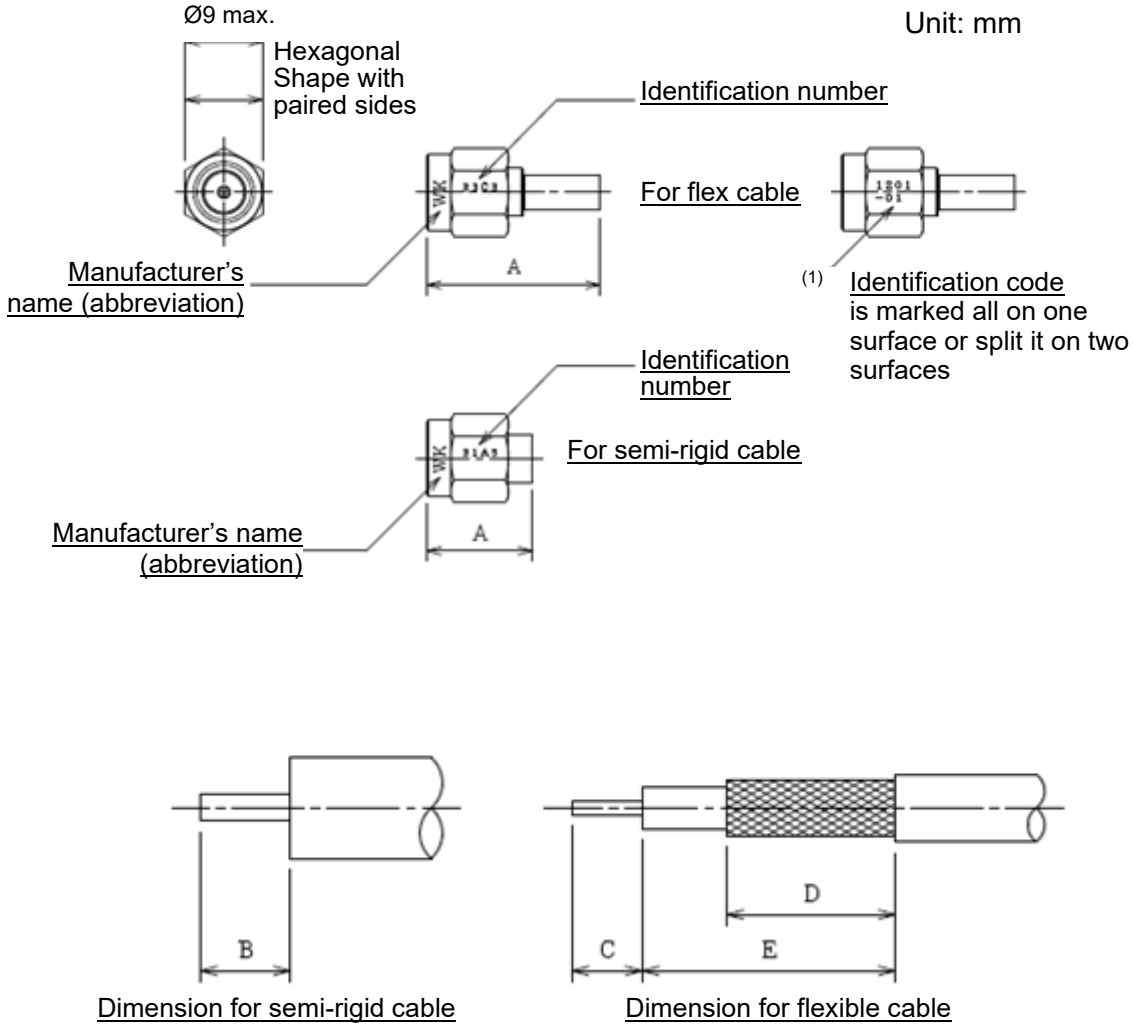
2.3 External, Dimensions, and Marking

The external, dimensions, and marking shall be as specified in Figures 2 and 3.

Example: JAXA2060/HA14-33C3
Connector, shell crimp type for straight plug cable (RG-316/U)

Figure 2. External Views of the Connectors

JX-012



ID number	A	B	C	D	E	Weight (g)	Note
33C3	20.0 max.	-	2.5	6.0	9.0	2.5 to 2.8	RG-316
33C4	22.0 max.	-	2.5	5.4	7.9	3.5 to 3.8	RG-400
31A9	21.5 max.	4.2	-	-	-	3.3 to 3.6	RG-401 (UT-250)
31A5	11.5 max.	3.2	-	-	-	2.1 to 2.3	RG-402 (UT-141)
31A6	10.4 max.	3.2	-	-	-	2.3 to 2.5	RG-405 (UT-085)

Note: ([1]) Identification code shall be specified in Table 3.
Since the cables with ID numbers 31A9, 31A5 and 31A6 are provided as pre-assembled parts, dimension A to be inspected in item "Externals, dimensions and marking" of quality conformance inspection (group A) shall be coupling dimension.

Figure 3. Externals, Dimensions, and Marking of Connector

Table 3. Identification Code

Example:	13 12 — 01 1 2 3
1	Year manufactured
2	Week manufactured

3	Production lot number (series)

3. USAGE

3.1 Rating

a)	Rated voltage	335Vrms (Barometric pressure)
b)	Nominal impedance	50Ω
c)	Operating temperature range	-65 to +165°C (RG-316, 400/U) -65 to +105°C (RG-401, 402, 405/U)

3.2 Mounting Method

3.2.1 Tools Necessary for Connecting and Assembling the Straight Cable Plug

Soldering iron, tweezers, caliper, and dryer.

3.2.2 Tool for Coupling

For straight plug for semi-rigid cable, the coupling tool is necessary to install a coupling after soldering the shell.
The tip of the coupling tool shall be as shown in Figure 4.

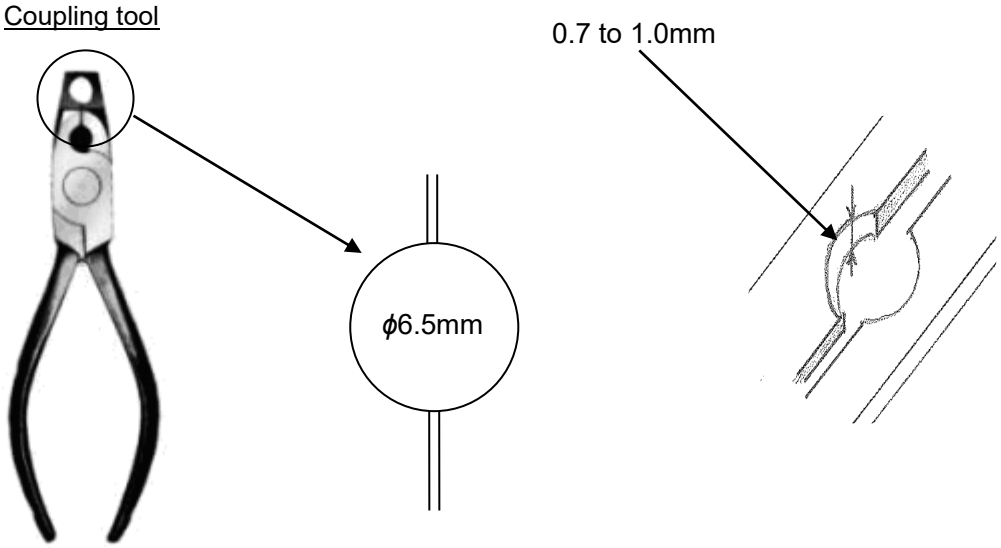


Figure 4. Tool for Coupling

3.2.3 Hexagonal Crimp Tool

For RG-316/U

Crimp height 3.25mm e.g.: Crimpex 56-0908 or 50-0203
For RG-400/U
Crimp height 5.41mm e.g.: Crimpex 50-1113 or 53-8242

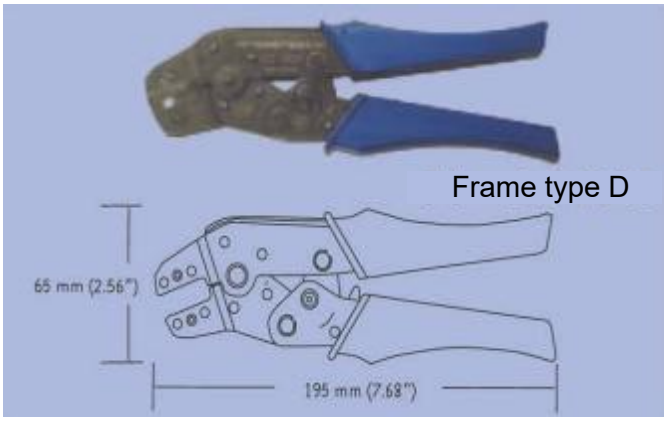


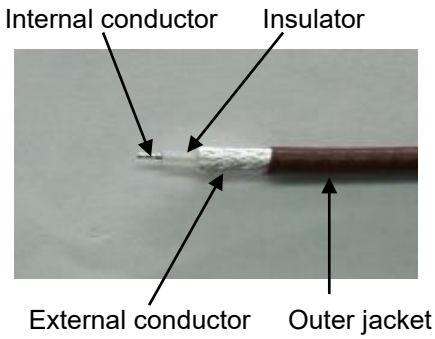
Figure 5. Hexagonal Crimp Tool

3.3 Assembly Method

3.3.1 Cable Termination Process

The dimensions for cable termination process is shown in Figure 3. The sharp fracture surface shall be handled with caution.

3.3.2 Assembly Procedure (Crimp Type)



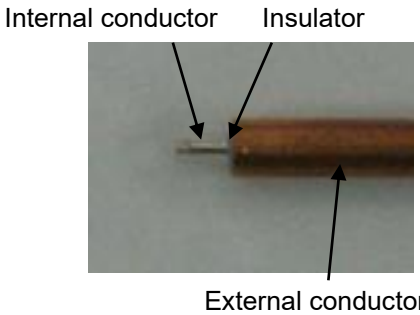
a) Insert the internal conductor of the cable into the center contact.
Note that there shall be no gap between center contact and insulator. Make certain the internal conductor is inserted deeper than the solder hole.

b) Solder the internal conductor to the center contact
The center contact shall be heated with soldering iron and solder shall be inserted through the solder hole. After soldering, make certain from the other side of the hole that the adequate amount of solder was in the center contact.

c) Slide a ferrule and heat-shrink tube over the cable.
d) While inserting the shell between insulator and external conductor, insert the cable with soldered center contact all the way into the shell. Then, slide the ferrule towards the tip and crimp it with a hexagonal crimp tool (crimp height 3.25mm and 5.41mm). Crimp at least twice at the different crimping surface.
e) Put a gasket and retaining ring over the shell.

f) While closing the retaining ring with coupling tool, install the coupling nut on the shell.
g) Cover the heat-shrink tube over the ferrule to its end and heat the tube with the dryer. This ends the assembly process.
Note that the heat-shrink tube shall not be moved from the specified area.

3.3.3 Assembly Procedure (Semi-Rigid Type)



a) Insert internal conductor of the cable into the center contact.
Note that there shall be no gap between center contact and insulator. Make certain the internal conductor is inserted deeper than the solder hole.
b) Solder the internal conductor to the center contact
The center contact shall be heated with soldering iron and solder shall be inserted through the solder hole. After soldering, make certain from the other side of the hole that the adequate amount of solder was in the center contact.

c) Insert the cable with soldered center contact all the way into the shell and solder shell and external conductor.
d) Put a gasket and retaining ring over the shell.

e) While closing the retaining ring with coupling tool, install the coupling nut on the shell. This ends the assembly process.

3.4 Precautions for Use

3.4.1 Handling

A clean gloves and finger cot shall be used for handling connectors and contacts after the package seal is opened. When a contact is tested individually for conductivity, the contact shall be inserted to the mated contact straight without applying the bending moment or rotation.
Take extra caution for handling these RF connectors because they are extremely delicate and fragile.

3.4.2 Mating and Unmating

Mating or unmating of the connectors shall be performed gently in parallel with the mating axis. Mate or unmate the connectors without applying the bending moment or rotation.
Use the torque wrench for tightening the coupling nut. The recommended size and torque for the wrench shall be 5/16 (8mm), and
78.94 {8.05} to 112.88N· cm {11.51kgf· cm}, respectively.

4. CHARACTERISTICS UNDER NORMAL OPERATING CONDITIONS

The following test items of Qualification test were performed and the results satisfied the requirements specified in the applicable specification.

4.1 Electrical Characteristics

(a) Dielectric withstanding voltage
Test voltage: AC1000Vrms (Barometric pressure)
Test duration: One minute
Requirement: Connectors shall exhibit no evidence of short circuit.

(b) Insulation resistance
Test voltage: DC500V
Requirement: Insulation resistance shall be 5000MΩ as a minimum.

(c) Contact resistance
Measured section: Center contact
Requirement: Contact resistance shall be 3.0mΩ as a maximum before test and 4.0mΩ as a maximum after test.

(d) Partial discharge
Test voltage: 300Vrms (4.4kPa {33mmHg}) under reduced pressure ([1]))
Requirement: Corona shall not be occurred at test voltage (or 5pC or less)
Note: ([1]) After corona occurrence at normal pressure, pressure was reduced to the specified value.

(e) VSWR (Reference data) Insertion Loss

Table 4. VSWR and Insertion Loss

ID No.	VSWR (max.)	Frequency	Insertion loss (dB) (1)	Actual measurement
33C3	1.15+0.02f (GHz)	6GHz max.	0.06x √ frequency (GHz)	Figure 9
33C4	1.15+0.01f (GHz)	12.4GHz max.	0.06x√ frequency (GHz)	Figure 10
31A9	1.10+0.01f (GHz)	12.4GHz max.	0.03x√ frequency (GHz)	Figure 6
31A5	1.05+0.01f (GHz)	18GHz max.	0.03x√ frequency (GHz)	Figure 7
31A6	1.07+0.01f (GHz)	18GHz max.	0.03x√ frequency (GHz)	Figure 8

Note: ([1]) Insertion loss is specified for only connector and the following reference data includes the 203.2mm long cable.

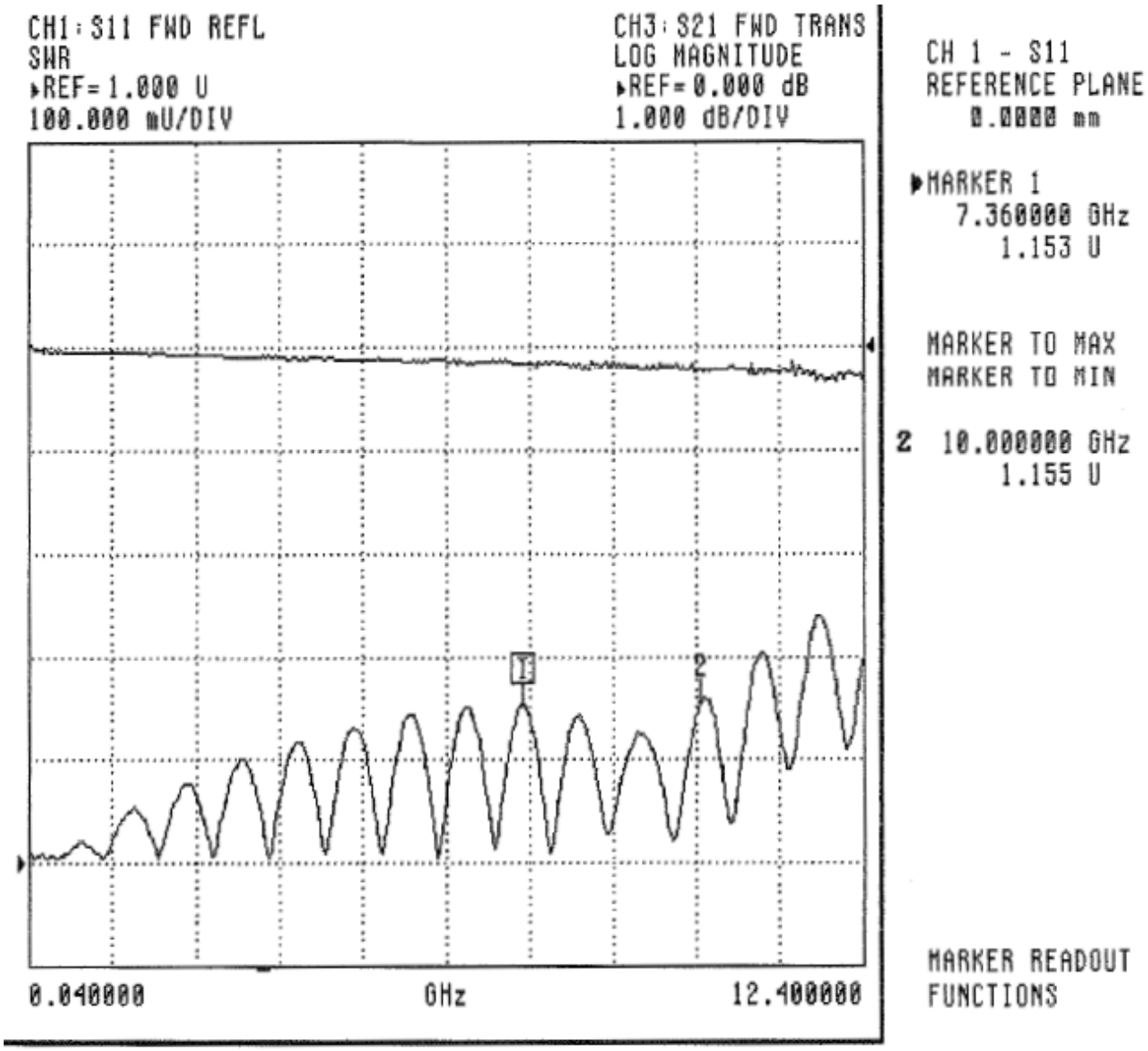


Figure 6. VSWR and Insertion Loss: J2060/HA14-31A9 (0 to 12.4GHz, RG-401/UT-250)

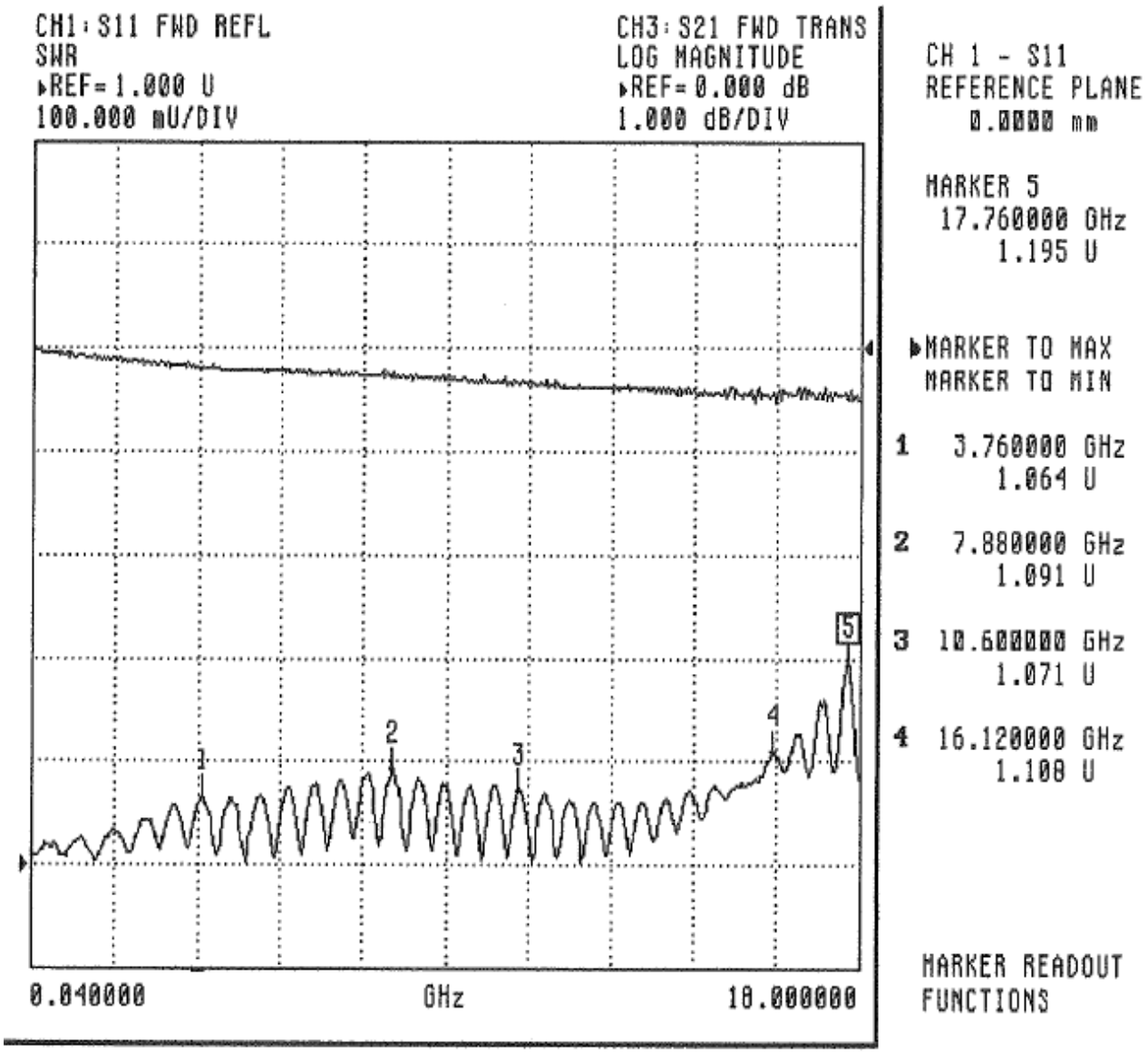


Figure 7. VSWR and Insertion Loss:J2060/HA14-31A5 (0 to 18GHz, RG-402/UT-141)

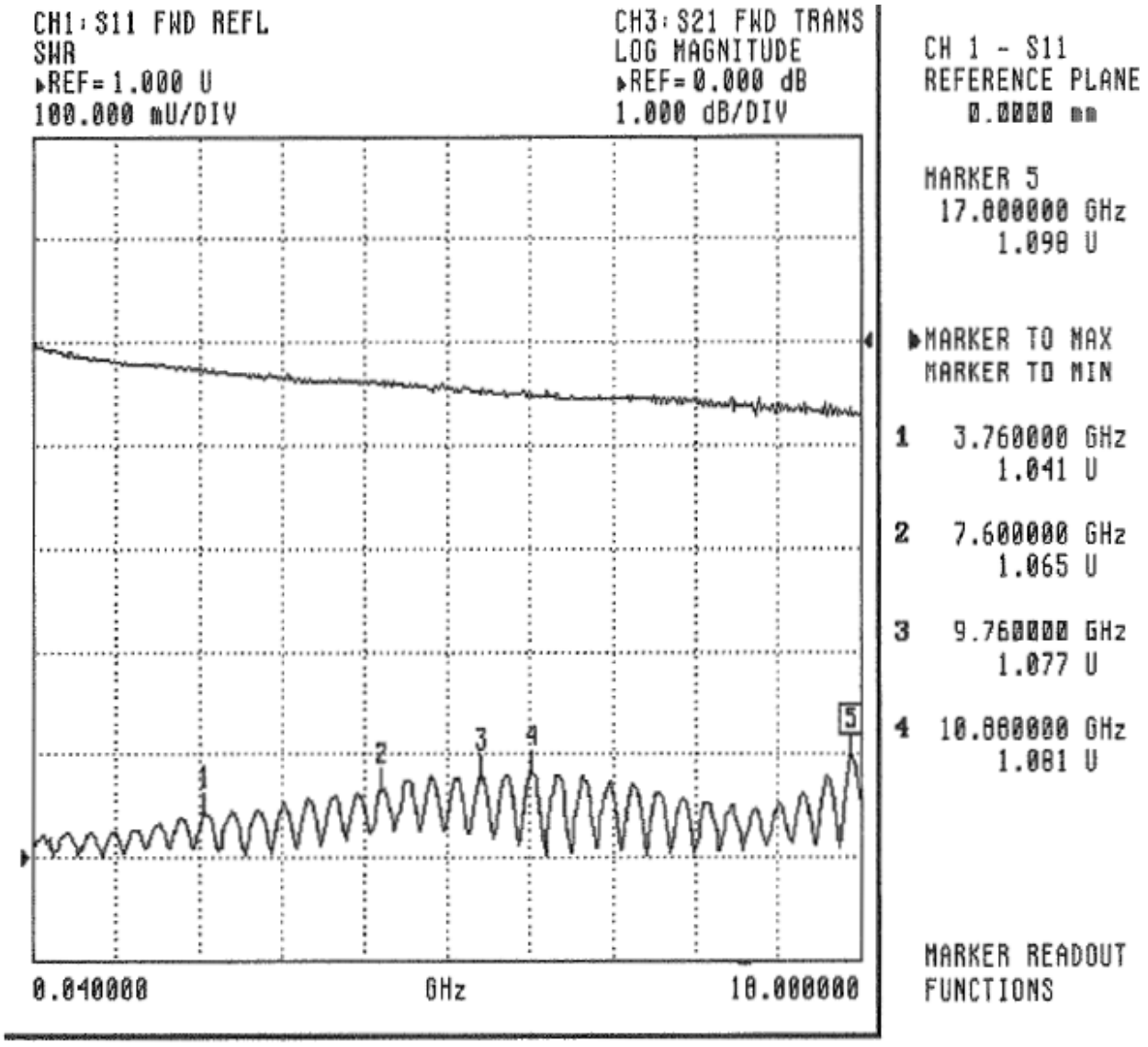


Figure 8. VSWR and Insertion Loss:J2060/HA14-31A6 (0 to 18GHz, RG-405/UT-085)

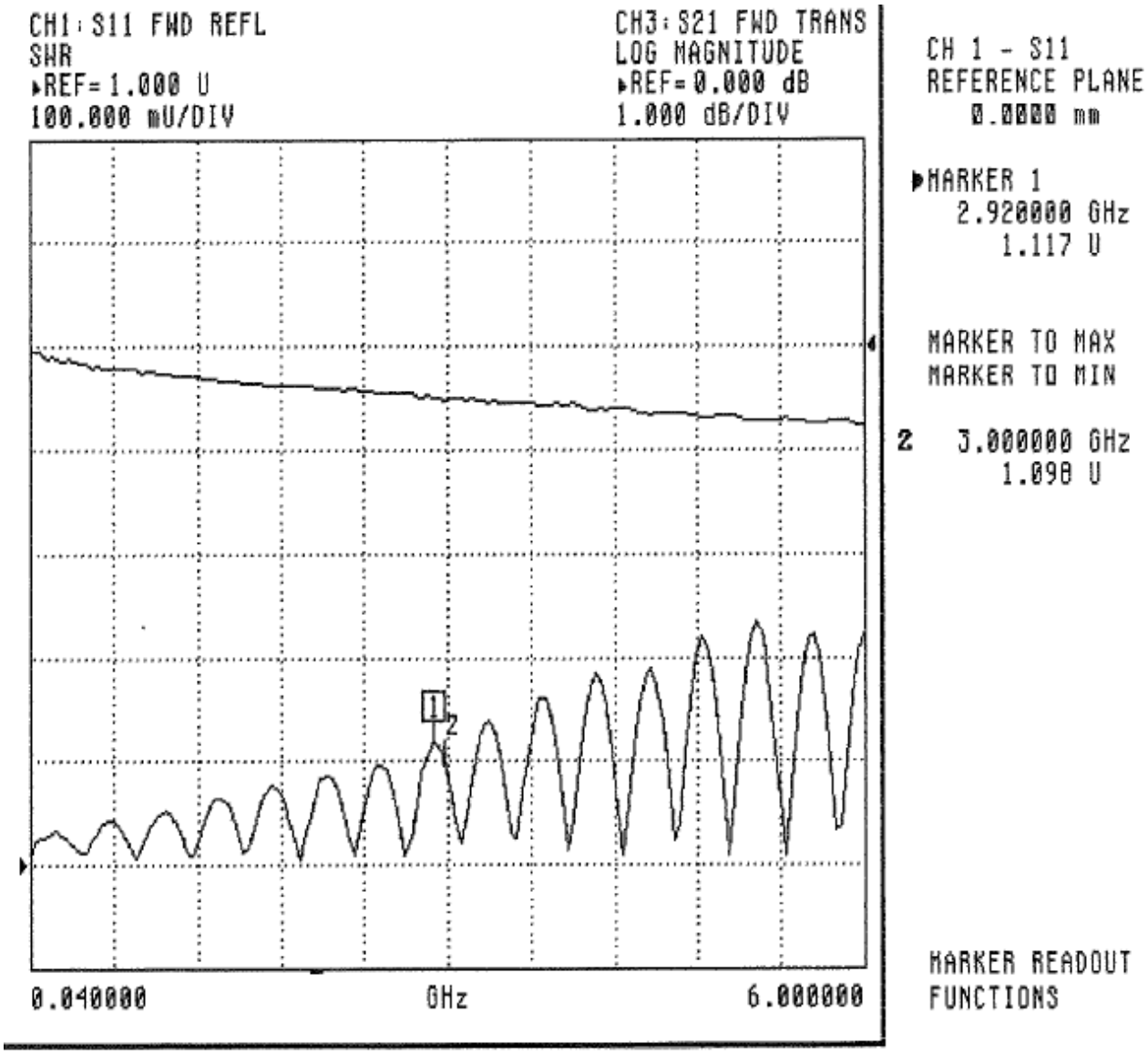


Figure 9. VSWR and Insertion Loss:J2060/HA14-33C3 (0 to6GHz, RG-316)

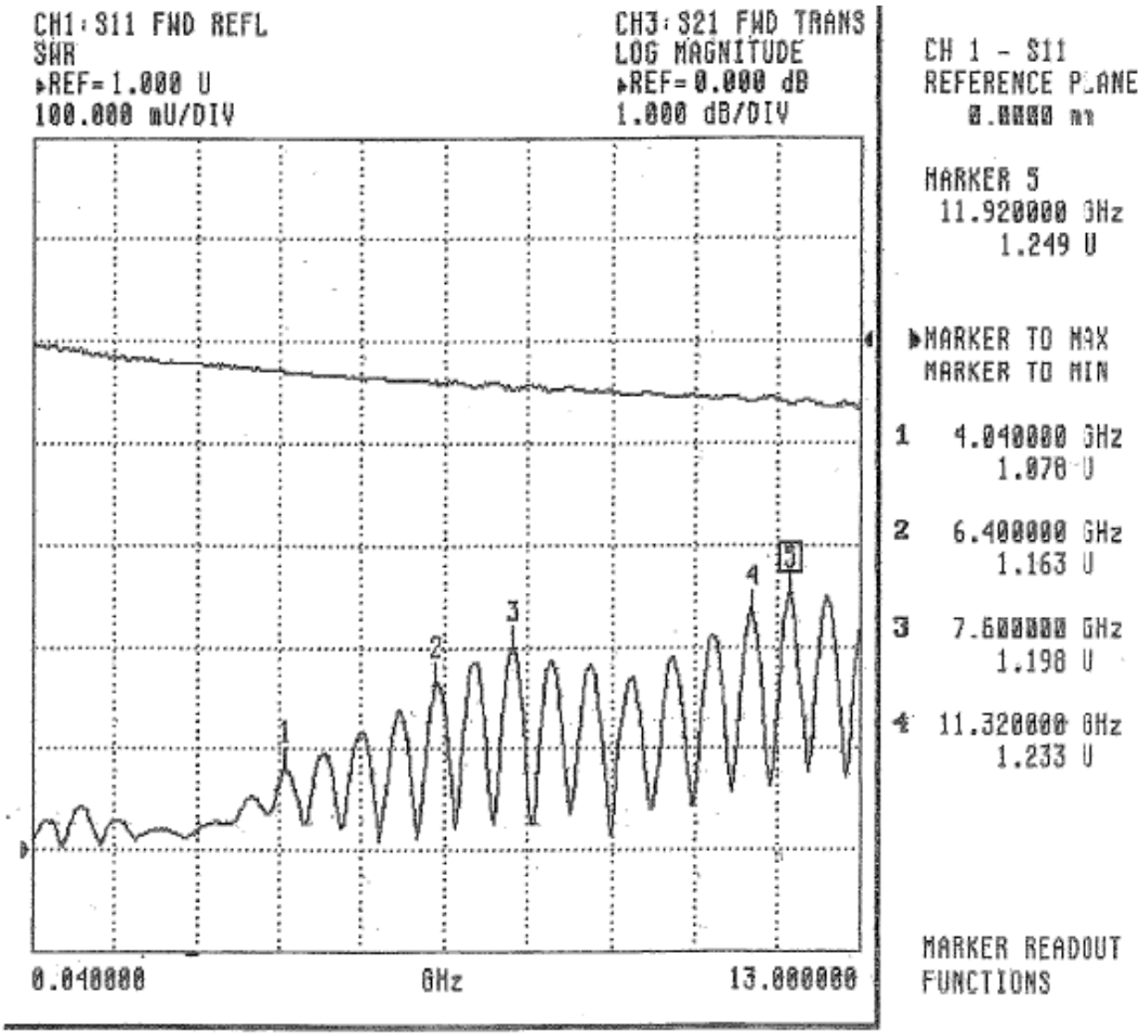


Figure 10. VSWR and Insertion Loss:J2060/HA14-33C4 (0 to 13GHz, RG-400)

4.2 Mechanical Performance

(a) Connector mating and umnating force
Requirement: The torque necessary to fully mating and unmating the connector shall not exceed 22.6N·cm {2.3kgf·cm}.

(b) Coupling Proof Torque
Test condition: Tighten the coupling nut with the torque of 169.7N·cm {17.30kgf·cm} and uncouple a minute later.
Requirement: The connection shall not be dislodged. At the completion of the test, the interface dimensions of the connector shall remain as specified in the detail specification and meet the requirement of connector mating and unmating force.

(c) Durability
Test condition: 500 repetitions of mating and unmating actions (12 times/min. Max.)
Requirement: There shall not be any mechanical damage in the connector and the mating mechanism shall be able to operate mechanically. After the test, connector mating and unmating force and contact insertion and removal characteristics requirements shall be met.

(d) Solderability
Immersion Depth: Deeper than the size of the body and the contact joint parts of the connector.
Requirement: 95% or more area of the immersed external dimensions of the connector shall be covered with solder.

4.3 Environmental Performance

(a) Vibration
High frequency vibration (294m/s^2 {30G} at peak)
Sweep time and test duration: 10 to 2000Hz (20min. back and forth)
Direction and test cycle: 12 times for each direction perpendicular to x, y, and z axes.
Requirement: The connector shows no electrical interruption of 1μs or more, short or open circuit. After the test, there shall be no mechanical damage. Contact resistance (center contact) requirement shall be met.

(b) Shock
Pulse waveform: Half sine
Peak acceleration rate: 2,942m/s^2 {300G}
Pulse duration: 3ms
Pulse velocity change: 5.61m/sec
Shock direction and test cycles: ±X, ±Y, and ±Z axes (3 times for each direction, total of 18 times)
Requirement: The connector shows no electrical interruption of 1μs or more, short or open circuit. After the test, there shall be no mechanical damage. Contact resistance (center contact) requirement shall be met.

(c) Thermal Shock
Temperature range: -65 to +165°C for RG-316/U, 400/U, -65 to +105°C for RG-402/U,405/U,401/U
Duration: 15min.
Number of cycle: 5 cycles
Requirement: There shall be no mechanical damage. After the test, dielectric withstanding voltage and contact resistance (center contact) requirements shall be met.

(d) Moisture Resistance
Temperature range: -10 to 65°C
Humidity range: 80 to 98%
Time of a cycle: 24hours
Number of cycle: Five cycles for each cycles A and B shown in figure 11, total of 10 cycles.
Requirement: There shall be no mechanical damage. After the test, insulation resistance and dielectric withstanding voltage requirements shall be met.

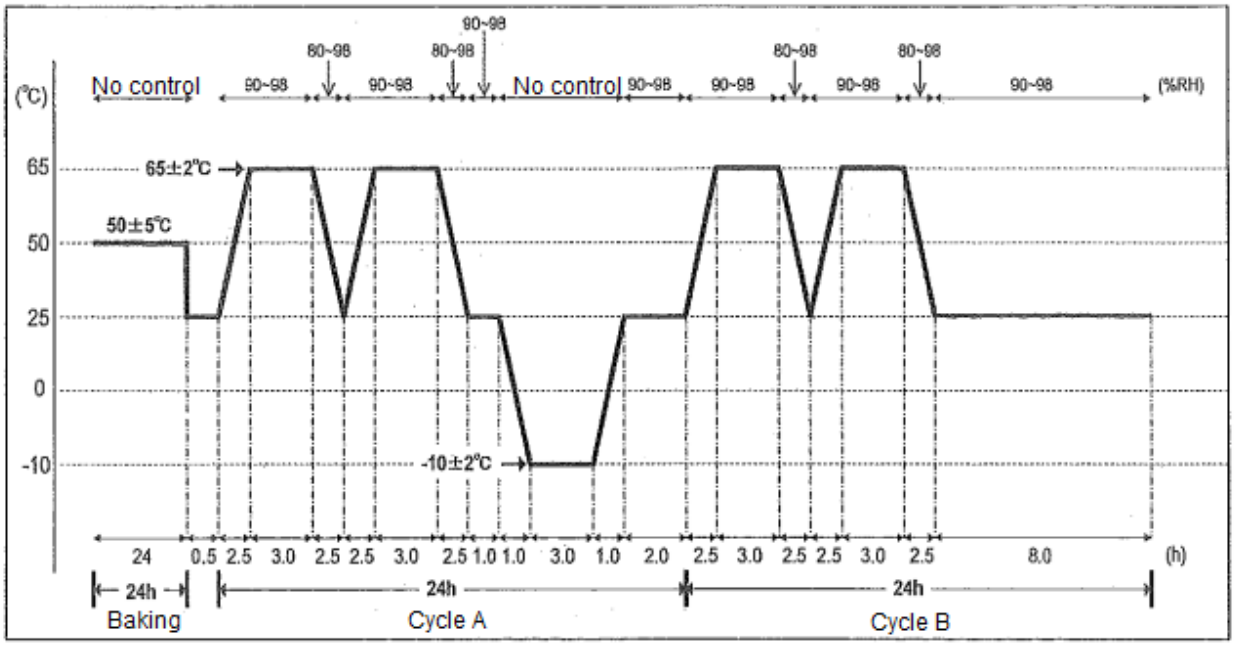


Figure 11. Type II, Moisture Test Cycle

(e) Salt Spray
Concentration: 5±1%
pH: 6.5 to 7.2
Temperature: 35±3°C
Test duration: 48 hours
Requirement: Bare metal shall not be exposed at the joint surface or internal surface. After the test, the requirement of Force to engage/disengage shall be met.

4.4 Outgassing

The outgassing test was conducted in accordance with ASTM E595 for organic materials used for the connectors. The results are shown in Table 5.

Table 5. Outgassing Test Results

Material	TML (%)	CVCM (%)
Insulation (Teflon)	0.004±0.000	0.000±0.000

Note: (1) The connectors contain no epoxy.

4.5 Residual Magnetization

The test results of residual magnetization measured with a gaussmeter shall be shown in Table 6.

Table 6. Residual Magnetization Test Results

Connector ID number	Average (nT)	Maximum (nT)	Minimum (nT)
33C3	410	830	160
33C4	493	802	301
31A9	641	856	389
31A5	394	637	123
31A6	697	665	285

5. CHARACTERISTICS UNDER VARIOUS OPERATING CONDITIONS

No data.

6. ENVIRONMENTAL LIMIT

The test conditions and measured items in environmental limit test are shown in Tables 7 and 8. Each test result is shown in the following tables and figures.

(1) Externals, dielectric withdrawing voltage, instantaneous interrupt…..Tables 9 and 11

(2) Contact resistance…..Table 10, Figures 12 and 13

Table 7. Test Condition

Gr.	Order	Test item	Test condition
I	1	Vibration (Random vibration)	MIL-STD-202 Test method 214 Test condition: (I) J Effective acceleration: 37.80G 3 directions for 15min. each
	2	Shock	MIL-STD-202 Test method 213 Test condition: F (half-wave sinusoidal wave) · Gravitational acceleration: 1500G±20% · Pulse duration: 0.5ms±15% · Pulse speed variation: 4.68m/s±10% Total of 6 times (3 times each for "-" and "+" directions per direction) X 3 directions (Total vibration time: 18)
	3	Thermal shock	MIL-STD-202 Test method 107 Test condition: B-3 (The min. temp: -65°C$_{-5}^{+0}$ to max. temp.)* 1000cycle (Externals, contact resistance, and dielectric withstanding voltage are checked for each 100cycle) *The maximum temp is set for each applicable cable as follows. For RG-316/U, -400/U: +165$_{-0}^{+5}$°C For RG-401/U: +105$_{-0}^{+3}$°C
II	1	Dielectric withstanding voltage (reduced pressure)	MIL-STD-1344 Test method 3001 Voltage is applied by 100V increments (Check dielectric withstanding voltage under the pressure of 4.4kPa)

Gr.	Order	Test item	Requirement	Sample size ([1])	Sample
I	1	Vibration (Random vibration)	As specified in paragraph H.3.8.2, Appendix H of JAXA-QTS-2060E. There shall be no loosening of parts.	5	J2060/HA14-33C3 J2060/HA14-33C4 J2060/HA14-31A9
	2	Shock			
	3	Thermal shock	As specified in paragraph H.3.8.3, Appendix H of JAXA-QTS-2060E		
II	1	Dielectric withstanding voltage (reduced pressure)	As specified in paragraph H.3.6.1, Appendix H of JAXA-QTS-2060E	5	

Note: ([1]) Samples shall be submitted to the tests for each type of connectors.

Table 8. Measured Item

	External	Contact resistance	Dielectric withstanding voltage	Instantaneous interrupt
Before test	□	□	□	
Vibration	●	●		○
Shock	●	●		○
Thermal shock	●	●	●	

Note: □: Items to be measured before test
○: Items to be measured during test
●: Items to be measured after test

Table 9 Externals, Dielectric Withstanding Voltage, and Instantaneous Interrupt

Part number	Item	Externals	Dielectric withstanding voltage	Instantaneous voltage
J2060/HA14 -33C3	Pre-test	Good	Good	---
	Vibration	Good	---	Good
	Shock	Good	---	Good
	Thermal shock	Good	*	---
J2060/HA14 -33C4	Pre-test	Good	Good	---
	Vibration	Good	---	Good
	Shock	Good	---	Good
	Thermal shock	Good	Good	---
J2060/HA14 -31A9	Pre-test	Good	Good	---
	Vibration	Good	---	Good
	Shock	Good	---	Good
	Thermal shock	Good	Good	---

Note: "---" indicates that the test was not performed.
*There was one failure between 600 and 700V during the test after 500 cycles.

Table 10. Contact Resistance

(mΩ)

Part number	Item	Ave.	Max.	Min.	Std. deviate
J2060/HA14 -33C3	Pre-test	1.38	1.72	1.01	0.258
	Vibration	1.73	1.96	1.45	0.217
	Shock	1.53	1.72	1.22	0.189
	Thermal shock	1.82	3.68	1.04	0.554
J2060/HA14 -33C4	Pre-test	1.24	1.38	1.09	0.139
	Vibration	1.17	1.26	1.12	0.055
	Shock	1.21	1.33	1.09	0.092
	Thermal shock	1.36	1.75	1.09	0.142
J2060/HA14 -31A9	Pre-test	1.14	1.31	1.05	0.097
	Vibration	1.28	1.41	1.13	0.111
	Shock	1.30	1.43	1.23	0.076
	Thermal shock	1.26	1.67	0.97	0.158

(n=5)

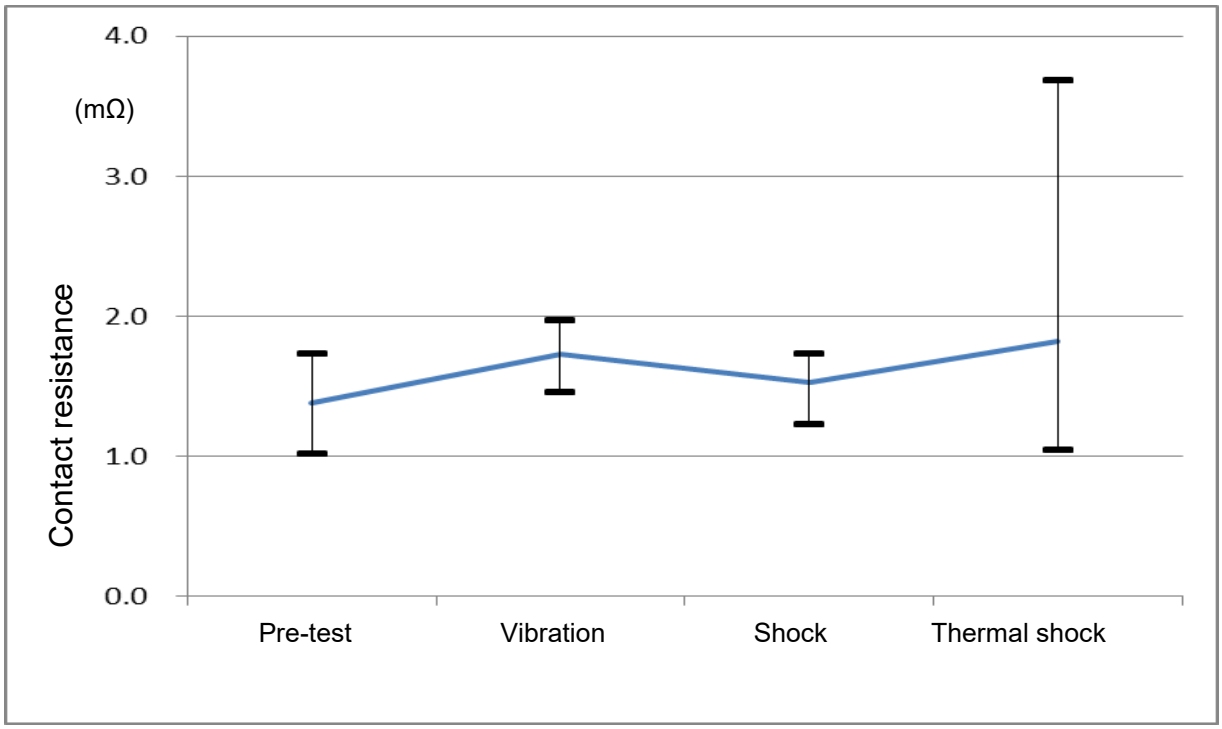


Figure 12(a). Contact Resistance in Environmental Limit Test (J2060/HA14-33C3)

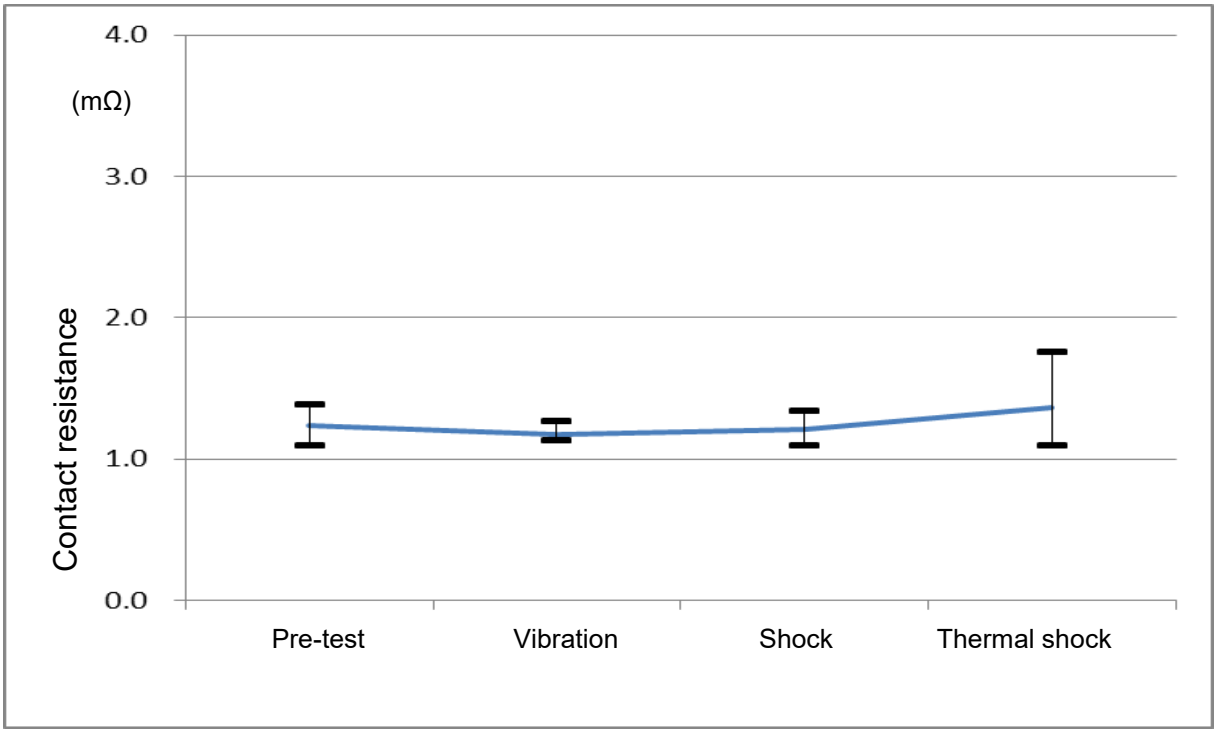


Figure 12(b). Contact Resistance in Environmental Limit Test (J2060/HA14-33C4)

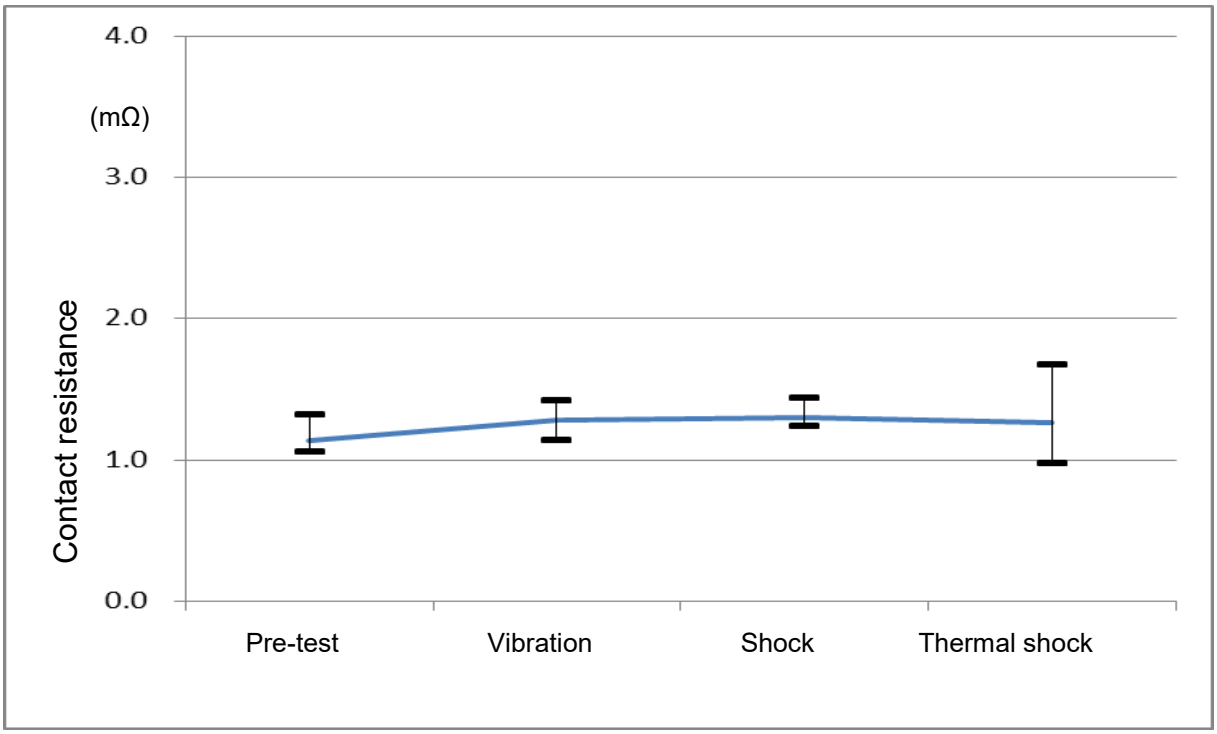


Figure 12(c). Contact Resistance in Environmental Limit Test (J2060/HA14-31A9)

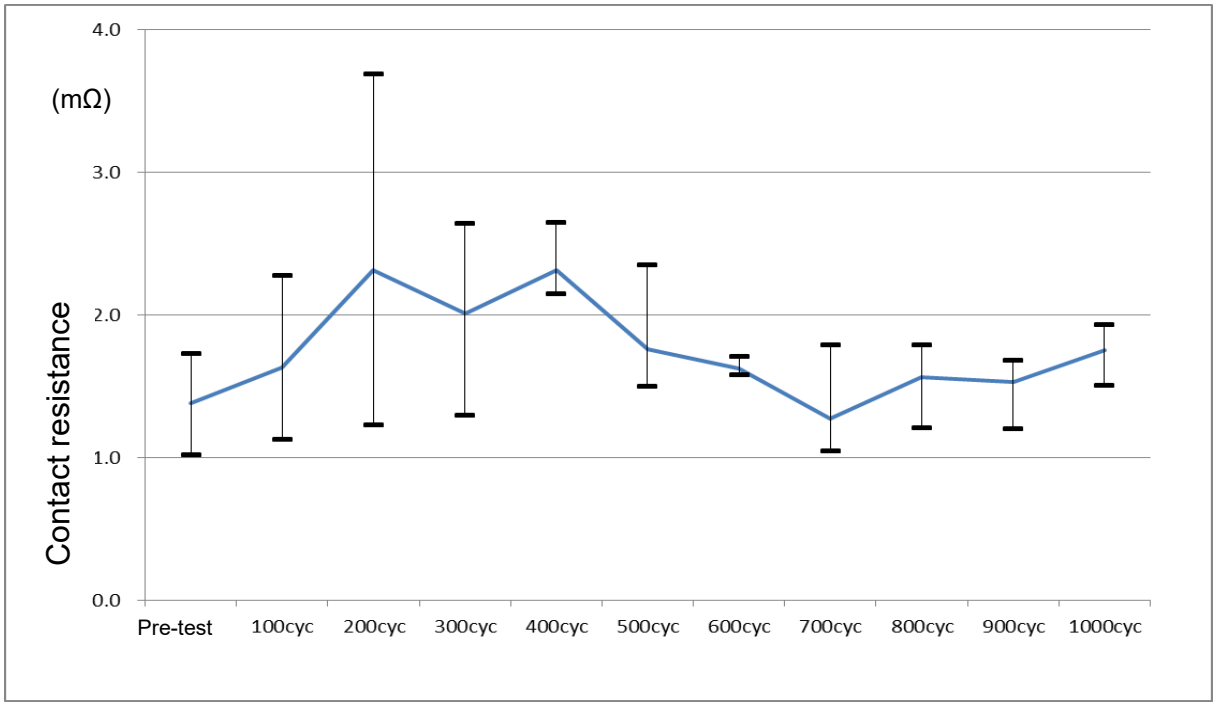


Figure 13(a). Contact Resistance in Thermal Shock Test (J2060/HA14-33C3)

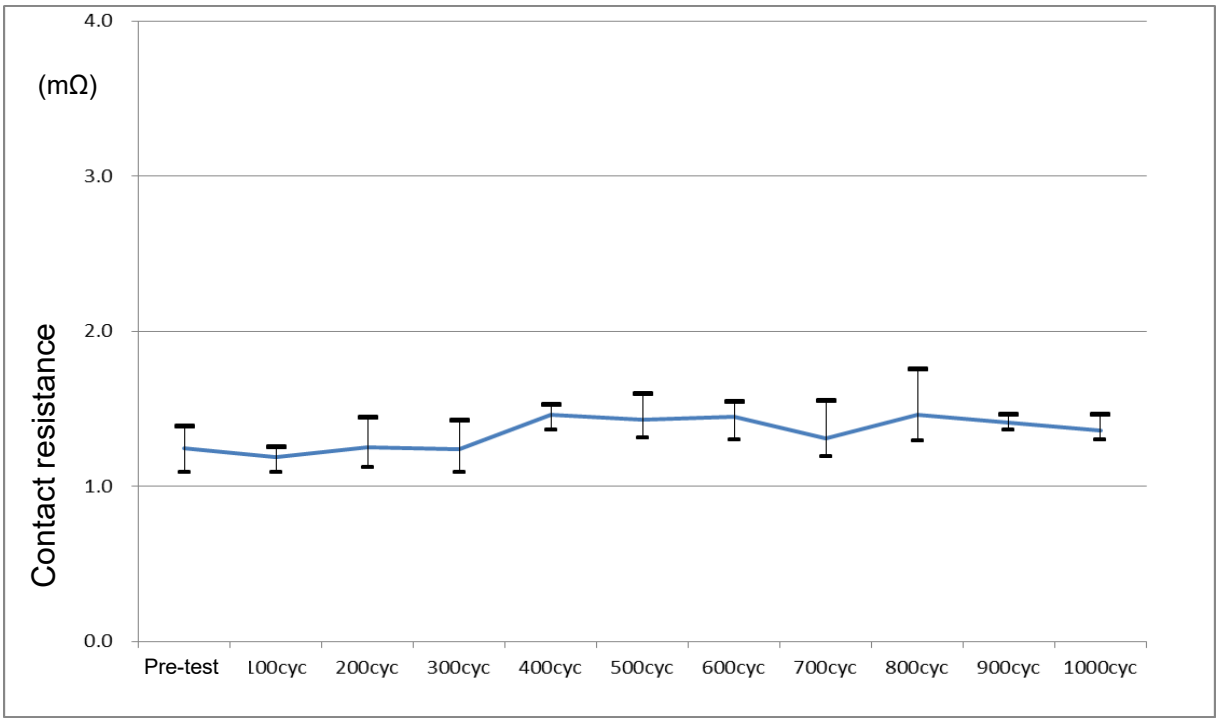


Figure 13(b). Contact Resistance in Thermal Shock Test (J2060/HA14-33C4)

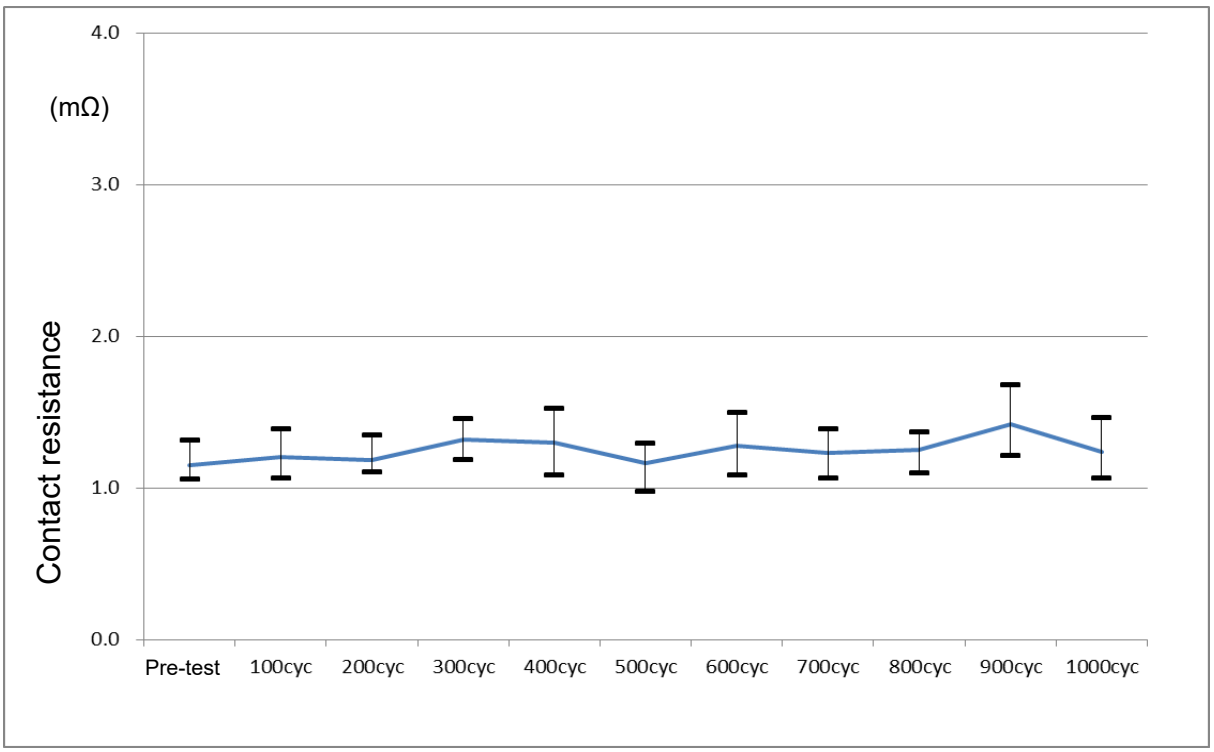


Figure 13(c). Contact Resistance in Thermal Shock Test (J2060/HA14-31A9)

6.1 Dielectric Withstanding Voltage under Reduced Pressure

Table 11. Dielectric Withstanding Voltage under Reduced Pressure (breakdown voltage)

(Vrms)

Part number	Ave.	Max.	Min.	Std. deviate
J2060/HA14 -33C3	500	500	500	0
J2060/HA14 -33C4	500	500	500	0
J2060/HA14 -31A9	540	600	500	54.8

(n=5)

7. RELIABILITY

7.1 Failure Rate

The failure rate for the general products (estimate) in the market is shown below as a reference.

7.1.1 Calculation Conditions

a) Reliability level: 60%
b) Number of failures reported by customers (r): 0
c) Operating year per product: 2 years
   T= (8 hours / day) X 300 days X 2 years X Number of products
   i) Number of failure in 2005: 14181 pieces T1 = 68068800
   ii) Number of failure in 2006: 17734 pieces T2 = 85123200
   iii) Number of failure in 2007: 18484 pieces T3 = 88723200
   iv) Number of failure in 2008: 17364 pieces T4 = 83347200
   v) Number of failure in 2009: 13545 pieces T5 = 65016000
   vi) Number of failure in 2010: 20987 pieces T6 = 100737600

The total of operating time T = 491016000

7.1.2 Calculation Results

MTBF = T / 0.917 (when the number of failure r= 0 in accordance with JIS C 5003)
= 491016000 / 0.917
≈ 535459105.8

Possible failure rate: $\lambda = 1 / MTBF$
$= 1 / 535459105.8$
$\approx 1.87 \times 10^{-9}$
$= 1.87$ (fit)

7.2 Failure Mode

The possible failure mode shall be as follows.

a) Open-circuit
   Center contact breakdown or solder detachment (connector body without soldering)
b) Short-circuit
   Burs etc. caused by the re-work of short-circuit parts
c) Characteristic degradation
   Plating trouble, contaminated insulation, damaged or loosened contact caused by twisting and rotating (improper instruction)

8. STORAGE CONDITIONS

a) The connectors are sealed in a bag to prevent any dust to get in during shipping. Do not open the sealed bag if not necessary. Re-seal the bag before storage if opened for receiving inspection or other needs.
b) Store the connectors at an ambient temperature and humidity if possible.
c) Minimize vibrations and shocks during shipping and storage.

9. NOTES

When connecting or disconnecting, only rotate the coupling.
Be careful not to rotate the shell or cable as this may damage the contacts.

10. OTHERS

10.1 Contact Information

Manufacturer: Waka Manufacturing Co., Ltd. Sales Department
Address: 6F, Nishi-shinjuku Takagi Building, 1-20-3, Nishi-shinjuku, Shinjuku-Ku, Tokyo,160-0023 Japan
Tel: +81-3-6635-5410
Fax: +81-3-6635-5420