Registration No. 1313

JAXA-QTS-2160/A101D
24 February 2026

Superseding
JAXA-QTS-2160/A101C
Cancelled
24 February 2026

THERMISTORS, CHIP, NEGATIVE TEMPERATURE COEFFICIENT, HIGH RELIABILITY, SPACE USE,

DETAIL SPECIFICATION FOR

Prepared and Established by
TATEYAMA KAGAKU DEVICE TECHNOLOGY 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 specification: 28 May 2026

Record of Revisions

Revision	Date	Description
NC	30 April 2010	Original
A	10 Sept. 2010	Reflected JAXA-QTS-2160/A101C (Rev. A).
B	15 Jan. 2013	Reflected JAXA-QTS-2160/A101C (Rev. B).
C	31 Jan. 2019	Reflected JAXA-QTS-2160/A101C (Rev. C).
D	24 Feb. 2026	Reflected S3SU-2401 (Rev. NC and Rev. A), issued by TATEYAMA KAGAKU DEVICE TECHNOLOGY CO., LTD.
		Remainder of page intentionally left blank.

Revision Log		
Revision	Date	Description
NC	07 Feb. 2025	1. Original to accompany requalification and to assign internal document number. 2. Due to the materials' change, the following changes have been made. (1) Table 3. Performance Changed the following items. (a) Added ” End-face electrode: Silver-resin thick film” as a electrode. (b) Changed “Lead borosilicate glass” to “Protective films 1 and 2: Glass-based” as insulating material. (2) Figure 3. Construction Changed the figure to accompany material change. 3. Changed following items. (1) Table 3. Performance (a) Added “Resistance-Temperature Characteristics” as electrical performance. (b) Changed the following paragraph number of JAXA-QTS 2160 requirements for “Resistance-Temperature Characteristics” and “Board Bending”. ▪ Resistance-Temperature Characteristics: From A.3.6.8 to 3.3.1. ▪ Board Bending: From A.3.7.4 to 3.3.2. (c) Added “Note (1): Indicates the paragraph number in this specification.” (2) Added paragraph 3.1.1, “Resistance-Temperature Characteristics”. (3) Added paragraph 3.1.2, “Board Bending”. (4) Table 9. Qualification Test (a) Changed the following paragraph number of JAXA-QTS-2160 requirements and test methods in accordance with resistance-temperature characteristics and board bending specifications. 1) Resistance-Temperature Characteristics ▪ Requirements: From A.3.6.8 to 3.3.1 ▪ Test method: From A.4.4.5.8 to 4.4.1 2) Board Bending ▪ Requirements: From A.3.7.4 to 3.3.2 ▪ Test method: From A.4.4.6.4 to 4.4.2 (b) Added “Note (1): Indicates the paragraph number in this specification.” and changed the number of the existing notes. (5) Table 10. Quality Conformance Inspection (Group A) (a) Changed the following paragraph number of JAXA-QTS-2160 requirements and test methods in accordance with resistance-temperature characteristics and board bending specifications. 1) Resistance-Temperature Characteristics ▪ Requirements: From A.3.6.8 to 3.3.1 ▪ Test method: From A.4.4.5.8 to 4.4.1 2) Board Bending ▪ Requirements: From A.3.7.4 to 3.3.2

Revision Log		
Revision	Date	Description
		▪ Test method: From A.4.4.6.4 to 4.4.2 (b) Added "Note $^{(1)}$: Indicates the paragraph number in this specification." and changed the number of the existing notes. (6) Added paragraph 4.4.1, "Resistance-Temperature Characteristics" to specify test temperature range. (7) Changed paragraph 4.4.1, "Board Bending" to paragraph 4.4.2, "Board Bending". (8) Added paragraph 4.6.2, "Resistance-Temperature Characteristics". (9) Changed paragraph 4.6.2, "Board Bending" to paragraph 4.6.3, "Board Bending".
A	24 Feb. 2026	Changed following items in accordance with JAXA-QTS-2160B. (1) Removed shock, high-frequency vibration and random vibration from "Table 3. Performance". (2) Removed shock, high-frequency vibration and random vibration from Tables 9, 11 and 12. (3) Changed test item "Externals, dimensions and marking" to "Externals, dimensions, mass and marking" for Tables 9 and 10. (4) Paragraph 4.6.4, "Externals, dimensions, mass and marking" ▪ Changed mass test.
		Remainder of page intentionally left blank.

Contents

THERMISTORS, CHIP, NEGATIVE TEMPERATURE COEFFICIENT, HIGH RELIABILITY, SPACE USE, DETAIL SPECIFICATION FOR

1. GENERAL

1.1 Scope

This specification establishes the detailed requirements for JAXA-QTS-2160 Appendix A, the high reliability, negative temperature coefficient, chip thermistors (hereinafter referred to as "thermistors") 2012 types to be used for electronic equipment installed on spacecrafts such as satellites.

1.2 Part Number

The part numbers for the thermistors covered in this specification shall be classified based of the style, terminal structure, characteristics (B value and B value tolerance), nominal zero-power resistance and resistance tolerance and assigned as the following example. Refer to Table 1 for details.

Example:
JAXA (1) 2160/A101 - 2012 B 4100H 1002 J
(1) (2) (3) (4) (5)

Note (1): "JAXA" indicates that the common part is for space use and may be abbreviated to "J."

Table 1. Part Number

Item		JAXA-QTS-2160 Applicable paragraph	Specification
(1)	Style	A.1.2.1	2012: size L x W = 2.0 x 1.25mm
(2)	Terminal structure	A.1.2.2	B: Double-sided solder plated electrode on underlying metal barrier (Sn/Pb alloy containing 3wt% or more Pb)
(3)	B value	A.1.2.3	(e.g.) 4100=>4100K (See Table 2 for details)
	B value tolerance		F=±1%, G=±2%, H=±3%, J=±5%
(4)	Nominal zero-power resistance (25°C)	A.1.2.4	(e.g.) 1002=10kΩ (shown in four digit number)
(5)	Resistance tolerance	A.1.2.5	F=±1%, G=±2%, H=±3%, J=±5%, K=±10%

1.3 Ratings

The ratings are shown in Table 2.

Table 2. Ratings

Item	JAXA-QTS-2160 Applicable paragraph	Ratings
		2012
(Ambient) operating temperature range (°C)	A.3.5.a)	-25 to +125
Operating temperature range (°C)(1)	--	-40 to +125
Storage temperature range (°C)(2)	--	-55 to +125
Rated ambient temperature(°C)	--	25
Derating curve	--	Refer to Figure 1
Nominal zero-power resistance (Ω)	A.3.5.d)	1.000k to 1.388M
Zero-power resistance tolerance (%)	A.3.5.e)	F=±1%, G=±2%, H=±3%, J=±5%, K=±10%
Nominal B value range (K)	A.3.5.b)	2610 to 4800
B value tolerance	A.3.5.c)	F=±1%, G=±2%, H=±3%, J=±5%
Allowable operating power (mW)	A.3.5.g)	5
Rated power (mW at 25°C)	A.3.5.f)	130

Notes: (1) Temperature range where the part is energized without specifying zero-power resistance.

(2) Temperature range where the part maintains its performances without any power applied.

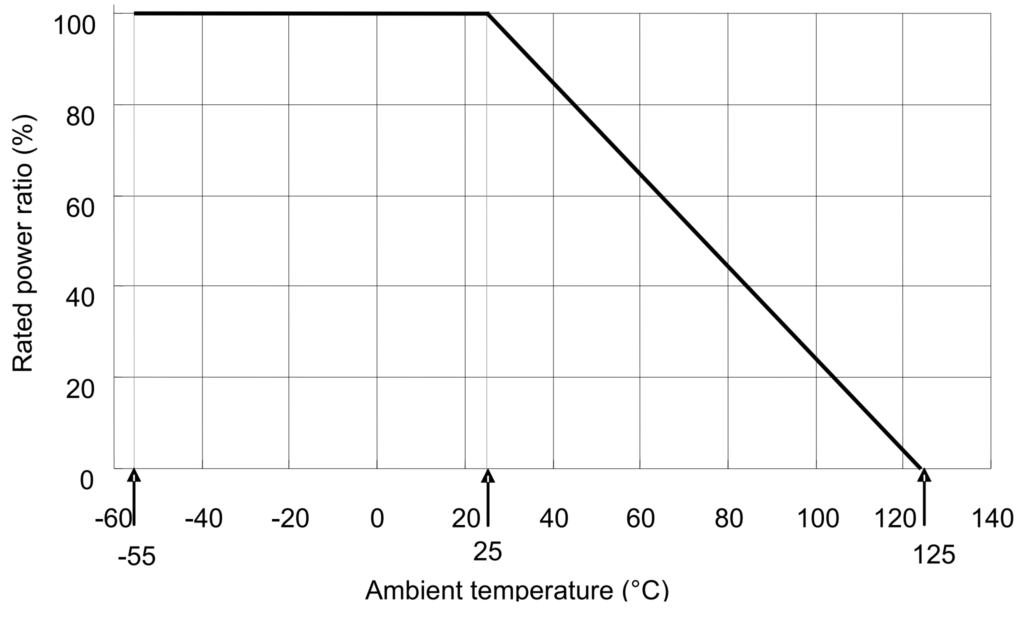


Figure 1. Derating Curve

2. APPLICABLE DOCUMENTS

The applicable documents shall be as specified in paragraph 2.1 of JAXA-QTS-2160.

3. REQUIREMENTS

The requirements shall be as follows and as specified in paragraph A.3, Appendix A of JAXA-QTS-2160.

3.1 Performance

The performances are shown in Table 3.

Table 3. Performance

Item		JAXA-QTS-2160 requirements	Performance
Materials		A.3.2	As specified in Appendix A of JAXA-QTS-2160
	Substrate	A.3.2.1	Alumina 96% as a minimum.
	Electrode	A.3.2.2	Internal electrode: Silver-palladium thick film End-face electrode: Silver-resin thick film Intermediate electrode: Nickel plated External electrode: Solder plated (Sn90/Pb10)
	Temperature sensitive resistor	A.3.2.3	Manganese oxide thick film, cobalt oxide thick film
	Insulating material	A.3.2.4	Protective films 1 and 2: Glass-based
Externals, dimensions and marking		A.3.3	As specified in Appendix A of JAXA-QTS-2160.
	Externals and markings	A.3.3.1, A.3.3.3	As specified in Figure 2.
	Construction, dimensions and mass	A.3.3.2	As specified in Figure 3 and Table 7.
Workmanship		A.3.4	As specified in Appendix A of JAXA-QTS-2160.
Electrical performance		A.3.6	As specified in Appendix A of JAXA-QTS-2160.
	Zero-power resistance	A.3.6.1	Within the specified resistance tolerance: F=±1%, G=±2%, H=±3%, J=±5%, K=±10%
	B value	A.3.6.2	As specified in Table 2.
	Dielectric withstanding voltage	A.4.4.5.3.1	Allowable resistance change: ± (1.0% + 0.1Ω)
	Insulation resistance	A.3.6.4	1,000MΩ as a minimum
	Heat dissipation constant	A.3.6.5	1.5mW/°C as a maximum
	Thermal time constant	A.3.6.6	5 sec. as a maximum
	Short-time load	A.3.6.7	Allowable resistance change: ± (2.0% + 0.1Ω)
	Resistance-Temperature Characteristics	3.3.1 (1)	As specified in Tables 5 and 6.
Mechanical performance		A.3.7	As specified in Appendix A of JAXA-QTS-2160.
	Solderability	A.3.7.1	At least 95% of the thermistor shall be covered with a new solder.
	Resistance to soldering heat	A.3.7.2	Allowable resistance change: ± (1.0% + 0.1Ω)
	Adherence	A.3.7.3	There shall be no evidence of mechanical damage.
	Board Bending	3.3.2 (1)	No resistance anomaly (wire breakage, abnormally disturbed resistance, resistance change rate more than ±5%) during bending test. There shall be no mechanical damage.
Environmental performance		A.3.8	As specified in Appendix A of JAXA-QTS-2160.
	Thermal shock	A.3.8.3	Allowable resistance change: ± (1.0% + 0.1Ω)
	Moisture resistance	A.3.8.4	Allowable resistance change: ± (1.0% + 0.1Ω)
	Immersion cycling	A.3.8.5	Allowable resistance change: ± (1.0% + 0.1Ω)
	Low-temperature storage	A.3.8.6	Allowable resistance change: ± (1.0% + 0.1Ω)
	High-temperature exposure	A.3.8.7	Allowable resistance change: ± (2.0% + 0.1Ω)
Durability performance		A.3.9	As specified in Appendix A of JAXA-QTS-2160.
	Life	A.3.9.1	Allowable resistance change: ± (2.0% + 0.1Ω)

Note(1): Indicates the paragraph number in this specification.

3.1.1 Resistance-Temperature Characteristics

The resistance-temperature characteristics shall be as follows and as specified in paragraph A.4.4.5.8, Appendix A of JAXA-QTS-2160.
When the thermistors are tested as specified in paragraph 4.4.1, the thermistors shall meet the following requirements,

a) Resistance-temperature characteristics
The resistance-temperature characteristics of the thermistors shall be within the values specified in Tables 5 and 6.

3.1.2 Board Bending

The board bending shall be as follows and as specified in paragraph A.4.4.6.4, Appendix A of JAXA-QTS-2160.
When the thermistors are tested as specified in paragraph 4.4.2, the thermistors shall meet the following requirements,

a) External
Mechanical damages shall not be observed.
b) Zero-power resistance change
There shall be no anomaly of the resistance (wire breakage, abnormally disturbing resistance, or resistance change rate more than or equal to ±5%).

3.2 B Value and Standard Resistance Range

The B values and corresponding standard resistance range (25°C) are shown in Table 4.

Table 4. B Value – Standard Resistance Range (25°C)

B value (25°C / 85°C)	Standard resistance range (Ω)
	2012
4610 to 4800K	47k to 1.388M
4410 to 4600K	10k to 1.388M
4210 to 4400K	6.8k to 1.388M
4010 to 4200K	1k to 220k
3810 to 4000K	1k to 150k
3610 to 3800K	1k to 150k
3410 to 3600K	1k to 150k
3210 to 3400K	1k to 150k
3010 to 3200K	1k to 150k
2810 to 3000K	1k to 100k
2610 to 2800K	1k

3.3 Resistance-Temperature Characteristics

The resistance-temperature characteristics (typical example) of the thermistors are shown in Tables 5 and 6.

Table 5. Resistance-Temperature Characteristics (Coefficient) (Typical Example)

Temperature (°C)	2750K	3000K	3200K	3450K	3700K	3900K	4100K	4300K	4500K	4700K
-25	5.872	6.953	7.959	9.424	11.16	12.77	14.62	16.74	19.16	21.93
-15	3.935	4.481	4.972	5.662	6.447	7.153	7.937	8.806	9.771	10.84
0	2.262	2.443	2.597	2.804	3.028	3.220	3.424	3.640	3.870	4.116
25	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
50	0.494	0.463	0.439	0.412	0.386	0.366	0.348	0.330	0.314	0.298
75	0.267	0.236	0.215	0.190	0.169	0.153	0.139	0.126	0.115	0.104
85	0.213	0.185	0.166	0.144	0.125	0.112	0.100	0.089	0.080	0.071
100	0.156	0.132	0.115	0.097	0.082	0.072	0.063	0.055	0.048	0.042
125	0.097	0.079	0.074	0.054	0.044	0.037	0.031	0.026	0.022	0.019

Table 6. Resistance Tolerance at Each temperature

Temperature (°C)	Resistance tolerance (%)				
	F	G	H	J	K
-25	±8	±10	±12	±12	±20
-15	±6	±8	±10	±10	±15
0	±4	±6	±8	± 8	±10
25	±1	±2	±3	± 5	±10
50	±4	±6	±8	± 8	±10
75	±6	±8	±10	±10	±10
85	±8	±10	±10	±10	±10
100	±10	±12	±14	±14	±15
125	±12	±15	±15	±15	±20

3.4 Externals, Structures and Dimensions

The externals, construction and dimensions of the thermistors are shown in Figure 2, Figure 3, and Table 7, respectively.

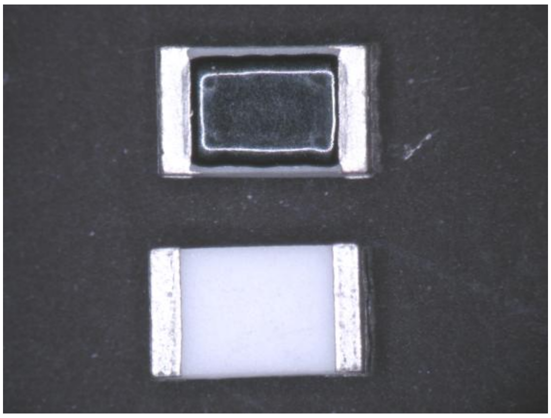


Figure 2. Externals

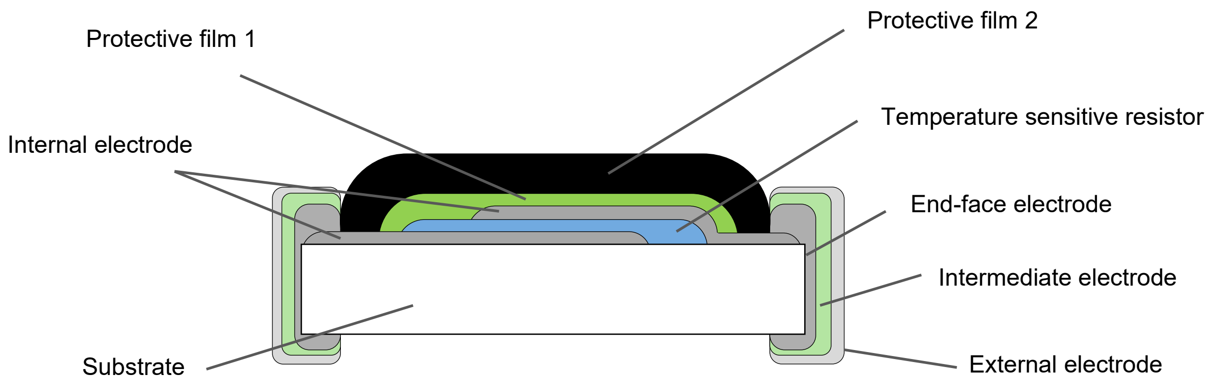
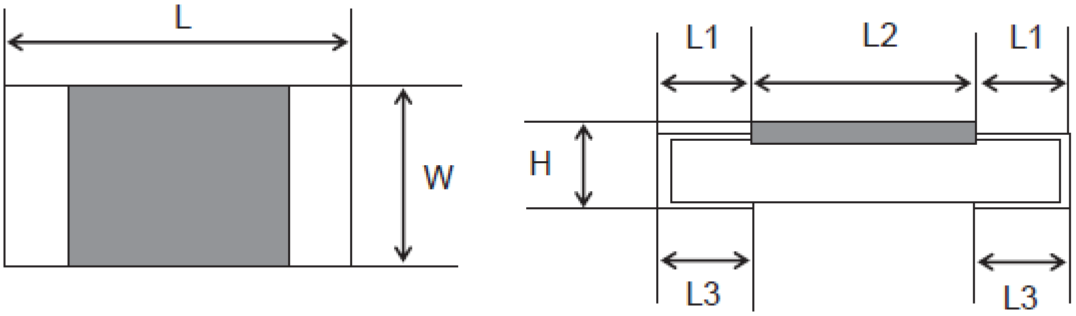


Figure 3. Construction

Table 7. Dimensions and Mass



Unit: mm

Style	L	W	H	L1	L2 (reference)	L3	Mass (reference)
2012	2.00±0.20	1.25±0.20	0.55±0.10	0.4±0.2	1.2	0.4±0.2	5mg

4. QUALITY ASSURANCE PROVISIONS

The quality assurance provisions shall be as specified in paragraph A.4, Appendix A of JAXA-QTS-2160 and as provided below.

4.1 In-Process Inspection

The in-process inspection shall be performed in accordance with paragraph A.4.1, Appendix A of JAXA-QTS-2160. The inspections specified in Table 8 shall be performed for each production lot.

Table 8. In-Process Inspection

Test			JAXA-QTS-2160		Pass/Fail	
No.	Order	Item	Requirements paragraph	Test method paragraph	Sample size	Accept number
1	1	Zero-power resistance	A.3.6.1	A.4.4.5.1	All	PDA 5%
	2	Thermal shock [I]	A.3.8.3	A.4.4.7.3		
	3	High-temperature exposure (1)	A.3.8.7	A.4.4.7.7		
	4	Zero-power resistance	A.3.6.1	A.4.4.5.1		

Note(1): Test condition; the part shall be exposed to oxygen-free atmosphere at 125°C for 250 hours without any load.

4.2 Qualification Test

The qualification test shall be performed in accordance with paragraph A.4.2, Appendix A of JAXA-QTS-2160 and as specified in Table 9.

Table 9. Qualification Test

Test			JAXA-QTS-2160		Pass/Fail	
Group	Order	Item	Requirement paragraph	Test method paragraph	Sample size	Accept number
I	1	Thermal shock [I]	A.3.8.3	A.4.4.7.3	All	0
	2	Short-time load	A.3.6.7	A.4.4.5.7		
	3	Zero-power resistance	A.3.6.1	A.4.4.5.1		
	4	B value	A.3.6.2	A.4.4.5.2		
II	1	Externals, dimensions, mass and marking	A.3.3	A.4.4.3	All(3)	0
III	1	Resistance-temperature characteristics	3.3.1(1)	4.4.1(1)	20	0
	2	Heat dissipation constant	A.3.6.5	A.4.4.5.5		
	3	Thermal time constant	A.3.6.6	A.4.4.5.6		
	4	Insulation resistance	A.3.6.4	A.4.4.5.4		
	5	Dielectric withstanding voltage	A.3.6.3	A.4.4.5.3		
	6	Adherence	A.3.7.3	A.4.4.6.3		
	7	Board Bending	3.3.2(1)	4.4.2(1)		
IV	1	Solderability	A.3.7.1	A.4.4.6.1	12	0
V	1	Resistance to soldering heat	A.3.7.2	A.4.4.6.2	20	0
	2	Thermal shock [II]	A.3.8.3	A.4.4.7.3		
	3	Moisture resistance	A.3.8.4	A.4.4.7.4		
VI	1	Shock (deleted)	-	-	20	0
	2	High-frequency vibration (deleted)	-	-		
	3	Random vibration (deleted)	-	-		
	4	Thermal shock [IV]	A.3.8.3	A.4.4.7.3		
	5	Immersion cycling	A.3.8.5	A.4.4.7.5		
VII	1	Low-temperature storage	A.3.8.6	A.4.4.7.6	230	0
	2	High-temperature exposure	A.3.8.7	A.4.4.7.7		
VIII	1	Life	A.3.9.1	A.4.4.8.1	30	0
IX	1	DPA	A.3.4.1	A.4.4.4.1	10	0
-	-	Materials	A.3.2	-	(2)	

Notes: (1) Indicates paragraph number of this specification.

(2) The data proving that the materials satisfy the design specification shall be submitted.

(3) For dimensions and mass, AQL 4.0% in Supplementary Table 2-A of JIS Z 9015-1 may be applied.

4.3 Quality Conformance Inspection

The quality conformance inspection shall be performed in accordance with paragraph A.4.3, Appendix A of JAXA-QTS-2160. Specifically, inspection items specified in Tables 10, 11 and 12 shall be performed.

Table 10. Quality Conformance Inspection (Group A)

Inspection			JAXA-QTS-2160		Pass/Fail	
Group	Order	Item	Requirement paragraph	Test method paragraph	Sample size	Accept number
A1	1	Thermal shock [I]	A.3.8.3	A.4.4.7.3	All	0
		Short-time load	A.3.6.7	A.4.4.5.7		
		Zero-power resistance	A.3.6.1	A.4.4.5.1		
		B value	A.3.6.2	A.4.4.5.2		
	2	Externals, dimensions, mass and marking	A.3.3	A.4.4.3 4.6.4(1)	All(2)	0
A2	1	Resistance-temperature characteristics	3.3.1(1)	4.4.1(1)	AQL 2.5%(3)	
	2	Insulation resistance	A.3.6.4	A.4.4.5.4		
	3	Dielectric withstanding voltage (atmospheric pressure)	A.3.6.3	A.4.4.5.3.1		
	4	Adherence	A.3.7.3	A.4.4.6.3		
	5	Board Bending	3.3.2(1)	4.4.2(1)		
A3	1	Solderability	A.3.7.1	A.4.4.6.1	5	0
	2	Thermal shock [II]	A.3.8.3	A.4.4.7.3		
A4	1	DPA	A.3.4.1	A.4.4.4.1	2	0

Notes: (1) Indicates paragraph number of this specification.

(2) For dimensions and mass, AQL 4.0% in Supplementary Table 2-A of JIS Z 9015-1 may be applied.

(3) AQL indicates the acceptable quality level of a single sampling plan for normal inspection specified in Supplementary Table 2-A of JIS Z 9015-1, and “General Inspection Level II” shall be applied for the inspection.

Table 11. Quality Conformance Inspection (Group B)

Inspection			JAXA-QTS-2160		Pass/Fail	
Group	Order	Item	Requirement paragraph	Test method paragraph	Sample size	Accept number
B1	1	Heat dissipation constant	A.3.6.5	A.4.4.5.5	10	0
	2	Thermal time constant	A.3.6.6	A.4.4.5.6		
B2	1	Resistance to soldering heat	A.3.7.2	A.4.4.6.2	10	0
	2	Moisture resistance	A.3.8.4	A.4.4.7.4		
B3	1	Shock (deleted)	-	-	10	0
	2	High-frequency vibration (deleted)	-	-		
	3	Thermal shock [III]	A.3.8.3	A.4.4.7.3		
	4	Immersion cycling	A.3.8.5	A.4.4.7.5		
B4	1	Low-temperature storage	A.3.8.6	A.4.4.5.6	30	0
	2	High-temperature exposure	A.3.8.7	A.4.4.7.7		
B5	1	Life	A.3.9.1	A.4.4.8.1	10	0

Table 12. Quality Conformance Inspection (Group C)

Inspection			JAXA-QTS-2160		Pass/Fail	
Group	Order	Item	Requirements paragraph	Test method paragraph	Sample size	Accept number
C1	1	Random vibration (deleted)	-	-	10	0
	2	Thermal shock [IV]	A.3.8.3	A.4.4.7.3		

4.4 Test Method

The test method shall be in accordance with paragraph A.4.4, Appendix A of JAXA-QTS-2160 and as follows.

4.4.1 Resistance-Temperature Characteristics

Thermistors shall be stabilized at the temperature specified in Table 13. After leaving the thermistors for a period of time equivalent to ten times or more of the thermal time constant, the zero-power resistance shall be measured at each specified temperature in accordance with paragraph A.4.4.5.1, Appendix A of JAXA-QTS-2160.

Table 13. Temperature for the Resistance-Temperature Test

Unit: °C

Order	Test Temperature	
	Qualification Test	Quality Conformance Inspection
1	-25	-25
2	-15	25
3	0	85
4	25	125
5	50	-
6	75	-
7	85	-
8	100	-
9	125	-

4.4.2 Board Bending

a) Mounting method
The thermistor shall be mounted on the board specified in figure A-6 of Appendix A, JAXA-QTS-2160 in accordance with paragraph A.4.4.2.

b) Pre-test measurement
Resistance shall be measured in atmosphere.

c) Flexure: 2mm

d) Duration of test: 10 seconds

e) Number of cycle: one

f) Measurement during test
Any anomaly of the resistance (wire breakage, abnormally disturbing resistance, or resistance change rate more than ±5%) during the test of board bending shall be monitored. Resistance shall be measured and the change rate from the b) pre-test measured resistance shall be calculated.

g) Post-test inspection
The thermistor shall be examined with a minimum of 10x magnifier for any mechanical damages.

4.5 Long-Term Storage

Long-term storage shall be in accordance with paragraph 4.7 of JAXA-QTS-2160.

4.5.1 Disposition of Products Stored for a Long Time at Manufacturer’s Site

The shipment of the thermistors stored more than 24 months after Qualify Conformance Inspection (Group A) shall be in accordance with paragraph A.4.5, Appendix A of JAXA-QTS-2160.

4.5.2 Storage by Purchasers

The products shall be stored at room temperature (15 to 30°C) and at the normal humidity (25 to 85%RH) in the package provided by the manufacturer. The product shall be stored in a clean place free of direct sunlight and hazardous gases such as chlorine and sulfur.

4.6 Changes of Tests and Inspections

4.6.1 Dielectric Withstanding Voltage (Reduced Pressure)

The dielectric withstanding voltage test (reduced pressure) specified in paragraph A.4.4.5.3.2, Appendix A of JAXA-QTS-2160 shall be omitted for the following reasons.

a) The alumina substrates and the borosilicate glass composing the parts surface is the insulating material having an electric resistivity of $\sigma=10^{14}\Omega\cdot\mathrm{cm}$.

b) The dielectric withstanding voltage of the borosilicate grass thick film is more than 600V which is about twice as large as the peak voltage applied in the withstanding voltage test.

c) The variation in film thickness and dimensions of various parts of the products can be controlled.

4.6.2 Resistance-Temperature Characteristics

Based on the operating temperature range of the thermistor, the test temperature range shall be changed to the test temperature range specified in paragraph 4.4.1.

4.6.3 Board Bending

Because the temperature cannot be maintained to an accuracy of ± 0.05°C specified in paragraph A.4.4.5.1 Zero-Power Resistance of Appendix A, JAXA-QTS-2160 when the substrate is bent, the test method of Board Bending in paragraph A.4.4.6.4 shall be changed as specified in paragraph 4.4.2.

4.6.4 Externals, dimensions, mass and marking

For mass, when performing Group B quality conformance inspection, mass shall be measured only during the Group A quality conformance inspection performed prior to the Group B quality conformance inspection.

5. PREPARATION FOR DELIVERY

Preparation for delivery shall be as follows and as specified in paragraph 5 of JAXA-QTS-2160.

5.1 Packaging

The types of package are as follows.

a) Bulk package
b) Taping package
c) Chip tray package

5.2 Markings on Packages

The following items shall be marked on packages. If the space for marking is not sufficient enough, the following items shall be listed on the attached document.

a) Part name
b) Part number
c) Applicable specification number
d) Lot identification code
e) Delivery destination
f) Qualified manufacturer name
g) Quantity of package
h) Inspection date
i) Inspection results
j) Serial number (when specified)

6. NOTE

Refer to the paragraph 6 of JAXA-QTS-2160.