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**Fixed resistors for use
in electronic equipment
Part 6 : Sectional specification :
Fixed resistor networks with
individually measurable resistors**

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. By this Standard, **JIS C 5203 : 1994 *General rules of fixed resistor networks for use in electronic equipment*** was withdrawn and replaced.

Attention shall be drawn to the possibility that a part of this Standard may conflict with a patent right, application for a patent right after opening to the public, utility model right (including those applied before 1993-12-31) or application for registration of utility model after opening to the public which have technical properties. The Minister of International Trade and Industry and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent right after opened, utility model right or application for registration of utility model after opening to the public which have the technical properties of this kind. **JIS C 5201-6** includes Annex A which corresponds to the International Standard, and Annex 1 which specifies type designations and symbols as Japanese Industrial Standard.

Group standards The following standards form the specifications for the group of element specified in this Standard.

- JIS C 5201 *Fixed resistors for use in electronic equipment*
- JIS C 5201-1 *Part 1 : Generic specification*
- JIS C 5201-2 *Part 2 : Sectional specification : Fixed low-power non-wirewound resistors*
- JIS C 5201-2-1 *Part 2 : Blank detail specification : Fixed low-power non-wirewound resistors. Assessment level E*
- JIS C 5201-2-2 *Part 2 : Blank detail specification : Fixed low-power non-wirewound resistors. Assessment level F*
- JIS C 5201-4 *Part 4 : Sectional Specification : Fixed power resistors*
- JIS C 5201-4-1 *Part 4 : Blank detail specification : Fixed power resistors. Assessment level E*
- JIS C 5201-4-2 *Part 4 : Blank detail specification : Fixed power resistors. Assessment level F*
- JIS C 5201-4-3 *Part 4 : Blank detail specification : Fixed power resistors, heat-sink types. Assessment level H*
- JIS C 5201-5 *Part 5 : Sectional specification : Fixed precision resistors*
- JIS C 5201-5-1 *Part 5 : Blank detail specification : Fixed precision resistors. Assessment level E*
- JIS C 5201-5-2 *Part 5 : Blank detail specification : Fixed precision resistors. Assessment level F*
- JIS C 5201-6 *Part 6 : Sectional specification : Fixed resistor networks with individually measurable resistors*
- JIS C 5201-6-1 *Part 6 : Blank detail specification : Fixed resistor networks with individually measurable resistors, all of equal value and equal dissipation. Assessment level E*

C 5201-6 : 1999

JIS C 5201-6-2 *Part 6 : Blank detail specification : Fixed resistor networks with individually measurable resistors, of either different resistance values or different rated dissipations. Assessment level E*

JIS C 5201-8 *Part 8 : Sectional specification : Fixed chip resistors*

JIS C 5201-8-1 *Part 8 : Blank detail specification : Fixed chip resistors. Assessment level E*

Contents

	Page
Introduction	1
Section One—General	
1 General	1
1.1 Scope	1
1.2 Object	1
1.3 Normative references	1
1.4 Information to be given in a detail specification	2
1.4.1 Outline drawing and dimensions	3
1.4.2 Mounting	3
1.4.3 Style	3
1.4.4 Ratings and characteristics	3
1.4.5 Marking	3
1.5 Marking	3
Section Two—Preferred ratings, characteristics and test severities	
2 Preferred ratings, characteristics and test severities	4
2.1 Preferred characteristics	4
2.1.1 Preferred climatic categories	4
2.1.2 Temperature coefficient and temperature characteristics of resistance	4
2.1.3 Limits for change in resistance	5
2.2 Preferred values of ratings	5
2.2.1 Rated resistance (nominal resistance)	5
2.2.2 Tolerances on rated resistance	5
2.2.3 Rated dissipation	6
2.2.4 Limiting element voltage	6
2.2.5 Isolation voltage between individual resistor elements (when applicable)	6

C 5201-6 : 1999

2.2.6	Insulation resistance between individual resistor elements (when applicable)	6
2.3	Preferred test severities	7
2.3.1	Drying	7
2.3.2	Vibration (Sinusoidal)	7
2.3.3	Low air pressure	7
2.3.4	Overload	7
2.3.5	Endurance at 70 °C	7
2.3.6	Insulation resistance between adjacent resistor elements (when applicable)	7
2.3.7	Voltage proof between adjacent resistor elements (when applicable)	8
2.3.8	Damp heat (steady state)	8
2.3.9	Robustness of terminations	8

Section Three—Quality assessment procedures

3	Quality assessment procedures	8
3.1	Structurally similar components	8
3.2	Qualification approval	8
3.2.1	Qualification approval on the basis of the fixed sample size procedure	8
3.2.2	Tests	9
3.3	Quality conformance inspection	15
3.3.1	Formation of inspection lots	15
3.3.2	Test schedule	15
3.3.3	Assessment levels	15
Annex A (normative)	Standardized schematic diagrams and pin identifications for fixed resistor networks	17
A 1	Diagrams for “Single-in-line” configurations	17
A 2	Diagrams for “Dual-in-line” and “Flat pack” configurations	18
Annex 1 (normative)	Type designation and symbol	19

Fixed resistors for use in electronic equipment

Part 6 : Sectional specification : Fixed resistor networks with individually measurable resistors

Introduction This Japanese Industrial Standard has been prepared, based on the **IEC 60115-6**, *Fixed resistors for use in electronic equipment Part 6 : Sectional specification : Fixed resistor networks with individually measurable resistors* issued in 1983 as the first edition and "Amendment 1 : 1987" without changing the technical contents. However the type designation and symbol for the Japanese Industrial Standard are appended in the Annex. And the Amendment is combined after editing.

For user information, the parts with sideline or dotted underline are the text not included in the original International Standard. IEC Standards number referred herein are according to IEC Standards new numbering system with effect from January 1st 1997, so as for the Standards issued before this date, the number are changed by adding 60000 to previous one. This means only the modification of number, so the contents of the standard applied is identical.

Section One—General

1 General

1.1 Scope This Standard specifies fixed resistor networks (hereafter referred to as "resistor") in which the resistance of each individual resistor can be measured and is the sectional specification of fixed resistor networks for use in electronic equipment associated with **JIS C 5201-1** *Fixed resistors for use in electronic equipment—Part 1 : Generic specification*.

Remarks : The following standard is the corresponding International Standard to this Standard.

IEC 60115-6 : 1983 *Fixed resistors for use in electronic equipment
Part 6 : Sectional specification : Fixed resistor
networks with individually measurable resistors
Amendment 1 : 1987*

1.2 Object The object of this Standard is to prescribe preferred ratings and characteristics and to select from **JIS C 5201-1**, the appropriate quality assessment procedures, tests and measuring methods and to give general performance requirements for this type of resistor network. Test severities and requirements prescribed in detail specifications referring to this sectional specification shall be of equal or higher performance level, because lower performance levels are not permitted.

1.3 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. If the indication of the year of coming into effect is given to these referred standards, only the edition of indicated year constitutes the provision of this Standard but the revision

and amendment made thereafter are not applied. The normative references without the indication of the year of coming into effect apply limiting only to the most recent edition (including the amendment).

Japanese Industrial Standards

JIS C 00 *Test standard group Environmental testing procedures*

Remarks : All provisions cited from **IEC 60068**, *Basic environmental testing procedures* are equivalent to corresponding provisions of this Standard.

JIS C 0010 *Environmental testing Part 1 : General and guidance*

Remarks : All provisions cited from **IEC 60068-1** : 1978, *Basic environmental testing procedures Part 1 : General* and Amendment 1 : 1992 are equivalent to corresponding provisions of this Standard.

JIS C 5063 *Preferred number series for resistors and capacitors*

Remarks : **IEC 60063** : 1963, *Preferred number series for resistors and capacitors*, Amendment 1 : 1967 and Amendment 2 : 1977 are identical to this Standard.

JIS C 5201-1 *Fixed resistors for use in electronic equipment—Part 1 : Generic specification*

Remarks : All provisions cited from **IEC 60115-1** : 1982, *Fixed resistors for use in electronic equipment Part 1 : Generic specification* and Amendment 2 : 1987, Amendment 3 : 1989 and Amendment 4 : 1993 are equivalent to corresponding provisions of this Standard.

JIS Z 9015 *Sampling inspection procedures and tables by attributes with severity adjustment (receiving inspection where a consumer can select suppliers)*

Remarks : All provisions cited from **IEC 60410** : 1973, *Sampling plans and procedures for inspection by attributes* are equivalent to corresponding provisions of this Standard.

IEC Standards

IEC QC 001001 : 1986 *Basic rules of the IEC Quality assessment system for electronic components (IECQ)*, Amendment 2 : 1994

IEC QC 001002 : 1986 *Rules of procedures of the IEC Quality assessment system for electronic components (IECQ)*, Amendment 2 : 1994

1.4 Information to be given in a detail specification Detail specifications shall be derived from the relevant blank detail specification.

Detail specifications shall not specify requirements inferior to **JIS C 5201-1** and this Standard or blank detail specifications.

When more severe requirements are included, they shall be listed in 1.8 of the detail specification and indicated in the test schedules, for example by an asterisk (*). The following information shall be given in each detail specification and the values quoted shall preferably be selected from those given in the appropriate item of this sectional specification.

Remarks : The information given in 1.4.1 and 1.4.3 may, for convenience, be presented in tabular form.

1.4.1 Outline drawing and dimensions There shall be an illustration of the network as an aid to easy recognition and for comparison of the network with others. Dimensions and their associated tolerances, which affect interchangeability and mounting, shall be given in the detail specification. All dimensions shall preferably be stated in millimetres.

1.4.2 Mounting The detail specification shall specify the method of mounting to be applied for normal use and for the application of the vibration (sine wave) and the bump or shock tests. The resistor networks shall be mounted by their normal means.

The design of the resistor network may be such that special mounting fixtures are required in its use. In this case the detail specification shall describe the mounting fixtures and they shall be used in the application of the vibration (sine wave) and bump or shock tests.

1.4.3 Style (JIS C 5201-1, 2.2.3) For the purpose of this Standard the style is a combination of rated dissipation and temperature characteristic (or coefficient) of resistance.

It shall be represented by a double-letter code e.g. AB, BC, CD, etc., which is arbitrarily chosen for each dissipation/temperature characteristic combination covered by a detail specification. The style designation, therefore, has no meaning unless the number of the detail specification is also given.

Remarks : The symbols of the style may be designated as specified styles of JIS C 5201-1, Annex 1.

1.4.4 Ratings and characteristics The ratings and characteristics shall be in accordance with the relevant clauses of this specification together with the following:

1.4.4.1 Rated resistance range See 2.2.1. The preferred values are those of the E-series of JIS C 5063.

Remarks : In case of IEC Quality Assessment System (IECQ), when products approved to the detail specification have different ranges, the following statement should be added:

“The range of values available in each style is given in the qualified products list (QPL)”.

1.4.5 Marking The detail specification shall specify the content of the marking on the network and on the package. Deviations from 2.4 of JIS C 5201-1, shall be specifically stated.

1.5 Marking

1.5.1 The information given in the marking is selected from the following list; the relative importance of each item is indicated by its positions on the list:

- a) Network identification which enables reference back to the detail specification for identification of each element.
- b) The identification of terminations as given in the detail specification.