Description Rule of Property Dictionary

［Rule Number : ECALSDS03］

Version 2.6

Abstract: This rule prescribes a computer sensible expression for part properties of   electronic components in ECALS Dictionary.

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1. Purpose and Scope

(1) Purpose

This rule prescribes computer sensible expression forms and description rules concerning Properties of electronic components. The purpose of this rule is to provide a neutral mechanism of describing part information, independent of a specific information system in either providers or users. In implementing a system or a database, it needs additional expansion into an optimum form .

This description rule keeps interoperability, referring to ISO13584 and/or IEC61360, in order to exchange part information data world-widely.

(2) Scope

This description rule is applied to all Properties of electric components. A reasonable system should be established to facilitate continuous maintenance of ECALS Dictionary according to the rules defined in Section 3; 'Version and Revision rule for Properties'.

(3) Normative references

The following are the principal standards to which this rule refers.

・ISO13584-42:1998 Industrial automation systems and integration - Parts Library - Part 42: Methodology for structuring part families

・ISO 8601:1988 Date elements and interchange formats - Information interchange - Representations of dates and times

・ISO 843: 1997 Information and documentation - Conversion of Greek characters into Latin characters

・ISO 1000: 1992 SI units and recommendations for the use of their multiples and certain other units

・ISO 2955:1992, Information processing-Representation of SI and other units in systems with limited character sets

・IEC 61360-1: 1995 Standard data element types with associated classification scheme for electric components- Part 1: Definitions - Principles and methods

・IEC 61360-2: Standard data element types with associated classification scheme for electric components - Part 2: EXPRESS Dictionary Schema

・IEC 61360-3: Standard data element types with associated classification scheme for electric components - Part 3: Maintenance and validation procedure

・IEC 61360-4: Standard data element types with associated classification scheme for electric components - Part 4: IEC reference collection of standard data element types, component classes and terms

(4) Definition of terms

・Standardization organizations :

The standardization organizations described in this rule are composed of Technical Committee for Standardization (TCS) of 'Japan Electronics and Information Technology Industries Association' as well as a group commissioned by TCS.

・BSU :

BSU (Basic Semantic Unit) is a management code to ensure unique identification of Part Classes and Properties defined in IEC 61360.

The standardization organizations use the following rules to manage BSU.
- ・Part Class :　XJA001 ～ XJD999
- ・Property :　　XJE001 ～ XJZ999
- ・Note: Not to use I and O at the third letter

The standardization organizations shall assign and manage the codes.

2.　Description Rule of Property Dictionary

The following set of items is used to specify each attribute for Property.

- ・Objective　　：Describe a purpose of the attribute.
- ・Description　：Specify how to write the attribute.
- ・Obligation　：The attribute is mandatory, if this item has a value, "Obligation".
- ・Formulation　： Define a type formulation to express a value of the attribute. Maximum data length must be included, if the attribute is String Type.
- ・Example　　：An example of Property
- ・　Exchangeability：Showing exchangeability of the attribute for the international standard such as IEC61360.
- ・Guide　　　：Showing the guideline and reference information for defining attributes .

All attributes hereunder shall be described with the set of items above.

(1) Property Code

   The following is the describing rule for Property Code.

O b j e c t i v e	To identify a Property uniquely and distinguish it from other Properties.
D e s c r i p t i o n	To describe based on BSU code.
O b l i g a t i o n	Obligation (TCS assigns the code.)
F o r m u l a t i o n	XXXnnn: (3 uppercase alphabets followed by 3-digit numerals)
E x a m p l e	XJE010
Exchangeability	The code notation method is based on IEC61360.
G u i d e	During a Property selection phase, no code shall be specified. The final code shall be assigned after validation of the Property definition by TCS. To modify an existing code, the same procedure shall be applied.

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(2) Version Number

    The following is the describing rule for Version Number.

O b j e c t i v e	To identify each version of Property . The version number shall be incremented when values of some attributes in the Property are modified. Note: Modification of a Property which affects the version number is defined in 'Fundamental Rule of ECALS Dictionary revising';ECALSDS11.
D e s c r i p t i o n	A string of alphanumeric characters to identify each version number. A sequence of version numbers shall be assigned in the ascending order.
O b l i g a t i o n	Obligation
F o r m u l a t i o n	String : three- digit numerals
E x a m p l e	001 (is followed by 002)
Exchangeability	Version Number notation method is based on IEC61360.
G u i d e	During a Property selection phase, no Version Number shall be specified. The final Version Number shall be assigned after validation of the Property definition by TCS. To modify an existing Version Number, the same procedure shall be applied.

(3) Revision Number

The following is the describing rule for Revision Number.

O b j e c t i v e	To identify each 'revision' of the same Property version. The revision number shall be incremented when values of some attributes aremodified. Note: Modification on a Property which affects the revision number is defined in 'Fundamental Rule of ECALS Dictionary revising'; ECALSDS11.
D e s c r i p t i o n	A string of alphanumeric characters to identify each different revision number of the same Property version. A sequence of revision numbers shall be assigned in the ascending order. The revision number is reset to '01' when a version number is changed.
O b l i g a t i o n	Obligation
F o r m u l a t i o n	String : two- digit numerals
E x a m p l e	01 (is followed by 02)
Exchangeability	Revision Number notation method is based on IEC61360.
G u i d e	During a Property selection phase, no Revision Number shall be specified. The final Revision Number shall be assigned after validation of the Property definition by TCS. To modify an existing Revision Number, the same procedure shall be applied.

(4)　Preferred Name.EN

　　The following is the describing rule for Preferred Name.EN (English).

O b j e c t i v e	To distinguish a Property from other Properties definitely. This is used to make it human-readable and help users understand it easily.
D e s c r i p t i o n	Names defined in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names. It is recommended to use full-length names if possible.
O b l i g a t i o n	Obligation
F o r m u l a t i o n	Alphanumeric characters of 70 letters or less. Only the first letter shall be an uppercase.
E x a m p l e	Insulation resistance
Exchangeability	The notation method is based on IEC61360.
G u i d e	As for Preferred Name.EN, names defined in standards shall be used. In case of using names used in individual companies, they shall be used as Synonymous name.EN

(5)　Preferred Name.JA

　　The following is the describing rule for Preferred Name.JA (Japanese).

　　Note: The relation between Preferred Name.EN and Preferred Name.JA is the translation between English and Japanese.

Ｏｂｊｅｃｔｉｖｅ	To distinguish a Property from other Properties definitely. This is used to make it human-readable and help users understand it easily.
Ｄｅｓｃｒｉｐｔｉｏｎ	Names defined in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names. It is recommended to use full-length names if possible.
Ｏｂｌｉｇａｔｉｏｎ	Obligation
Ｆｏｒｍｕｌａｔｉｏｎ	A string of 70 letters or less with a combination of　single-byte alphanumeric characters and double-byte Kana-Kanji characters. Character strings to be used shall be based on 'Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14.
Ｅｘａｍｐｌｅ	絶縁抵抗(Insulation resistance)
Exchangeability	The notation method is based on IEC61360.(IEC61360 permits translation of original names into the language of each country.)
Ｇｕｉｄｅ	As for Preferred Name.JA, names defined in standards shall be used. In case of using names used in individual companies, they shall be used as 'Synonymous Name.JA'.

(6) Short Name.EN

The following is the describing rule for Short Name.EN (English).

O b j e c t i v e	To define a short notification of a Property to save space (for instance, to display on screen, to print on paper that has narrow space.)
D e s c r i p t i o n	Names used in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names.
O b l i g a t i o n	Obligation
F o r m u l a t i o n	Alphanumeric characters of 17 letters or less. It is allowed to use a Preferred Name.EN as a Short Name.EN as far as it has 17 letters or less.
E x a m p l e	R_Ins
Exchangeability	The notation method is based on IEC61360.
G u i d e	If a name is composed of more than one word, it is recommended to shorten the word into three characters or so. Ex. limitation: lim , rated: rat,

Notation of using Short Name

It is recommended to use a character set defined in IEC61360 for Short Names because they are processed by computer (to display, to print and to exchange a message).

Table 2-1 shows examples of Short Name.

Table 2-1 Examples of Short Name

Term	Preferred Name.EN	Short Name.EN
Terminal	Number of terminals	number of term
Capacitance	Tolerance on rated capacitance	C_tol
Voltage	Rated input voltage (DC)	Rat In Vol(DC)
Tangent	Tangent of loss angle	Tan$D
Temperature	Storage temperature	T_stg
Resistance	Thermal resistance	R_th

(7) Short Name.JA

The following is the describing rule for Short Name.JA (Japanese).

Note: The relation between Short Name.EN and Short Name.JA is the translation between English and Japanese.

O b j e c t i v e	To define a short notification of a Property to save a space (for instance, to display on screen, to print on paper that has narrow space.)
D e s c r i p t i o n	Names used in International Standard, National Standard or Industrial Standard shall take priority over using ECALS individual names.
O b l i g a t i o n	Obligation
F o r m u l a t i o n	A string of 17 letters or less with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.It is allowed to use a Preferred Name.JA as a Short Name.JA as far as it has 17 letters or less. Character strings to be used shall be based on 'Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14.
E x a m p l e	絶縁抵抗 (R_Ins)
Exchangeability	The notation method is based on IEC61360. (IEC61360 permits translation of original names into each national language.)
G u i d e	Names that are commonly used in the industry shall take priority over ECALS individual names. Sometimes a Short Name.JA may be the same as its Synonymous Name.JA.

(8)　Synonymous Name.EN

　　The following is the describing rule for Synonymous Name.EN (English).

O b j e c t i v e	Alternative names showing the same concept of Preferred Name.EN.
D e s c r i p t i o n	Names used in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names.
O b l i g a t i o n	Option
F o r m u l a t i o n	This attribute can have several synonymous terms. Each synonymous name contains alphanumeric characters of 70 letters or less.
E x a m p l e	Switching temperature, Curie temperature
Exchangeability	The notation method is based on IEC61360.
G u i d e	Multiple comma-separated terms can be described in an unlimited space (1) to understand each property easily and (2) to inherit historical names. Synonymous searching will be possible by using these Synonymous Name definitions in the future.

(9)　Synonymous Name.JA

　The following is the describing rule for Synonymous Name.JA (Japanese).

　　Note: The relation between Synonymous Name.EN and Synonymous Name.JA is the translation between English and Japanese.

Ｏ ｂ ｊ ｅ ｃ ｔ ｉ ｖ ｅ	Alternative name showing the same concept of Preferred Name.JA.
Ｄ ｅ ｓ ｃ ｒ ｉ ｐ ｔ ｉ ｏ ｎ	Names used in International Standard, National Standard or Industrial Standard　shall take priority over ECALS individual names.
Ｏ ｂ ｌ ｉ ｇ ａ ｔ ｉ ｏ ｎ	Option
Ｆ ｏ ｒ ｍ ｕ ｌ ａ ｔ ｉ ｏ ｎ	This attribute can have several synonymous terms. Each synonymous name contains alphanumeric characters of 70 letters or less with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.　Character strings to be used shall be based on ' Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14.
Ｅ ｘ ａ ｍ ｐ ｌ ｅ	スイッチング温度，キュリー温度 (Switching temperature, Curie temperature)
Exchangeability	The notation method is based on IEC61360. (IEC61360 permits translation of original names into each national language.)
Ｇ ｕ ｉ ｄ ｅ	Multiple comma-separated synonym words can be described in an unlimited space (1) to understand each property easily and (2) to inherit historical names. Synonymous searching will be possible by using these Synonymous Name definitions in the future.

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(10) Preferred Letter Symbol

The following is the describing rule for Preferred Letter Symbol.

Note: Preferred Letter Symbol has no Japanese term.

Objective	To define an abbreviated name of a Property in tables, formula and drawings.
Description	For this attribute, refer to International standards such as ISO31, IEC60027,IEC60148 and Manufacturing Standard. It is recommended that Preferred Letter Symbols are computer sensible letter strings so that they can be displayed on and printed via an ordinary computer.
Obligation	Option
Formulation	Alphanumeric
Example	V_OH
Exchangeability Guide	The notation method is based on IEC61360.

(11) Unit

The following is the describing rule for Unit.

Note: Unit has no Japanese term.

O b j e c t i v e	To describe a unit for a value of Quantitative Property.
D e s c r i p t i o n	Symbols of the SI unit are used. Units other than SI units can be adopted when the standardization organization admits they are appropriate.
O b l i g a t i o n	Obligation (in quantitative Property)
F o r m u l a t i o n	A string of alphanumeric characters specified
E x a m p l e	m/S**2, bit, Cel
Exchangeability	Translation of the Units into another language is not permitted in IEC 61360. In other words, the Units must be used globally as well as the Symbols.
G u i d e	Conform to ' Detailed Rule concerned with units of ECALS Dictionary';ECALSDS08 for usable Units and their description methods.

(12) Level

The following is the describing rule for Level.

Note: Level has no Japanese term.

O b j e c t i v e	To describe levels of Quantitative Property.
D e s c r i p t i o n	To express "Level", a single or combination of the following four kinds of identifiers are used: Min(Minimum) , Nom(Nominal) , Typ(Typical) and Max(Maximum).
O b l i g a t i o n	Obligation (in quantitative Proprety)
F o r m u l a t i o n	A string of alphanumeric characters specified
E x a m p l e	Min, Nom, Typ, Max, MinTyp, TypMax, MinNomMax, MinTypMax
Exchangeability	Exchangeability is maintained.
G u i d e	Conform to "Notation of Level description" (see below) as for the description of levels.

Notation of Level description

As for the Level definition of a Property, be careful of the next items.

(a) Relation between a measurable Unit and a Level

In the case of a Data Type in the Property Dictionary being specified as measurable; Integer Measurement and Real Measurement, a Level description can be used. In the case of a Data Type being Integer or Real, some Level definitions can be used if they are needed. See notation of Data Type (b).

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(b)   Usable combinations of Levels

The following 11 cases shown in the table 2-6, 'The combinations of Level description which are allowed to use ' shall be the usable combinations of levels.

Table 2-6 The combinations of Level description which are allowed to use

Identifier	Meaning	Note
Min	Minimum value	
Nom	Nominal value (defined as a rating)	To describe the nominal value of an characteristics in a design.
Typ	Typical value (obtained by an actual measurement. Some conditions are added in this case.)	To express performance of an attribute. (If there are any measurement conditions attached, not 'Nom', but 'Typ' shall be used.)
Max	Maximum value	
MinMax	Range from minimum to maximum	
MinNom	Minimum and nominal value	
MinTyp	Minimum and typical value	
NomMax	Nominal and Maximum value	
TypMax	Typical and Maximum value	
MinNomMax	Minimum and Maximum centered by Nominal	
MinTypMax	Minimum and Maximum centered by Typical.	

(c)   Selection order of Level in the dictionary

Generally the capacity of the description becomes wide by using a combination of several level identifiers. For instance, MinNomMax represents one of Min, Nom or MinMax. Accordingly, a combination of several level identifiers has higher description capacity than a single level identifier. On the other hand, the higher the description capacity is, the more difficult it is to keep unique identification of the description. Considering such trade off condition, the following requirements must be filled in selecting level descriptions in the dictionary.

-Part information for each information provider should be written with the same Level description.

-The way of describing a Level must not be so many as to create confusion.

The table 2-7 shows a complete set of definition of how to use a Level identifier. To adapt these two requirements, the following are the basis of selecting order. 1,2,3 show the order to judge. 2-2-a and 2-2-b show the same order.

Table 2-7 Priority to select a Level identifier in the dictionary

Priority	Decision	Level to be specified
1.	First priority is to use a single identifier	Min / Nom / Typ / Max
2	Second priority is to use 2-Level identifier	MinMax / MinTyp / TypMax
2-1	To use minimum and maximum	MinMax
2-2-a	To use minimum and typical	MinTyp(MinNom is a last option to use)
2-2-b	To use typical and maximum	TypMax (NomMax is a last option to use)
3	Third priority is to use 3-Level identifier	MinNomMax / MinTypMax

(13) Data Type

The following is the describing rule for Data Type.

Note:　Data Type has no Japanese term.

O b j e c t i v e	To identify a Data Type such as Integer, Real, String, Boolean and External File Reference.
D e s c r i p t i o n	Describe a defined Data Type Code
O b l i g a t i o n	Obligation
F o r m u l a t i o n	Data Type Code specified (Alphanumeric)
E x a m p l e	Int
Exchangeability	A list of Data Type is expanded against IEC61360. However, since the exchange method to IEC61360 is ensured in this rule, the exchangeability is maintained.
G u i d e	See "Notation of Data Type description" to specify a Data Type.

Notation of Data Type description.

(a)　The table 2-2 shows 'List of Data Type '

Table 2-2 List of Data Type

Data Type	Code for Data Type	Meaning
Integer	Int	Integer with no unit
Integer Measurement	IntM	Integer with a unit
Integer Currency	IntC	Integer with a currency unit
Integer Enumeration	IntE	Integer with value defined in Property Value List
Real	Real	Real with no unit

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Real Measurement	RealM	Real with a unit
Real Currency	RealC	Real with a currency unit
String	String	String of characters
String Enumeration	ENUM	String with value defined in Property Value List
Boolean	Boolean	True or False
External File Reference	File	External file reference
Date	Date	Date type

(b)   Among quantitative data in IEC61360, a Property which has the following features is managed as Real or Int.

1) A value of a Property which means a ratio between quantitative data such as Q (quality factor)　and　2)　the Property which dose not have a Unit. (Unit as '1' defined in ISO31)

Therefore, Even if a Data Type is Real and Int, a Level can be specified when necessary as shown in the table 2-3.

(c)   The table 2-3 shows the relations among Data Type, Unit and Level.

Table 2-3 The relations among Data Type, Unit and Level

Data Type （Code）	Level	Unit
Int	#	－
IntM	×	×(unit specified)
IntC	－	×(Currency unit)
IntE	－	－
Real	#	－
RealM	×	×(Unit specified)
RealC	－	×(Currency unit)
String	－	－
ENUM	－	－
Boolean	－	－
File	－	－
Date	－	－

×: obligation to describe

#: can be specified when necessary

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(14)   Definition.EN

The following is the describing rule for Definition.EN (English).

O b j e c t i v e	To identify a Property among other Properties. This notation must show clearly what kind of characteristics the Property has.
D e s c r i p t i o n	The statement must show the meaning of the Property and distinguish it from other Properties.
O b l i g a t i o n	Obligation
F o r m u l a t i o n	Unlimited string length of alphanumeric characters
E x a m p l e	The maximum equivalent series resistance of a capacitor at specified temperature and frequency.
Exchangeability	The notation method is based on IEC61360.
G u i d e	Minimum contents required must be described in order to make it easier to understand the Property. It is desirable to adopt a definition if it is easier to understand than those defined in other standards. (That is, it is possible to give an ECALS's unique definition.)

(15) Definiton.JA

The following is the describing rule for Definition.JA (Japanese).

Note: The relation between Definition.EN and Definition.JA is the translation between English and Japanese.

Objective	To identify a Property among other Properties. This notation must show clearly what kind of characteristics the Property has.
Description	The statement must show the meaning of the Property and distinguish it from other Properties.
Obligation	Obligation
Formulation	Unlimited string length with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters. Character strings to be used shall be based on 'Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14.
Example	規定の温度，及び周波数でのコンデンサの等価直列抵抗の最大値。
Exchangeability	The notation method is based on IEC61360. (IEC61360 permits translation of original names into each national language.)
Guide	Minimum contents required must be described in order to make it easier to understand the Property. It is desirable to adopt a definition if it is easier to understand than those defined in other standards. (That is, it is possible to give an ECALS's unique definition.)

(16)　Source Document of Definition

　　　The following is the describing rule for Source Document of Definition.

O b j e c t i v e	To list the original rules and standard documents which were referred to in defining a preferred name, a definition and a unit It will help understanding and a review in the committee after defining the Property.
D e s c r i p t i o n	To list the document title, the document number and the issued date of the source document
O b l i g a t i o n	Option
F o r m u l a t i o n	Alphanumeric characters of 80 letters or less
E x a m p l e	IEC 61360-4:1997-03
Exchangeability	The notation method is based on IEC61360.
G u i d e	To list the source International standards and/or domestic standards as much as possible.

(17)　Notes.EN

　　The following is the describing rule for Notes.EN (English).

O b j e c t i v e	To add more information to a Property to make it clear.
D e s c r i p t i o n	To describe detail information to support understanding of Property definition.
O b l i g a t i o n	Option
F o r m u l a t i o n	Unlimited string length of alphanumeric characters
E x a m p l e	The temperature at which the change of the slope of the derating curve occurs.
Exchangeability	The notation method is based on IEC61360.
G　u　i　d　e	Remark.EN shall be made on how to apply a Property.

(18)　Notes.JA

　　　The following is the describing rule for Notes.JA (Japanese).

　　　Note: The relation between Notes.EN and Notes.JA is the translation between English and Japanese.

O b j e c t i v e	To add more information to a Property to make it clear.
D e s c r i p t i o n	To describe detail information to support understanding of Property definition.
O b l i g a t i o n	Option
F o r m u l a t i o n	Unlimited string length with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters. Character strings to be used shall be based on 'Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14.
E x a m p l e	周囲温度が 70℃以外のときは定格周囲温度を規定する
Exchangeability	The notation method is based on IEC61360.
G u i d e	Remark.JA shall be made on how to apply a Property.

(19)　Remark.EN

　　　The following is the describing rule for Remark.EN (English).

Ｏｂｊｅｃｔｉｖｅ	To add more information to a Property to make it easier to understand how to apply it.
Ｄｅｓｃｒｉｐｔｉｏｎ	To describe how to apply a Property.
Ｏｂｌｉｇａｔｉｏｎ	Option
Ｆｏｒｍｕｌａｔｉｏｎ	Unlimited string length of alphanumeric characters
Ｅｘａｍｐｌｅ	Apply to rectangular chip with terminals or electrode in opposite direction.
Exchangeability	The notation method is based on IEC61360.
Ｇｕｉｄｅ	Describe how to apply a Property. The Note.EN shall be made on detail information to support understanding of　Property definition.

(20)　Remark.JA

　　　The following is the describing rule for Remark.JA (Japanese).

　　Note: The relation between Reamrk.EN and Remark.JA is the translation between English and Japanese.

O b j e c t i v e	To add more information to a property to make it easier to understand how to apply it.
D e s c r i p t i o n	To describe how to apply a Property.
O b l i g a t i o n	Option
F o r m u l a t i o n	Unlimited string length with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters. 　Character strings to be used shall be based on 'Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14.
E x a m p l e	反対方向にある端子、又は電極を持つ角形チップに適用する。
Exchangeability	The notation method is based on IEC61360.
G u i d e	Describe how to apply a Property . The Note.JA shall be made on detail information to support understanding of　Property definition.

(21)   Segment

The following is the describing rule for Segment.

O b j e c t i v e	To classify Properties into groups. Segment is used 1) when part information providers get information on extracting Properties and 2) when part information users get a group of Properties.
D e s c r i p t i o n	A Property shall be classified into a Segment.
O b l i g a t i o n	Obligation
F o r m u l a t i o n	SEGxxx(3 uppercase alphabets followed by 3-digit numerals)
E x a m p l e	SEG006
Exchangeability	IEC61360 does not have this attribute. Segment code is defined by using BSU in ECALS Dictionary.
G u i d e	Segment definition is described in Appendix 1.

3.　Version and Revision rule for Properties

This rule follows ' Fundamental Rule of ECALS Dictionary revising'; ECALSDS11.

Notes)

　1. Technical Committee for Standardization (TCS) is the only authority who is able to modify and withdraw ECALSDS03.

　2. This specification was opened to the public.

　3. Revision history

Date	Status	Version/ Revision	Major changes
2000/09/28	Published	001-01	
2001/01/12	Revised	001-02	
2002/03/15	Versioned	002-01	· The length of a Synonymous Name: from non-specified to 30 letters · Real or Int is assigned to a quantitative datum that does not have any unit. · The length of Source Document of Definition is limited to 80 letters. · Only the Rule name shall be described if it is defined in the other Rules. · The order of attributes in ECALSDS03 is consistent with that of CSV File Dictionary.
2002/10/18	Revised	002-02	· The limit of string length of Preferred Name, Short Name and Synonymous Name is modified to meet　IEC61360-1（2002-02）. · 'Alphanumeric characters of 70 letters or less and only the first letter shall be an upper case' is added in the formulation of Preferred Name.EN. · To restrict using double-byte characters in Source Document of Definition, 'single-byte alphanumeric character strings of 80 letters or less' is added. · Delete 'Starting with X' and add '3 uppercase alphabets followed by 3-digit numerals.' in the formulation of Property Code.
2003/05/08	Revised	002-03	· Editorial Errors in page numbering, Appendix 1 and titles of tables are modified.
2004/12/01	Revised	002-04	· Editorial modification
2005/ 4/28	Revised	002-05	· Change of disclosure scope.
2005/ 7/28	Revised	002-06	· Table 2-3 modification of Level for Int and Real

Appendix 1　Definition of Segments

Segment Code	PrefName.EN	PrefName.JA	ShortName.EN	ShortName.JA	Definition.EN	Definition.JA
SEG001	Management Identification	管理情報	Management ID	管理	This segment contains all those properties which are concerned with the identification of the component information by supply	部品情報を管理するための情報。部品分類コード、部品分類名称、バージョン、リビジョンなど
SEG002	Component Information	部品情報	Component	部品	This segment contains all those properties which are concerned with the information n of the component itself, including its source of supply	部品を識別するための情報。製品名、型番、企業名及び各種管理用のIDなど
SEG003	Physical description	物理情報	Physical	物理	This segment contains the physical description of the components including materials and qualitative descriptions of structure	部品のパッケージ材質、端子材質を含む物性情報
SEG004	Limiting conditions (ratings)	定格	Ratings	定格	This segment contains information on all conditions (temperature, current, power etc.) which must not be exceeded without risking damage to the device	定格に関する情報。電源電圧、動作温度範囲など
SEG005	Normal operating characteristics	特性（電気、機械）	Characteristics	特性	This segment contains those parameters which cover the normal operation of the component and which are generally ranges for observed values under test and measured under stated conditions	電気特性（推奨動作条件を含む）及び機械特性に関する情報。抵抗値、許容差、データ容量など
SEG006	Package and Dimension	パッケージ及び外形形状	Package	寸法	This segment covers package styles, geometric information and outline dimensions	部品のパッケージ及び外形寸法に関する情報。パッケージコードや外形形状の寸法データなど

SEG007	Handling and mounting	実装情報	Handling	実装	This segment contains information on how the component should be handled and mounted and the form of packing in which it is supplied to the user	部品の実装に関する情報。梱包形態、テーピング、トレイなどの仕様、及び、実装時のはんだ付け特性など
SEG008	Quality and reliability	品質及び信頼性	Quality	品質	This segment contains information on any formal quality assurance approvals for the component as well as failure-rate data which may be of use in system reliability predictions.　Some of the data may be available in an external file	部品の信頼性と品質に関する情報。部品故障率や信頼性データ。ISO9000などの認証取得、安全規格など
SEG009	Commercial information	販売情報	Commercial	販売	This segment contains information concerning the price of the component and its availability in the market place.　The information should be under the close management of the component supplier and may be quite volatile	部品の販売に関する情報。標準的な価格、納期。最小受注単位、生産国。購入可能国など
SEG010	Functional Models	機能モデル	EDA model	機能	This segment contains information concerning mainly external file about simulation models or datasheets are handled as global objects	EDAデータに関する情報。回路図シンボル、フットプリント、解析モデルなど
SEG011	Discontinuance	生産中止情報	Discontinuance	生産中止	This segment contains information necessary for an equipment manufacturer to handle appropriately the discontinuance of component manufacturing	部品の生産中止に関する情報。生産中止区分、生産中止予定日付、保管時の注意事項など
SEG012	Deconditioning and recycling	リサイクル情報	Deconditioning	リサイクル	This segment contains information necessary for an equipment manufacturer to handle appropriately the deconditioning and/or recycling of the component	部品の環境問題対応事項として、ISO14000の取得など。部品のライフサイクルに関して、廃棄品時の環境有害物質及び量、又は、リサイクル可能な場合の再生手順など。
SEG013	Release Information	リリース情報	Release	リリース	This segment contains information necessary for an equipment manufacturer to handle appropriately the availability status , sample providing status or sales release date of the component	部品情報のリリースに関する情報。サンプルの提供可能有無、代替品、新製品の事前資料など

SEG014	Caution Document	注意文書	Caution	注意	This segment contains information necessary for an equipment manufacturer to handle appropriately the caution of PL, trading law about component	部品の注意事項に関する情報。部品取扱い時の、貿易管理令、PL法含む安全規格、著作権、特許に関する注意文書など
SEG015	EDIL Identifier	テンプレート管理情報	EDIL ID	テンプレート	This segment contains all those properties which are concerned with the template of the component itself. Also should be maintained by JEITA ECALS Standard Group.	テンプレートを管理するための情報。テンプレートコード、バージョン、リビジョンなど。本情報の値は、JEITA 標準化分科会が作成、管理する

Appendix 2   Description Rule of Property Dictionary.

Attribute name (EN)	Attribute name (JA)	Objective	Description	Obligation	Formulation	Example
Property Code	プロパティコード	To identify a Property uniquely and distinguish it from other Properties.	To describe based on BSU code.	Obligation (TCS assigns the code.)	XXXnnn: (3 uppercase alphabets followed by 3-digit numerals)	XJE010
Version Number	バージョン番号	To identify each version of Property . The version number shall be incremented when values of some attributes in the Property are modified.	A string of alphanumeric characters to identify each version number. A sequence of version numbers shall be assigned in the ascending order.	Obligation	String : three- digit numerals	001 (is followed by 002)
Revision Number	リビジョン番号	To identify each 'revision' of the same Property version. The revision number shall be incremented when values of some attributes aremodified.	A string of alphanumeric characters to identify each different revision number of the same Property version. A sequence of revision numbers shall be assigned in the ascending order. The revision number is reset to '01' when a version number is changed.	Obligation	String : two- digit numerals	01 (is followed by 02)
Preferred Name.EN	好適名称(英語)	To distinguish a Property from other Properties definitely. This is used to make it human-readable and help users understand it easily.	Names defined in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names. It is recommended to use full-length names if possible.	Obligation	Alphanumeric characters of 70 letters or less. Only the first letter shall be an uppercase.	Insulation resistance
Preferred Name.JA	好適名称(日本語)	To distinguish a Property from other Properties definitely. This is used to make it human-readable and help users understand it easily.	Names defined in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names. It is recommended to use full-length names if possible.	Obligation	A string of 70 letters or less with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.	絶縁抵抗 (Insulation resistance)
Short Name.EN	短縮名称(英語)	To define a short notification of a Property to save space (for instance, to display on screen, to print on paper that has narrow space.)	Names used in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names.	Obligation	Alphanumeric characters of 17 letters or less. It is allowed to use a Preferred Name.EN as a Short Name.EN as far as it has 17 letters or less.	R_Ins

Short Name.JA	短縮名称(日本語)	To define a short notification of a Property to save a space (for instance, to display on screen, to print on paper that has narrow space.)	Names used in International Standard, National Standard or Industrial Standard shall take priority over using ECALS individual names.	Obligation	A string of 17 letters or less with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.It is allowed to use a Preferred Name.JA as a Short Name.JA as far as it has 17 letters or less.	絶縁抵抗 (R_Ins)
Synonym Name.EN	同義語名称(英語)	Alternative names showing the same concept of Preferred Name.EN.	Names used in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names.	Option	This attribute can have several synonymous terms. Each synonymous name contains alphanumeric characters of 70 letters or less.	Switching temperature, Curie temperature
Synonym Name.JA	同義語名称(日本語)	Alternative name showing the same concept of Preferred Name.JA.	Names used in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names.	Option	This attribute can have several synonymous terms. Each synonymous name contains alphanumeric characters of 70 letters or less with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.	スイッチング温度，キュリー温度 (Switching temperature, Curie temperature)
Preferred Letter Symbol	好適シンボル	To define an abbreviated name of a Property in tables, formula and drawings.	For this attribute, refer to International standards such as ISO31, IEC60027,IEC60148 and Manufacturing Standard. It is recommended that Preferred Letter Symbols are computer sensible letter strings so that they can be displayed on and printed via an ordinary computer.	Option	Alphanumeric	V_OH
Unit	単位	To describe a unit for a value of Quantitative Property.	Symbols of the SI unit are used. Units other than SI units can be adopted when the standardization organization admits they are appropriate.	Obligation (in quantitative Property)	A string of alphanumeric characters specified	m/S**2, bit, Cel
Level	レベル	To describe levels of Quantitative Property.	To express "Level", a single or combination of the following four kinds of identifiers are used: Min(Minimum) , Nom(Nominal) , Typ(Typical) and Max(Maximum).	Obligation (in quantitative Proprety)	A string of alphanumeric characters specified	Min, Nom, Typ, Max, MinTyp, TypMax, MinNomMax, MinTypMax

Data Type	データタイプ	To identify a Data Type such as Integer, Real, String, Boolean and External File Reference.	Describe a defined Data Type Code	Obligation	Data Type Code specified (Alphanumeric)	Int
Definition.EN	定義(英語)	To identify a Property among other Properties. This notation must show clearly what kind of characteristics the Property has.	The statement must show the meaning of the Property and distinguish it from other Properties.	Obligation	Unlimited string length of alphanumeric characters	The maximum equivalent series resistance of a capacitor at specified temperature and frequency.
Definition.JA	定義(日本語)	To identify a Property among other Properties. This notation must show clearly what kind of characteristics the Property has.	The statement must show the meaning of the Property and distinguish it from other Properties.	Obligation	Unlimited string length with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.	規定の温度，及び周波数でのコンデンサの等価直列抵抗の最大値。
Source Document of Definition	定義の元文書	To list the original rules and standard documents which were referred to in defining a preferred name, a definition and a unit It will help understanding and a review in the committee after defining the Property.	To list the document title, the document number and the issued date of the source document	Option	Alphanumeric characters of 80 letters or less	IEC 61360-4:1997-03
Note.EN	注意(英語)	To add more information to a Property to make it clear.	To describe detail information to support understanding of Property definition.	Option	Unlimited string length of alphanumeric characters	The temperature at which the change of the slope of the derating curve occurs.
Note.JA	注意(日本語)	To add more information to a Property to make it clear.	To describe detail information to support understanding of Property definition.	Option	Unlimited string length with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.	周囲温度が 70℃以外のときは定格周囲温度を規定する
Remark.EN	注釈(英語)	To add more information to a Property to make it easier to understand how to apply it.	To describe how to apply a Property.	Option	Unlimited string length of alphanumeric characters	Apply to rectangular chip with terminals or electrode in opposite direction.
Remark.JA	注釈(日本語)	To add more information to a property to make it easier to understand how to apply it.	To describe how to apply a Property.	Option	Unlimited string length with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.	反対方向にある端子、又は電極を持つ角形チップに適用する。

Segment	セグメント	To classify Properties into groups.Segment is used 1) when part information providers get information on extracting Properties and 2) when part information users get a group of Properties.	A Property shall be classified into a Segment.	Obligation	SEGxxx(3 uppercase alphabets followed by 3-digit numerals)	SEG006

Note) Details of 'a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters ' in the formulation field are shown in 'Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14 , which defines a set of characters to be used.