# Dictionary Description Rules ［Summary］

［Rule Number : ECALSDS06］

**Version 2.7**

Abstract: ECALS Dictionary is a set of Computer-sensible Dictionaries to describe the attributes of electronic component classes and properties. The Dictionary is comprised of “Parts Class Dictionary”, which describes component classes and the classification; “Property Dictionary”, which provides information about the attributes of electronic components; “Class and Property Relation List”, which describes the relationship between classes and properties; “Property Value List”, which lists the values selectively taken by the properties; and three other files. This is a summary of the Dictionary Description Rules. Details are described in each Description Rule.

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# － Contents －

1. Purpose and Scope ..... 1
(1) Purpose ..... 1
(2) Scope ..... 1
(3) Normative references ..... 1
2. Basic Information Model of the Dictionary ..... 2
(1) Definitions of seven Computer-sensible Dictionaries ..... 2
(2) Relationships among Computer-sensible Dictionaries ..... 3
3. Parts Class Dictionary ..... 5
4. Property Dictionary ..... 10
(1) Description Rule ..... 10
(2) Usable combinations of Levels ..... 14
(3) Data type and meaning ..... 15
5. Class and Property Relation List ..... 16
6. Property Value List ..... 17
7. Segment Definitions ..... 19
8. Template Management Data ..... 22
9. Templates ..... 24
(1) Attributes of Templates ..... 24
(2) Example of Template (in ECALS Dictionary version 5.1) ..... 26

## 1. Purpose and Scope

### (1) Purpose

ECALS Dictionary is a set of Computer-sensible Dictionaries to describe the attributes of electronic component classes and properties. The Dictionary is comprised of Parts Class Dictionary, Property Dictionary, Class and Property Relation List, Property Value List, Segment Definitions, Template Management Data and Templates.

Description rules are necessary for the maintenance of the Dictionary. This report is a summary of rules that govern them.

Status of ECALS Dictionary:

ECALS Dictionary has been developed by the Standardization Project of the former CALS/EC Steering Committee in the Electronic Industries Association of Japan (EIAJ). It is based on the standards developed in ECALS-2 Project conducted from December 1, 1998 to January 7, 2000. ECALS-2 Project was part of a project named the Development of Global Supply Chain Foundation for Electronic Components, one of the Advanced Information Development Experimental Tasks of the former Ministry of International Trade and Industry (MITI) of Japan. For harmonization with international standards, ECALS Dictionary has been developed pursuant and with reference to IEC61360 and ISO13584 to the greatest possible extent.

MITI has been reorganized into the Ministry of Economy, Trade and Industry (METI) since January 2001. EIAJ has also been reorganized into the Japan Electronics and Information Technology Industries Association (JEITA) since November 2000.

### (2) Scope

The description rules apply to the electronic description and expression of the component classification system stipulated by ECALS standardization organizations i.e. Technical Committee for Standardization (TCS).

### (3) Normative references

- 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 61360-4: 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

・ISO 13584-42: 1998 Industrial automation systems and integration - Parts Library - Part 42: Methodology for structuring part families

## 2. Basic Information Model of the Dictionary

The description rules that stipulate for ECALS Dictionary are based on two standards, IEC61360-2 and ISO13584-24, which support the ability of Computer-sensible Dictionaries' interoperability. In addition, the Dictionary is expanded to accommodate the conditions for actual catalog data exchange.

Details of this expansion are as follows:

・Correspondence for two-byte characters (used in Japanese and other languages);
・Correspondence for tabular format specifications for use in displaying the distributed dictionary data;
・Expansion of data type for database use.

A physical file format for ECALS Dictionary is interchangeable with the STEP Physical File Format adopted by IEC61360-2 and ISO13584-24.

### (1) Definitions of seven Computer-sensible Dictionaries

Seven Computer-sensible Dictionaries included in ECALS Dictionary are defined as follows:

・Parts Class Dictionary; clsdic.csv: A dictionary that defines the hierarchical relationship among component classes. Includes attributes such as names and definitions;
・Property Dictionary; prpdic.csv: A dictionary that defines the properties of electronic components. Includes attributes such as names, units and definitions;
・Class and Property Relation List; capdic.csv: A list that describes the relationship between classes and properties;
・Property Value List; pvldic.csv: A list of the elemental values selected by the properties;
・Segment Definitions; segdic.csv: Definition of a group of classes possessed by a property;
・Template Management Data; edltmp.csv: Data used to manage templates;
・Templates; prptmp.csv: Definitions for the search, description and display of each

property in a class;

Data produced on the basis of the rules governing these dictionaries are called dictionary data.

An example of the equivalent relationship among the tabular displays and tree structure displays in each dictionary are shown in Figure 2.1 – 'Parts Class Dictionary, Property Dictionary, Class and Property Relation List and Property Value List'.

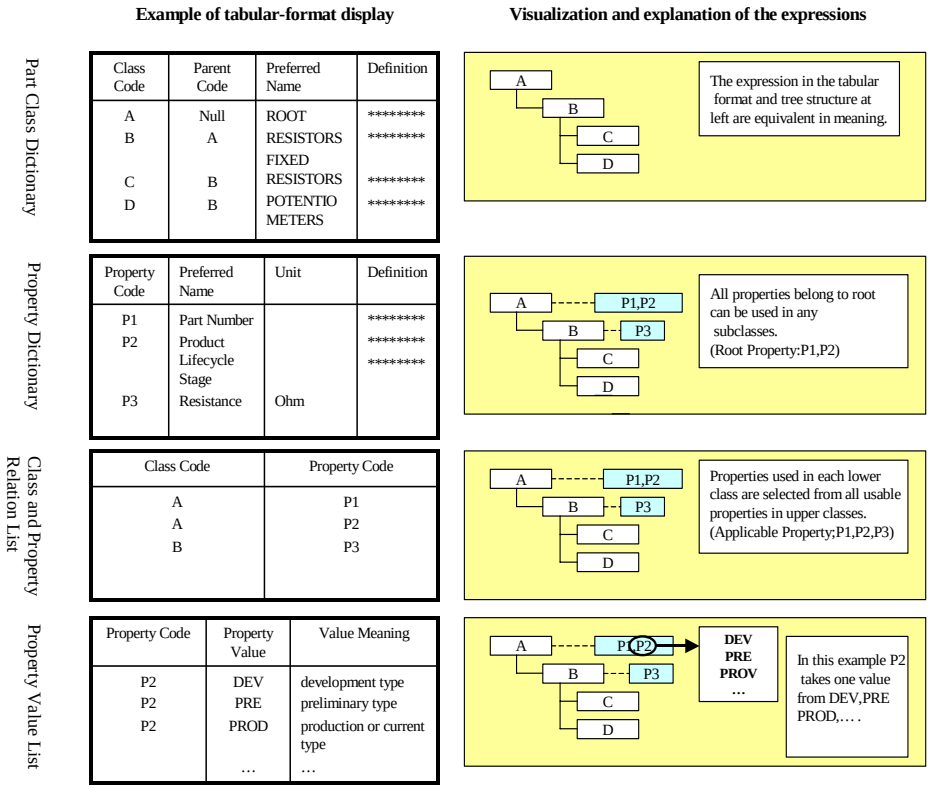


Figure 2.1 - Parts Class Dictionary, Property Dictionary, Class and Property Relation List and Property Value List

(2) Relationships among Computer-sensible Dictionaries

Each Computer-sensible Dictionary possesses one meaning with respect to the others. For example, properties used with a specific part type are defined using the Class and Property Relation List, and each class name and property name is defined in each Computer-sensible Dictionary. In addition, the values taken by the properties are defined by the property values. The definitions of those properties are found in the property dictionary. The relationship between this tabular structure and each Computer-sensible Dictionary, and the ER diagram for this tabular structure, are illustrated in Figure 2.2 – 'Relationship among Computer-sensible Dictionaries'.

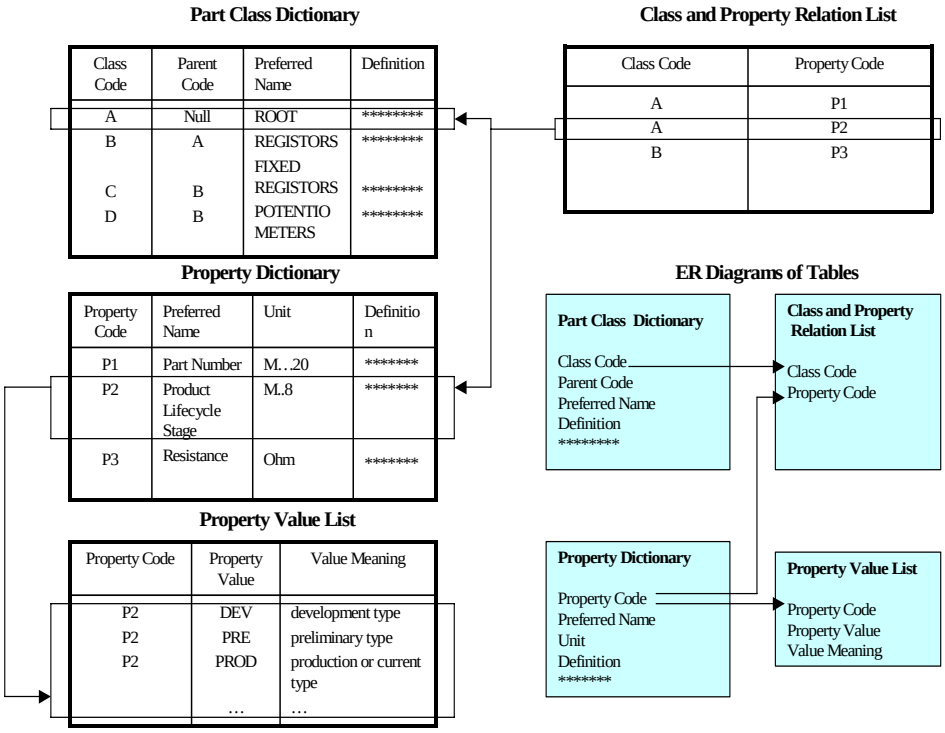


Figure 2.2 - Relationship among Computer-sensible Dictionaries

## 3. Parts Class Dictionary

An overview of the governing the Parts Class Dictionary Rule is shown in Table 3.1 - 'Parts Class Dictionary Rule'. The data per this description rule is stored in "clsdic.csv".

Table 3.1 - Parts Class Dictionary Rule

| Attribute Name (EN) | Attribute Name (JA) | Objective | Description | Obligation | Formulation | Example |
|---|---|---|---|---|---|---|
| Class Code | クラスコード | To identify a Part Class uniquely and distinguish it from other Part Classes. | To describe based on the BSU code | Obligation (TCS assigns the code) | XXXnnn : (3uppercase alphabets followed by 3-digit numerals.) | XJA001 |
| Parent Class Code | 親クラスコード | To identify the parent class among classes. | Description based on BSU code is used for this item. | Obligation. (TCS assigns the code ) * There is no defined parent of the Root Class. "$ROOT$" is used temporality. | XXXnnn: (3 upper case capital alphabets followed by 3 digits.) | XJA001 |
| Version Number | バージョン番号 | This is used to identify a specific version from other versions in the class. A new version number should be assigned when one or more attribute is modified in the Part Class. | 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 (it is followed by 002) |
| Revision Number | リビジョン番号 | To identify each 'revision' of the same Class version. The revision number shall be incremented when values of some attributes are modified. | 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 (it is followed by 02 ) |
| Preferred Name.EN | 好適名称(英語) | To distinguish a Class from other Classes 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 a | Obligation | Alphanumeric characters of 70 letters or less. Only the first letter shall be an uppercase. | Capacitor |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | full-spelling-out name to express a value. | | | |
| Preferred Name.JA | 好適名称(日本語) | This attribute is used to distinguish a class from other classes definitely. This is used to make it visible and make a user understand easily. | Names defined in International Standard, National Standard or Industrial Standard shall take priority over ECALS individual names. It is recommended to use a full-length names if possible. | Obligation | A string of less than 70 letters with a combination of a single-byte alphanumeric code and a double-byte Kana-Kanji character.<br>A character string, which allowed to use, should be based on ECALSD14, 'Regulation of a character set of the dictionary' | コンデンサ |
| Short Name.EN | 短縮名称(英語) | To define a short notification of a class 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. | Capacitor |
| Short Name.JA | 短縮名称(日本語) | To define a short notification of a class 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.<br>Character strings to be used shall be based on 'Detailed Rule concerned with characters in ECALS Dictionary'; ECALSDS14. | コンデンサ |
| Synonymous 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. | Inductor, coil |
| Synonymous Name.JA | 同義語名称(日本語) | Alternative name showing the same concept of Preferred | Names used in International Standard, National Standard or | Option | This attribute can have several synonymous terms. | インダクタ, コイル |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Name.JA. | Industrial Standard shall take priority over ECALS individual names. | | 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.<br>Character strings to be used shall be based on ‘ Detailed Rule concerned with characters in ECALS Dictionary’; ECALSDS14. | |
| Definition.EN | 定義(英語) | This attribute is used to make a meaning of the preferred name clearer and to identify it among other classes. This notation must have an ability to show what kind of class it is. | The statement must show the meaning of the Classes and distinguish it from other Classes. | Obligation | Unlimited alphanumeric characters | A coil mainly used in high frequency circuit of such electronic apparatus as radio and television receivers. |
| Definition.JA | 定義(日本語) | This attribute is used to make a meaning of the preferred name clearer and to identify it among other classes. This notation must have an ability to show what kind of class it is. | The statement must show the meaning of the Property and distinguish it from other classes. | Obligation | Unlimited string length with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters.<br>Character strings to be used shall be based on ‘Detailed Rule concerned with characters in ECALS Dictionary’; ECALSDS14. | 高周波領域で使用される固定型インダクタ |
| 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 class. | 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 Part 1:1998 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Note.EN | 注意(英語) | To add more information to a class to make it clear. | To describe detail information to support understanding of class definition. | Option | Unlimited string length of alphanumeric characters | The classification of magnetic materials is based upon the following characteristics: the main alloying element and metallurgical state and physical properties of the material. |
| Note.JA | 注意(日本語) | To add more information to a class to make it clear. | To describe detail information to support understanding of class definition. | Option | 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. | 磁性材料の分類は構成元素，冶金学的状態，物理的性質などに基づいている。 |
| Remark.EN | 注釈(英語) | This attribute is used to add more information on the class to make it clearer how to use it. | Not to mention about a meaning of the class, but to describe how to use it. With the description, part information providers can identify the class. | Option | Unlimited string length of alphanumeric characters | |
| Remark.JA | 注釈(日本語) | To add more information to a class to make it easier to understand how to apply it. | To describe how to apply a class. | Option | 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 | 製品品番は，技術的仕様（プロパティ）を共通とした単位で記述すべきである。通 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | in ECALS Dictionary'; ECALSDS14. | 常，カタログに記載される品名構成により決定される。また，その品番を元に，別途記載される連絡先（営業担当）への技術問合せ，第１次の価格見積りが可能であるべきである。 |

Note) 'Alphanumeric and Kana-Kanji character' in the formulation field shows single-byte for alphanumeric characters, double-byte for Kana-Kanji characters. 'Rule of a character set of the dictionary'; ECALSDS14 defines a set of characters to be used.

## 4. Property Dictionary

（1）Description Rule

An overview of the Property Dictionary Rule is shown in Table 4.1 - ‘Property Dictionary Rule’. The data per this description rule is stored in “prpdic.csv”.

Table 4-1. Property Dictionary Rule

| 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 | XXXnnn:<br>(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 |
| 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 are modified. | 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 | Obligation | String : two- digit numerals | 01 |
| 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 |
| 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 |
| 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 |
| 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 quantity data | 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 61360-1:1998 |
| 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.<br>Properties in a same group have same characteristics. 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) ‘Alphanumeric and Kana-Kanji character’ in the formulation field shows single-byte for alphanumeric characters, double-byte for Kana-Kanji characters. ‘Rule of a character set of the dictionary’; ECALSDS14 defines a set of characters to be used.

(2) Usable combinations of Levels

Combinations of the level, which can be used, are made into 11 kinds shown in Table 4.2 - 'Usable combination of Levels'.

Table 4.2 - Usable combination of Levels

| 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. | |

(When there are especially no requirements, MinNom and NomMax are not used)

(3) Data type and meaning

Data Type gives a unique code name (a string of characters). The list of code grant is shown in Table 4.3 - 'List of Data Type'.

Table 4.3 – 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 |
| 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 | Truth or False |
| External File Reference | File | External file reference |
| Date | Date | Date type |

## 5. Class and Property Relation List

An overview of Class and Property Relation List is shown in Table 5.1 - ‘Rules of Class and Property Relation’. The data per this description rule is stored in “capdic.csv”.

Table 5.1 - Rules of Class and Property Relation

| Attribute Name (English) | Attribute Name (Japanese) | Objective | Description | Obligation | Formulation | Example |
|---|---|---|---|---|---|---|
| Class Code | クラスコード | To identify a Part Class uniquely and distinguish it from other Part Classes. | To describe based on the BSU code | Obligation (TCS assigns the code) | XXXnnn :(3 uppercase alphabets followed by 3-digit numerals.) | XJA001 |
| 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 | XXXnnn: (3 uppercase alphabets followed by 3-digit numerals) | XJE010 |

## 6. Property Value List

An overview of the rules governing the Property Value List is shown in Table 6.1 - 'Rules Governing Property Value List'. The data per this description rule is stored in "pvldic.csv".

Table 6.1 - Rules Governing Property Value List

| Attribute name (EN) | Attribute name (JA) | Objective | Description | Obligation | Formulation | Example |
|---|---|---|---|---|---|---|
| Property Code | プロパティコード | To specify a property which uses a enumerated element | Write BSU code which is defined in Property Dictionary | Obligation | Property BSU code | XJE013 |
| Property Name | プロパティ名称 | Property Name which uses an enumerated element | Write a property name which is defined in Property Dictionary | Obligation | Japanese Preferred Name | 製品供給状態 |
| Property Value EN | プロパティ値（英語） | To list up Values of an enumerated property. | Should be identical among property Values | Obligation | Alphanumeric characters of 17 letters or less | DEV, PRE, PROD, NRND |
| Property Value JA | プロパティ値（日本語） | To list up Values of an enumerated property. | Should be identical among property Values | Obligation | Alphanumeric and Kana-kanji character of 17 letters or less | 開発中,事前準備,量産体制,生産中止予定 |
| Value Meaning EN | 値の意味（英語） | To define a brief meaning of Property Value. | Describe a meaning of a Property Value in English to make it easy to understand | Obligation | Alphanumeric characters of 70 letters or less | not recommended for new design |
| Value Meaning JA | 値の意味（日本語） | To define a brief meaning of Property Value | Describe a meaning of a Property Value in Japanese to make it easy to understand | Obligation | Alphanumeric and Kana-kanji character of 70 letters or less | 生産中止予定のため新機種への採用禁止 |

Table 6.2 shows an example of possible values of the Property ‘XJG021’.

Table 6.2 - Example of possible values of the property ‘XJG021’

| Property code | Property Name | Property Value.EN | Property Value.JA | Value Meaning.EN | Value Meaning.JP |
|---|---|---|---|---|---|
| XJG021 | Function class | Fast Page | ファーストページ | FP(fast page)DRAM | ファーストページ |
| XJG021 | Function class | EDO | EDO | EDO(Extended Data Out) DRAM | EDO |
| XJG021 | Function class | Synchronous | シンクロナス | S(Synchronous)DRAM | シンクロナス |
| XJG021 | Function class | Rambus | ランバス | R(Rambus)DRAM | ランバス |
| XJG021 | Function class | DDR-DRAM | ダブルデータレート | DDR(Double Data Rate) SDRAM | ダブルデータレート |
| XJG021 | Function class | Other Function | その他 | Other Function | その他 |

## 7. Segment Definitions

Segment definitions are shown in Table 7.1 - ‘Rules Governing Segment Definitions’. The data per this description rule is stored in “segdic.csv”.

Table 7.1 - Rules Governing Segment Definitions

| 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 |

## 8. Template Management Data

Template Management Data are items for managing Templates.

( 1) Template Name

( 2) Template Code

( 3) Template Version

( 4) Template Revision

( 5) Template Identifier

( 6) Template Last Creation Date

( 7) ECALS Class Code

( 8) Template Definition

( 9) Template Note

(10) Template Remark

Template Management Data are defined in each class.
These names, definitions and formulations/examples are shown in Table 8.1 – ‘Template Management Data Items’.
Examples show the template management data value of FIXED RESISTORS.

Table 8.1 - Template Management Data Items

| Name | Definition | Formulation/Example |
|---|---|---|
| Template Name | Description of Template name. | Ex: Template of Fixed Resistors |
| Template Code | Template code. | Alphanumeric code of 6 figures<br>Ex: EDL003 |
| Template Version | Template version. | Numeric of 3 digits<br>Ex: 001 |
| Template Revision | Template revision. | Numeric of 3 digits<br>Ex: 006 |
| Template Identifier | The identification code that is formed by a combination of the template name and version. | A provider will specify an ID for a template.<br>Format is EDLnnn-nnn<br>Ex: EDL003-001 |
| Template Last Creation Date | The last date of template creation. | Date format. Format is YYYY-MM-DD, 10 digits.<br>Ex: 2003-09-22 |
| ECALS Class Code | A description of the ECALS class code to which the template belongs. | Alphanumeric code of 6 figures<br>Ex: XJA003 |
| Template Definition | A definition of the template contents. | Ex: Fixed Resistors |
| Template Note | A note added to the template definition. | |
| Template Remark | A remark added to the template definition. | Ex: ECALS Ver5.1 |

Files of the Template Management Data are stored in “edltmp.csv.”

## 9. Templates

A Template consists of a set of each Property description for every Parts Class, attributes of description, search and disclosure of each Property. Specifically, eight attributes are described in the Templates: Property Code, Preferred Name in Japanese, Query Attribute, Description Attribute, Disclosure Attribute, Segment Code, Parts Class Code and Template ID. These items are shown in Table 9.1 – 'Templates'. Files of Templates are stored in "prptmp.csv."

（1） Attributes of Templates

Table 9-1. Templates

| Attribute Name (English) | Attribute Name (Japanese) | Objective | Description | Obligation | Formulation | Example |
|---|---|---|---|---|---|---|
| Property Code | プロパティコード | To specify a Property Code which is defined in Property Dictionary | To write BSU code which is defined in Property Dictionary | Obligation | XXXnnn | XJE001 |
| Property Name | プロパティ名称 | To distinguish a Property from other Properties definitely. This is used to make it human-readable and help users understand it easily. | To write Preferred Name.JA which is defined in Property Dictionary | Obligation | A string of 70 letters or less with a combination of single-byte alphanumeric characters and double-byte Kana-Kanji characters. | バージョン |
| Query Attribute | 検索属性 | To define whether or not the Property is querable in searching. | To describe in each Property<br>Y: Querable<br>N: Non-querable<br>Y or N are described in upper-case one-byte characters. | Obligation | Y/N | N |
| Description Attribute | 記述属性 | To define whether the value of a Property is mandatory or not. | To describe in each Property<br>M: Mandatory<br>O: Optional<br>S: Standardization team use only<br>M, O and S are described in half-size, one-byte characters | Obligation | M/O | M |
| Disclosure Attribute | 開示属性 | To define whether the value of a Property is disclosed or not | To describe in each Property<br>P: open to the Public<br>R: Restricted disclosure<br>P and R are described in | Obligation | P/R | P |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | half-size, one-byte characters | | | |
| Segment | セグメント | To specify a Segment which is defined in Property Dictionary | To write BSU code which is defined in Property Dictionary | Obligation | SEGnnn | SEG001 |
| Parts Class Code | クラスコード | To specify a Class Code which is defined in Class Dictionary | To write BSU code which is defined in Class Dictionary | Obligation | XXXnnn | XJA001 |
| Template ID | テンプレートID | To specify a Template which contains all properties that are concerned with the parts themselves. Also should be maintained by Standardization Team. | To write Template ID which is define by Standardization Team XXXXXX-nnn. XXXXXX is a unique six-digit number. nnn indicates the template version. | Obligation | XXXXXX-nnn | EDL001-001 |

(2) Example of Template (in ECALS Dictionary version 5.1)

(a) The classification class of THERMISTORS

XJA001(ECALS/JEITA ROOT COMPONENT)
└ XJA017 (THERMISTORS)
└ XJA018(NTC THERMISTORS)
├XJA749(NTC THERMISTORS FOR TEMPERATURE DETECT,TEMPERATURE COMPENSATION)
└XJA734(INRUSH CURRENT LIMITING NTC THERMISTORS)

(b) The Template which constitutes Part Classes (temperature detection / NTC for temperature compensation)

XJA001: The Template of ECALS/JEITA ROOT COMPONENT

(common to all Parts)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| XJE005 | Class Code | N | M | P | SEG001 | XJA001 | EDL001-001 |
| XJE007 | Component Class Name | N | M | P | SEG001 | XJA001 | EDL001-001 |
| XJE008 | Product name | Y | M | P | SEG002 | XJA001 | EDL001-001 |
| XJE009 | Family or Series Name | N | O | P | SEG002 | XJA001 | EDL001-001 |
| XJE010 | Part Number | Y | M | P | SEG002 | XJA001 | EDL001-001 |
| XJE012 | Company Code | Y | M | P | SEG002 | XJA001 | EDL001-001 |
| XJE011 | Company Name | Y | M | P | SEG002 | XJA001 | EDL001-001 |
| | | | | | | | |
| XJE003 | Creation Date | N | M | P | SEG001 | XJA001 | EDL001-001 |
| XJE004 | Last Revised Date | Y | M | P | SEG001 | XJA001 | EDL001-001 |
| XJE029 | Catalog Document File | N | M | P | SEG013 | XJA001 | EDL001-001 |
| XJE024 | Outline Dimension Set Data File | N | O | R | SEG010 | XJA001 | EDL001-001 |

XJA017: The Template of THERMISTORS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| XJG661 | Nominal zero load resistance | Y | M | P | SEG005 | XJA017 | EDL017-001 |
| XJG662 | Tolerance of nominal zero load resistance | N | O | P | SEG005 | XJA017 | EDL017-001 |
| XJG663 | Category temperature range | N | O | P | SEG004 | XJA017 | EDL017-001 |

XJA018: NTC THERMISTORS

(since there is no property, there is no Template)

XJA749: NTC THERMISTORS FOR TEMPERATURE DETECT, TEMPERATURE COMPENSATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| XJE185 | Rated B-Value(B25/85) | Y | M | P | SEG005 | XJA749 | EDL749-001 |
| XJH795 | Rated B-Value(B25/50) | Y | O | P | SEG005 | XJA749 | EDL749-001 |
| XJH796 | Rated B-Value(B25/75) | Y | O | P | SEG005 | XJA749 | EDL749-001 |
| XJE186 | Tolerance Of Rated B-Value | N | O | P | SEG004 | XJA749 | EDL749-001 |
| XJE177 | Maximum Power Dissipation | Y | M | P | SEG004 | XJA749 | EDL749-001 |
| XJE180 | Thermal Time Constant by Ambient Temperature | N | O | P | SEG004 | XJA749 | EDL749-001 |
| XJE181 | Thermal Time Constant by Self-heat dissipation | N | O | P | SEG004 | XJA749 | EDL749-001 |
| XJE179 | Dissipation Constant | N | O | P | SEG004 | XJA749 | EDL749-001 |

Notes)

1. Technical Committee for Standardization (TCS) is the only authority who is able to modify and withdraw ECALSDS06.
2. This specification was opened to the public.
3. Revision history

| Date | Status | history | Major changes |
|---|---|---|---|
| 2000/09/28 | Published | 001-01 | |
| 2002/04/01 | Revised | 002-01 | ・Explanations of Data Type and Level are added.<br>・An example of Template is added. |
| 2002/10/19 | Revised | 002-02 | ・ The string lengths of Preferred Name, Short Name , Synonymous Name, Property Value and Value Meaning are changed to meet IEC61360-1（2002-02）.<br>・ ‘Alphanumeric upper case characters of 70 letters or less’ is added in the formulation of the Preferred Name.EN in Part Class Dictionary.<br>・ To restrict using double-byte characters in Source Document of Definition, ‘single-byte alphanumeric character strings of 80 letters or less’ is added.<br>・ ‘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 in Property Dictionary.<br>・ The formulation of Template ID is modified to permit ‘XXXXXX-nnn’. |
| 2003/2/3 | Revised | 002-03 | ・ Editorial Errors in titles of tables are modified. |
| 2003/6/17 | Revised | 002-04 | ・ Editorial Errors are modified. |
| 2004/5/25 | Revised | 002-05 | ・ Examples are modified as per ECALS Dictionary ver5.1. |
| 2005/4/28 | Revised | 002-06 | ・ Change of disclosure scope. |
| 2006/1/26 | Revised | 002-07 | ・ Editorial change of ‘8.Template Management Data’ |