

Standard data element types with associated classification scheme for electric components —

Part 4: IEC reference collection of standard data element types and component classes

The European Standard EN 61360-4:2005 has the status of a British Standard

ICS 31.020

National foreword

This British Standard is the official English language version of EN 61360-4:2005, including Corrigendum December 2005. It is identical with IEC 61360-4:2005. It supersedes BS EN 61360-4:1997 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/3, Documentation and graphical symbols, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

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Summary of pages

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English version

**Standard data element types with associated classification scheme
for electric components**
**Part 4: IEC reference collection of standard data element types
and component classes**
(IEC 61360-4:2005)

Types normalisés d'éléments
de données avec plan de classification
pour composants électriques
Partie 4: Collection de référence CEI des
types normalisés d'éléments de données,
des classes de composants et des termes
(CEI 61360-4:2005)

Genormte Datenelementtypen mit
Klassifikationsschema für elektrische
Bauteile
Teil 4: IEC Nachschlagewerk für genormte
Datenelementtypen, Bauteilklassen und
Terme
(IEC 61360-4:2005)

This European Standard was approved by CENELEC on 2005-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 3D/134/FDIS, future edition 2 of IEC 61360-4, prepared by SC 3D, Data sets for libraries, of IEC TC 3, Information structures, documentation and graphical symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61360-4 on 2005-03-01.

This European Standard supersedes EN 61360-4:1997 and ES 59008-6-2:2001.

It contains all data element type and class definitions from EN 61360-4:1997 with an updated classification scheme and new definitions in the area of:

- a) the geometrical characteristics of the shapes of components, including figures and drawings;
- b) the characteristics for semiconductor die;
- c) data element types originating from the JEITA dictionary in Japan.

It establishes a classification and coding system of shapes for package outlines of electric and electromechanical components according to key geometrical characteristics.

The object of this addition to the standard is to define the information required on the shapes of components:

- for the design of component lands, footprints and piercing drawings;
- for determining the space occupied;
- for deriving dimensions and tolerances needed for automatic handling by inserters and onserters;
- to provide a classification scheme for the purposes of retrieval, selection and comparison of component shapes;
- to establish a coding system for identification of component package outlines;
- to provide a set of reference drawings for defining shape, size and relative position of the component body, mounting features, terminals and adjusters;
- to provide a set of data element type definitions for geometrical parameters in computer-sensible form.

This European Standard extends the classification scheme and DET definitions with unpackaged and minimally packaged semiconductor die, with or without connection structures. It is a data specification which defines the requirements for

- product identity;
- product data;
- die mechanical information;
- test, quality and reliability information;
- handling, storage and mounting information;
- thermal data and electrical simulation data.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2005-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2008-03-01

Annex ZA has been added by CENELEC.

The contents of the corrigendum of December 2005 have been included in this copy.

Endorsement notice

The text of the International Standard IEC 61360-4:2005 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

The contents of this document is in line with the current contents of the IEC online 61360 Component Data Dictionary.

- a) The complete classification scheme is given in Annex A.
- b) The new/amended data element types with their identifier, as listed below, are given in Annex C.

AAD001-001	AAD089-001	AAE000-001	AAG026-001	AAG074-001
AAD002-001	AAD090-001	AAE002-006	AAG027-001	AAG075-001
AAD003-001	AAD091-001	AAE003-006	AAG028-001	AAG076-001
AAD004-001	AAD093-001	AAE004-007	AAG029-001	AAG077-001
AAD005-001	AAD095-001	AAE060-006	AAG030-001	AAG078-001
AAD006-001	AAD115-001	AAE349-006	AAG031-001	AAG079-001
AAD007-001	AAD116-001	AAE351-006	AAG032-001	AAG080-001
AAD008-001	AAD117-001	AAE545-006	AAG033-001	AAG081-001
AAD009-001	AAD118-001	AAE618-005	AAG034-001	AAG082-001
AAD010-001	AAD119-001	AAE635-001	AAG035-001	AAG083-001
AAD011-001	AAD120-001	AAE878-005	AAG036-001	AAG084-001
AAD012-001	AAD121-001		AAG037-001	AAG085-001
AAD013-001	AAD122-001	AAF101-006	AAG038-001	AAG086-001
AAD014-001	AAD123-001	AAF311-007	AAG039-001	AAG087-001
AAD015-001	AAD124-001	AAF390-002	AAG040-001	AAG088-001
AAD016-001	AAD125-001	AAF464-001	AAG041-001	AAG089-001
AAD017-001	AAD126-001	AAF465-001	AAG042-001	AAG090-001
AAD018-001	AAD127-001	AAF466-001	AAG043-001	AAG091-001
AAD019-001	AAD129-001	AAF467-001	AAG044-001	AAG092-001
AAD020-001	AAD130-001	AAF468-001	AAG045-001	AAG093-002
AAD021-001	AAD131-001	AAF469-001	AAG046-001	AAG094-002
AAD022-001	AAD132-001		AAG047-001	AAG095-001
AAD023-001	AAD133-001	AAG000-001	AAG048-001	AAG096-001
AAD024-001	AAD134-001	AAG001-001	AAG049-001	AAG097-001
AAD025-001	AAD137-001	AAG002-001	AAG050-001	AAG098-001
AAD026-001	AAD140-001	AAG003-001	AAG051-001	AAG099-001
AAD027-001	AAD141-001	AAG004-001	AAG052-001	AAG100-001
AAD028-001	AAD142-001	AAG005-001	AAG053-001	AAG101-001
AAD029-001	AAD143-001	AAG006-001	AAG054-001	AAG102-001
AAD030-001	AAD144-001	AAG007-001	AAG055-001	AAG103-001
AAD031-001	AAD145-001	AAG008-001	AAG056-001	AAG104-001
AAD032-001	AAD146-001	AAG009-001	AAG057-001	AAG105-001
AAD033-001	AAD147-001	AAG010-001	AAG058-001	AAG107-001
AAD049-001	AAD148-001	AAG011-001	AAG059-001	AAG108-001
AAD054-001	AAD149-001	AAG012-001	AAG060-001	AAG109-001
AAD055-001	AAD150-001	AAG013-001	AAG061-001	AAG110-001
AAD056-001	AAD151-001	AAG014-001	AAG062-001	AAG111-001
AAD060-001	AAD153-001	AAG015-001	AAG063-001	AAG112-001
AAD070-001	AAD154-001	AAG016-001	AAG064-001	AAG113-001
AAD071-001	AAD155-001	AAG017-001	AAG065-001	AAG114-001
AAD072-001	AAD156-001	AAG018-001	AAG066-001	AAG115-001
AAD078-001	AAD157-001	AAG019-001	AAG067-001	AAG116-001
AAD081-001	AAD158-001	AAG020-001	AAG068-001	AAG117-001
AAD082-001	AAD159-001	AAG021-001	AAG069-001	AAG118-001
AAD085-001	AAD160-001	AAG022-001	AAG070-001	AAG119-001
AAD086-001	AAD161-001	AAG023-001	AAG071-001	AAG120-001
AAD087-001	AAD162-001	AAG024-001	AAG072-001	AAG121-001
AAD088-001		AAG025-001	AAG073-001	AAG122-001

AAG123-001	AAJ020-001	AAJ046-001	AAJ073-001	AAJ100-001
AAG124-001	AAJ021-001	AAJ047-001	AAJ074-001	AAJ101-001
AAG125-001	AAJ022-001	AAJ048-001	AAJ075-001	AAJ102-001
AAG129-001	AAJ023-001	AAJ049-001	AAJ076-001	AAJ103-001
AAG130-001	AAJ024-001	AAJ051-001	AAJ077-001	AAJ104-001
AAG131-002	AAJ025-001	AAJ052-001	AAJ078-001	AAJ105-001
AAG133-002	AAJ026-001	AAJ053-001	AAJ079-001	AAJ106-001
AAH005-001	AAJ027-001	AAJ054-001	AAJ080-001	AAJ107-001
	AAJ028-001	AAJ055-001	AAJ081-001	AAJ108-001
AAJ001-001	AAJ029-001	AAJ056-001	AAJ082-001	AAJ109-001
AAJ002-001	AAJ030-001	AAJ057-001	AAJ083-001	AAJ110-001
AAJ003-001	AAJ031-001	AAJ058-001	AAJ084-001	AAJ111-001
AAJ004-001	AAJ032-001	AAJ059-001	AAJ085-001	AAJ112-001
AAJ006-002	AAJ033-001	AAJ060-001	AAJ086-001	AAJ113-001
AAJ007-001	AAJ034-001	AAJ061-001	AAJ087-001	AAJ114-001
AAJ008-001	AAJ035-001	AAJ062-001	AAJ088-001	AAJ115-001
AAJ009-001	AAJ036-001	AAJ063-001	AAJ089-001	AAJ116-001
AAJ011-001	AAJ037-001	AAJ064-001	AAJ090-001	AAJ117-001
AAJ012-002	AAJ038-001	AAJ065-001	AAJ091-001	AAJ118-001
AAJ013-001	AAJ039-001	AAJ066-001	AAJ092-001	AAJ119-001
AAJ014-001	AAJ040-001	AAJ067-001	AAJ093-001	AAJ120-001
AAJ015-001	AAJ041-001	AAJ068-001	AAJ094-001	AAJ121-001
AAJ016-001	AAJ042-001	AAJ069-001	AAJ095-001	AAJ122-001
AAJ017-001	AAJ043-001	AAJ070-001	AAJ096-001	AAJ123-001
AAJ018-001	AAJ044-001	AAJ071-001	AAJ098-001	AAJ124-001
AAJ019-001	AAJ045-001	AAJ072-001	AAJ099-001	

c) The new/amended classes with their identifier, as listed below, are given in Annex B.

AAA000-001	AAA307-001	AAA349-001	AAA384-001	AAA420-001
AAA002-003	AAA308-001	AAA350-001	AAA385-001	AAA421-001
AAA021-003	AAA309-001	AAA351-001	AAA386-001	AAA422-001
AAA026-002	AAA311-001	AAA352-001	AAA387-001	AAA423-001
AAA031-002	AAA312-001	AAA353-001	AAA388-001	AAA424-001
AAA056-002	AAA313-001	AAA354-001	AAA389-001	AAA426-001
AAA074-002	AAA314-001	AAA355-001	AAA390-001	AAA427-001
AAA077-002	AAA318-001	AAA356-001	AAA391-001	AAA428-001
AAA089-002	AAA319-001	AAA357-001	AAA392-001	AAA429-002
AAA092-001	AAA320-001	AAA358-001	AAA393-001	AAA430-002
AAA093-002	AAA322-001	AAA359-001	AAA394-001	AAA431-002
AAA096-002	AAA323-001	AAA360-001	AAA395-001	AAA432-002
AAA098-002	AAA324-001	AAA361-001	AAA396-001	AAA433-002
AAA100-003	AAA325-001	AAA362-001	AAA397-001	AAA434-002
AAA102-002	AAA326-001	AAA363-001	AAA398-001	AAA435-001
AAA115-002	AAA327-001	AAA364-001	AAA399-001	AAA436-001
AAA147-003	AAA328-001	AAA365-001	AAA400-001	AAA437-001
AAA148-002	AAA329-001	AAA366-001	AAA401-001	AAA438-001
AAA149-002	AAA330-001	AAA367-001	AAA402-001	AAA439-001
AAA174-002	AAA332-001	AAA368-001	AAA403-001	AAA440-001
AAA218-002	AAA333-001	AAA369-001	AAA404-001	AAA441-001
AAA229-001	AAA334-001	AAA370-001	AAA405-001	AAA442-001
AAA230-001	AAA335-001	AAA371-001	AAA406-001	AAA443-001
AAA231-001	AAA336-001	AAA372-001	AAA407-001	AAA444-001
AAA232-001	AAA337-001	AAA373-001	AAA408-001	AAA445-001
AAA295-001	AAA339-001	AAA374-001	AAA409-001	AAA446-001
AAA296-001	AAA340-001	AAA375-001	AAA410-001	AAA447-001
AAA297-001	AAA341-001	AAA376-001	AAA411-001	AAA448-001
AAA298-001	AAA342-001	AAA377-001	AAA412-001	AAA449-001
AAA299-001	AAA343-001	AAA378-001	AAA413-001	AAA450-001
AAA301-001	AAA344-001	AAA379-001	AAA414-001	AAA451-002
AAA302-001	AAA345-001	AAA380-001	AAA415-001	AAA452-001
AAA303-001	AAA346-001	AAA381-001	AAA417-001	AAA453-001
AAA304-001	AAA347-001	AAA382-001	AAA418-001	AAA454-001
AAA305-001	AAA348-001	AAA383-001	AAA419-001	AAA455-001

AAA456-001	AAA525-001	AAA550-001	AAA579-001	AAA597-001
AAA501-001	AAA526-001	AAA551-001	AAA580-001	AAA601-001
AAA502-001	AAA527-001	AAA554-001	AAA581-001	AAA602-001
AAA503-001	AAA528-001	AAA555-001	AAA582-001	AAA603-001
AAA504-001	AAA536-001	AAA556-001	AAA583-001	AAA604-001
AAA505-001	AAA537-001	AAA557-001	AAA584-001	AAA605-001
AAA509-001	AAA538-001	AAA561-001	AAA585-001	AAA606-001
AAA510-001	AAA539-001	AAA562-001	AAA586-001	AAA607-001
AAA511-001	AAA540-001	AAA563-001	AAA587-001	AAA608-001
AAA512-001	AAA541-001	AAA564-001	AAA588-001	AAA609-001
AAA513-001	AAA542-001	AAA565-001	AAA589-001	AAA610-001
AAA514-001	AAA543-001	AAA566-001	AAA590-001	AAA611-001
AAA516-002	AAA544-001	AAA569-001	AAA591-001	AAA612-001
AAA517-001	AAA545-001	AAA572-001	AAA592-001	AAA613-001
AAA518-001	AAA546-001	AAA573-001	AAA593-001	
AAA522-001	AAA547-001	AAA575-001	AAA594-001	
AAA523-001	AAA548-001	AAA576-001	AAA595-001	
AAA524-001	AAA549-001	AAA578-001	AAA596-001	

d) The new/amended drawings with their identifier, as listed below, are given in Annex D.

DAA001-001	DAA012-001	DAA023-001	DAA034-001	DAA045-001
DAA002-001	DAA013-001	DAA024-001	DAA035-001	DAA046-002
DAA003-001	DAA014-001	DAA025-002	DAA036-001	DAA047-001
DAA004-001	DAA015-001	DAA026-002	DAA037-001	DAA048-002
DAA005-001	DAA016-001	DAA027-002	DAA038-001	DAA049-001
DAA006-001	DAA017-001	DAA028-002	DAA039-001	DAA050-001
DAA007-001	DAA018-001	DAA029-002	DAA040-001	DAA051-001
DAA008-001	DAA019-001	DAA030-002	DAA041-001	
DAA009-001	DAA020-001	DAA031-001	DAA042-001	
DAA010-001	DAA021-001	DAA032-001	DAA043-001	
DAA011-001	DAA022-001	DAA033-001	DAA044-001	

e) The new/amended figures with their identifier, as listed below, are given in Annex E.

DAE001-001	DAE004-001	DAE012-001	DAE042-001
DAE002-001	DAE005-001	DAE021-001	DAE092-001
DAE003-001	DAE009-001	DAE040-001	DAE119-001

STANDARD DATA ELEMENT TYPES WITH ASSOCIATED CLASSIFICATION SCHEME FOR ELECTRIC COMPONENTS –

Part 4: IEC reference collection of standard data element types and component classes

1 General

1.1 Scope and object

This part of IEC 61360 specifies within two dictionaries:

- the definitions of data element types for electric components and materials used in electrotechnical equipment and systems;
- the definitions of the component classes with associated classification scheme.

These definitions are related to electric components including electronic and electromechanical components and materials used in electrotechnical equipment and systems.

The object of this standard is to provide a set of uniquely-identified data element types with

- an unambiguously defined meaning;
- a defined value format, and
- a prescribed value domain for the non-quantitative data element types.

The classification scheme for components, the component class definitions (whereby the relevant and the valid characteristic properties by specific data element types are assigned to each class of components) are used to define the data element types unambiguously and to make the entire set of data element types manageable.

The collection of data element types from this standard are meant for use in computerized systems for component selection and component management, parts list processing and computer-aided design, -manufacturing and -testing

1.2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(702): 1992, *International Electrotechnical Vocabulary – Chapter 702: Oscillations, signals and related devices*

IEC 60191-4:1999, *Mechanical standardization of semiconductor devices – Part 4: Coding system and classification into forms of package outlines for semiconductor device packages*

IEC 61360-1: 2002, *Standard data element types with associated classification scheme for electric components – Part 1: Definitions – Principles and methods*

ES 59008-1, *Data requirements for semiconductor die – Part 1: General requirements*

ES 59008-2, *Data requirements for semiconductor die – Part 2: Vocabulary*

ES 59008-3, *Data requirements for semiconductor die – Mechanical, material and connectivity requirements*

ES 59008-4 (all parts), *Data requirements for semiconductor die – Specific requirements and recommendations*

ES 59008-5 (all parts), *Data requirements for semiconductor die – Particular requirements and recommendations for die types*

ES 59008-6-1, *Data requirements for semiconductor die – Part 6-1: Exchange data formats and data dictionary – Data exchange – DDX file format*

2 Terms and definitions

For the purposes of this document, the terms and definitions as given in clause 2 of IEC 61360-1, the terms and definitions of ES 59008-2 as well as the following apply.

2.1

shape

external form of a component package as given by the set of data element types

2.2

seating plane

theoretical plane of an electric component that coincides with the surface of the board if the component rests in its intended mounted position on the board

NOTE 1 This is often used as the reference plane.

NOTE 2 Not all components have a seating plane.

2.3

terminal

conductor that serves to connect a device electrically and/or mechanically with its environment

2.4

terminal form

form of a terminal of a package

2.5

terminal position

alignment of the physical position of the ends of the terminals of a component package

2.6

outline style

physical information enclosing the apparently plane figure presented by any object in sight, contour and/or external boundary of a component

2.7

true

qualifies the ideal value which characterises a quantity perfectly defined in the conditions which exist at the moment at which that quantity is observed, or the subject of a determininal

NOTE This value could be arrived at only if all causes of measurement error were eliminated and the population was infinite. In the case of a finite population, the complete population must be considered.

2.8

true value

value which characterises a quantity perfectly defined, in the conditions which exist when that value is examined

NOTE The true value of a quantity is an ideal concept and, in general, it cannot be known.

2.9**package**

enclosure for one or more chips, film elements or other components, that allows electrical connection and provides mechanical and environmental protection

2.10**case**

enclosure for one or more chips, film elements or other components, that allows mechanical connection and provides mechanical and environmental protection

2.11**mounting hole**

hole in a mounting structure for mechanical connection and support

2.12**mounting socket**

connector which intends to provide electrical and mechanical support for a component inserted into it

3 Maintenance and validation methodology

The collection of entities as defined in this standard is a dynamic collection which needs actively to be maintained.

IEC 61360-3 specifies the procedures that shall be followed by the validation agency and the maintenance agency of the IEC vocabulary of standard technical data element types with associated classification scheme and component classes as defined by this classification scheme.

4 How to read the annexes**4.1 Classification tree**

In Annex A, the complete classification tree is given. Under the header '**Class**', the identifier of the class at that specific line is given, while under the header '**Class. DET**', on that line the identifier of the classifying data element type is given that has been used to define that class.

If relevant, under the header '**Drawing**' the identifier of the drawing related to the indicated '**Class**' is given.

4.2 Classes

For the classification of components² the principle of dividing the whole set of components into parts has been applied repeatedly, thereby creating a hierarchical tree of several levels of classes.

The goal of this classification scheme of components is to arrange the data element types in an unambiguous-structured way. A detailed description of the classification principles and the various attributes of the component class definitions are given in IEC 61360-1.

The various attributes of the component classes and the layout as used in this standard are explained with the aid of Figure 1a and Figure 1b. The class definitions are given in Annex B.

² The classification principles are also applicable to other entities like materials, packages, geometries, etc.

	1	2	3	4
	AAA307-001		01	
5	cylindrical			CY
6	A set of cylindrical package outline styles of which each outline style can be described with the same set of data element types.			
7	NOTE CYLINDRICAL is a package style in which the body is cylindrical with the length no smaller than the diameter.			
8	AAG056-001		terminal position code	
	Subclasses			
	AAA325-001	axial leads		
	AAA326-001	bottom leads		
9	AAA327-001	end connections		
	AAA328-001	radial leads		
	AAA329-001	uppers connections		

Figure 1a

	1	2	3	4
	AAA452-001		01	
5	clamp mount package			B005
6	A set of clamp-mount cylindrical package outline styles with screw terminals in standard form on the upper surface of which each outline style can be described with the same set of data element types.			
11	DAA047-001			
	Properties			
	AAG001-001	seated height		
	AAG008-001	terminal width		
	AAG012-001	terminal thickness		
10	AAG014-001	package diameter		
	AAG017-001	terminal spacing		
	AAG092-001	package height zone		
	AAG094-001	terminal thread diameter		
	AAG097-001	terminal thread		
12	IEC*****			

Figure 1b

- 1 Code
- 2 Version number
- 3 Revision number
- 4 Coded name
- 5 Preferred name
- 6 Definition
- 7 Note
- 8 Classifying data element type
- 9 Subclasses, identifier + preferred name
- 10 Applicable data element types, identifier + preferred name
- 11 Drawing reference, identifier
- 12 Source document of package class definition

Figure 1 – Component package class specification attributes

For the classification of the shapes of package outlines, the following three characteristics of the package according to the codes defined in IEC 60191-4 are used:

- outline style ;
- terminal position;
- terminal form.

Following these characteristics, four or five levels of classification are then defined. The codes used are given as informative annexes to this standard as follows :

- Clause G.1: level 1 : identified by the outline style codes from Table G.1;
- Clause G.2: level 2 : identified by the terminal position codes from Table G.2;
- Clause G.3: level 3 : identified by the terminal form codes from Table G.3;
- Clause G.4 level 4 : identified by the terminal variant codes from Table G.4; and
- Clause G.5: level 5 : (optional) identified by the body variant codes from Table G.5.

4.3 Data element types

Various attributes of the data element types and the layout as used in this standard are explained with the aid of Figure 2. For a detailed description of the various attributes of the data element type definitions, see IEC 61360-1.

The data element type definitions are given in Annex C.



- | | | | |
|---|-------------------------|----|---|
| 1 | Code | 10 | Value format |
| 2 | Version number | 11 | Unit of measure |
| 3 | Revision number | 12 | Data element type class |
| 4 | Preferred name | 13 | Source document of data element type definition |
| 5 | Synonymous name | 14 | Data type |
| 6 | Short name | 15 | Data value |
| 7 | Preferred letter symbol | 16 | Level |
| 8 | Definition | 17 | Condition |
| 9 | Note | 18 | Formula |

Figure 2 – Data element type specification attributes

4.4 Drawings

A drawing illustrates the meaning of a class containing a group of data element types describing the geometrical characteristics of a component.

The various attributes of the drawings and the layout as used in this standard are explained with the aid of Figure 3. For a detailed description of the various attributes of the data element type definitions, see IEC 61360-1.

The drawing definitions are given in Clause D.1 while the drawing of the packages themselves are given in Clause D.2.

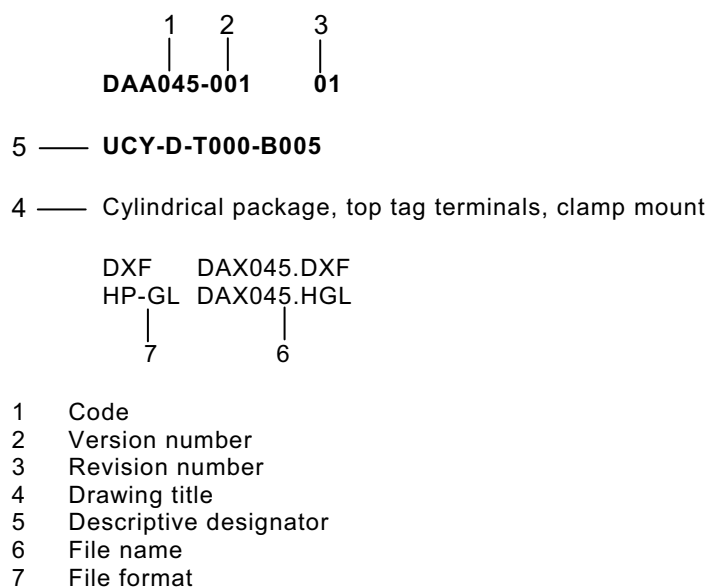


Figure 3 – Drawing specification attributes

4.5 Figures

A figure is an illustration that clarifies the meaning of the definition of a data element type.

The various attributes of the figure and the layout as used in this standard are explained with the aid of Figure 4. For a detailed description of the various attributes of the data element type definitions, see IEC 61360-1.

The figure definitions are given in Clause E.1 while the figures themselves are given in Clause E.2.

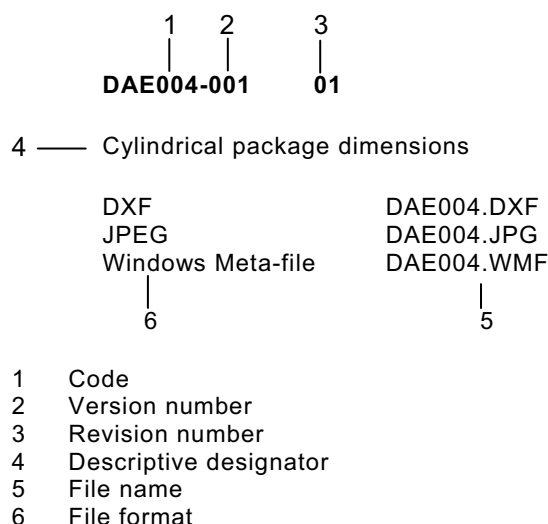


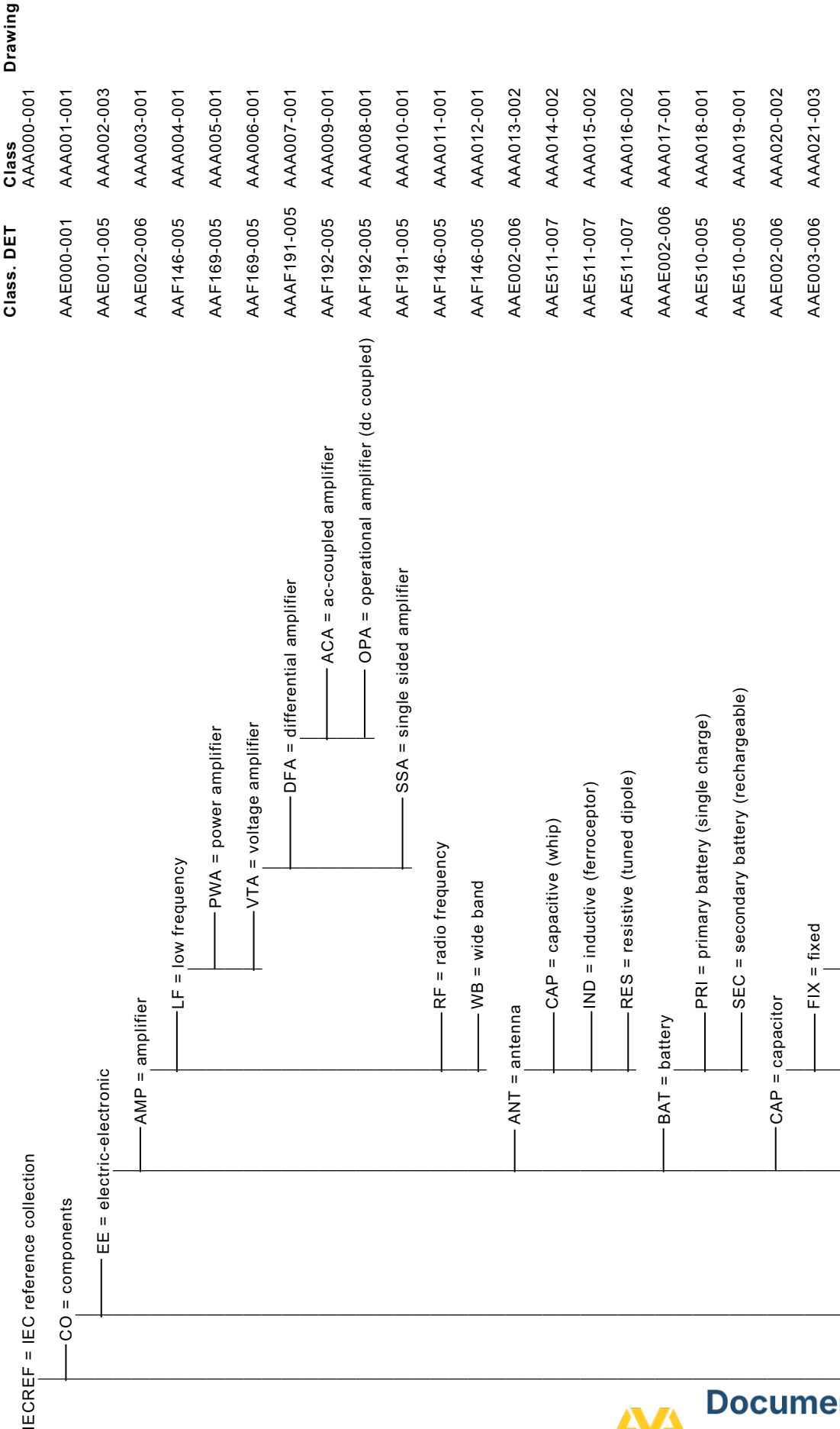
Figure 4 – Figure specification attributes

4.6 Index on keywords

To facilitate an easy way of searching, in Annex F an index on keywords from the preferred name of data element types and condition data element types is given. Here, the keywords are presented in tabular form with the keyword in the left column, the identifying code of the class of the data element type in which the keyword appears in the column on the right and the corresponding preferred name in the middle.

Annex A
(normative)

Classification scheme



Class. DET	Class	Drawing
AAE000-001	AAA000-001	
AAE001-005	AAA001-001	
AAE002-006	AAA002-003	
AAF146-005	AAA003-001	
AAF169-005	AAA004-001	
AAF169-005	AAA005-001	
AAF169-005	AAA006-001	
AAF191-005	AAA007-001	
AAF192-005	AAA009-001	
AAF192-005	AAA008-001	
AAF191-005	AAA010-001	
AAF146-005	AAA011-001	
AAF146-005	AAA012-001	
AAE002-006	AAA013-002	
AAE511-007	AAA014-002	
AAE511-007	AAA015-002	
AAE511-007	AAA016-002	
AAAE002-006	AAA017-001	
AAE510-005	AAA018-001	
AAE510-005	AAA019-001	
AAE002-006	AAA020-002	
AAE003-006	AAA021-003	

Class. DET	Class	Drawing
AAE004-007	AAA022-001	— AIR = air capacitor
AAE004-007	AAA023-001	— CER = ceramic capacitor
AAE038-005	AAA024-001	— CL1 = class 1 ceramic capacitor
AAE038-004	AAA025-001	— CL2 = class 2 ceramic capacitor
AAE004-007	AAA026-002	— ELC = electrolytic capacitor
AAJ001-001	AAA501-001	— STAN = solid tantalum electrolytics
AAJ001-001	AAA502-001	— NTAN = non-solid tantalum electrolytics
AAJ001-001	AAA503-001	— SAL = solid aluminium electrolytics
AAJ001-001	AAA504-001	— NAL = non-solid aluminium electrolytics
AAE004-007	AAA027-001	— FLM = film capacitor
AAE004-007	AAA028-001	— GLS = glass capacitor
AAE004-007	AAA029-002	— MIC = mica capacitor
AAE004-007	AAA505-001	— MLAY = multilayer capacitor
AAE004-007	AAA030-001	— PAP = paper capacitor
AAE003-006	AAA031-002	— VAR = variable
AAE002-006	AAA032-001	— CND = conductor
AAF239-005	AAA033-001	— BAR = bare conductor
AAF239-005	AAA034-001	— INS = insulated conductor
AAF249-005	AAA035-005	— CBL = cable (multi-conducted)
AAE152-005	AAA036-001	— POW = power
AAE152-005	AAA037-001	— SIG = signal
AAF146-005	AAA038-001	— LF = low frequency
AAF146-005	AAA39-001	— RF = radio frequency
AAF249-005	AAA040-001	— IWR = insulated wire (single conductor)
AAE002-006	AAA041-001	— DEL = delay line
AAE002-006	AAA042-001	— DID = diode device

Class. DET	Class	Drawing
AAF305-005	AAA043-001	
AAF305-005	AAA044-001	
AAE273-007	AAA045-001	
AAE273-007	AAA046-001	
AAE273-007	AAA047-002	
AAE273-007	AAA048-001	
AAE312-005	AAA049-001	
AAE312-005	AAA050-001	
AAE312-005	AAA051-001	
AAE312-005	AAA052-001	
AAE312-005	AAA053-001	
AAE273-007	AAA054-002	
AAF305-005	AAA055-001	
AAE002-006	AAA578-001	
AAJ048-001	AAA579-001	
AAJ048-001	AAA580-001	
AAJ048-001	AAA581-001	
AAJ048-001	AAA582-001	
AAJ048-001	AAA583-001	
AAJ048-001	AAA584-001	
AAJ048-001	AAA585-001	
AAJ048-001	AAA586-001	
AAJ048-001	AAA587-001	
AAJ048-001	AAA588-001	
AAJ048-001	AAA589-001	

BRI = bridge rectifier

DIO = diode

BOD = breakover diode

REC = rectifier diode

SIG = signal diode

STB = stabilizer diode

CUR = current regulator diode

REF = voltage reference diode

REG = voltage regulator diode

STA = stabistor

SUP = transient suppressor diode

VAR = variable diode

VMP = voltage multiplier

FIBOPTIC = fibre optics

LINKS = fibre optic links

CONN = fibre optic connectors)

SWI = fibre optic switches

BRA = fibre optic branches

COUP = fibre optic couplers/splicers

ATT = fibre optic attenuators

DET = fibre optic detectors

ISOL = fibre optic isolators

NETW = fibre optic networks

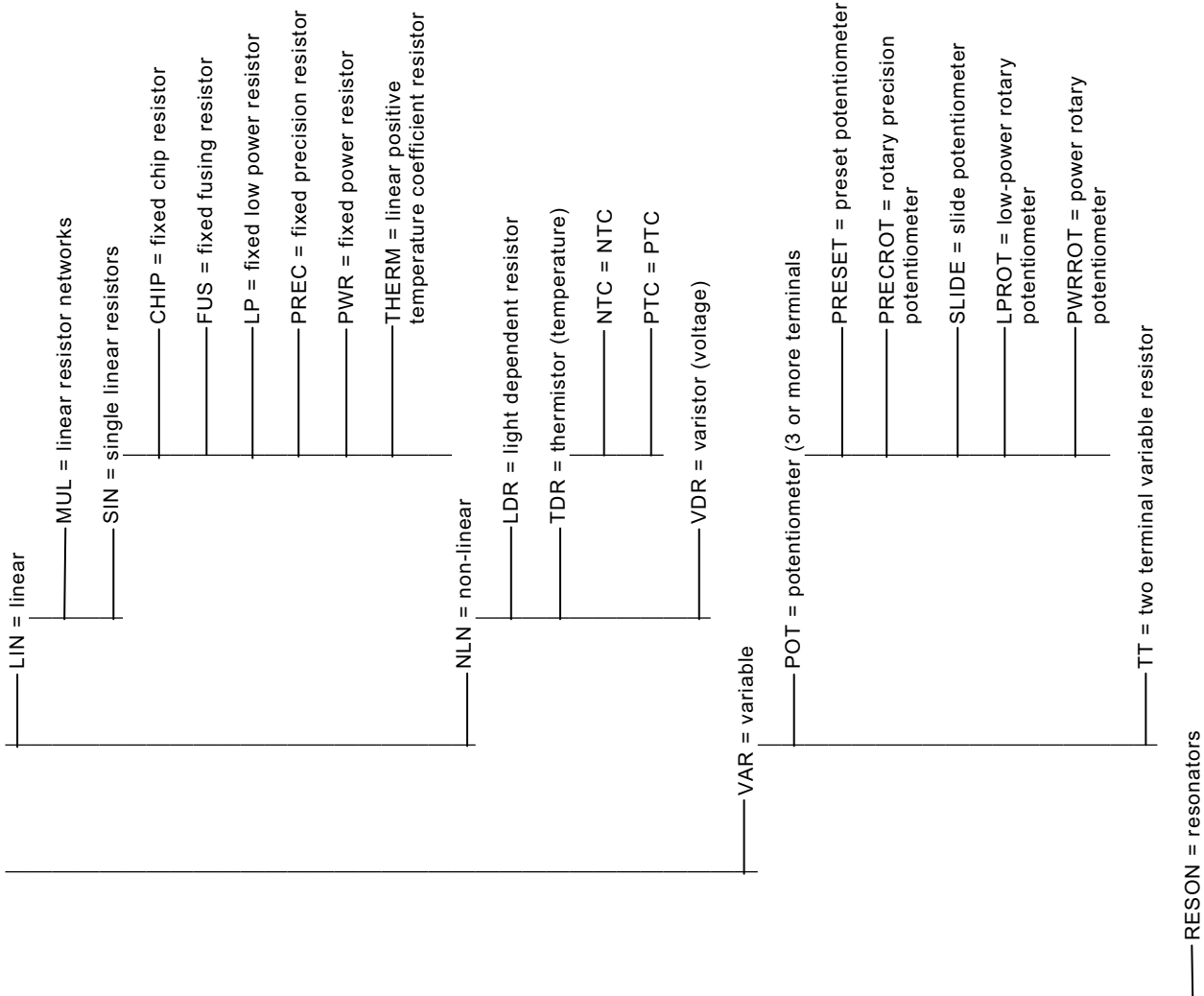
SOURC = fibre optic light sources

MOD = fibre optic modulators

Class. DET	Class	Drawing
AAJ048-001	AAA590-001	_____ TXRX = fibre optic transmitters/receivers
AAJ048-001	AAA591-001	_____ WG = fibre optic waveguiders
AAJ048-001	AAA592-001	_____ CAB = fibre optic cables
AAJ048-001	AAA593-001	_____ FIL = fibre optic filters
AAJ048-001	AAA594-001	_____ LENS = fibre optic lenses
AAE002-006	AAA056-002	_____ FIL = filter
AAE002-006	AAA057-001	_____ IC = IC
AAE077-005	AAA072-001	_____ AD = AD (analogue/digital)
AAE077-005	AAA058-001	_____ ANA = analogue
AAE077-005	AAA059-001	_____ DIG = digital
AAE085-005	AAA060-001	_____ CSI = CSI (combinatorial sequential interface)
AAE085-005	AAA061-001	_____ MUC = microcontroller
AAE085-005	AAA062-001	_____ MUP = microprocessor
AAE085-005	AAA063-001	_____ PLD = PLD (programmable logic device)
AAE085-005	AAA064-002	_____ STO = storage
AAE722-007	AAA065-001	_____ CAM = CAM
AAE722-007	AAA066-001	_____ CCD = charge coupled device
AAE722-007	AAA067-001	_____ RAM = RAM
AAF233-005	AAA068-001	_____ DRM = DRAM
AAF233-005	AAA069-001	_____ SRM = SRAM
AAE722-007	AAA070-001	_____ ROM = ROM
AAE722-007	AAA071-002	_____ REG = register
AAE077-005	AAA073-001	_____ PER = periodic/DC
AAE002-006	AAA074-002	_____ IND = inductor
AAE003-006	AAA601-001	_____ FIX = fixed inductors
AAF390-002	AAA225-001	_____ DFL = deflection units

Class. DET	Class	Drawing
AAF390-002	AAA226-001	— CHOKE = choke
AAF390-002	AAA227-001	— COIL = coil
AAF390-002	AAA228-001	— LINUNIT = linearity control unit
AAF390-002	AAA603-001	— ANT = antenna inductors
AAF390-002	AAA604-001	— SOL = solenoids
AAE003-006	AAA602-001	— VAR = variable inductors
AAE002-006	AAA075-001	— LAM = lamp
AAE002-006	AAA076-001	— LCD = liquid crystal display
AAE002-006	AAA229-001	— MIC = microwave component
AAE002-006	AAA077-002	— OPT = optoelectronic device
AAE545-006	AAA597-001	— IMAGE = image pickup devices
AAE545-006	AAA078-001	— PHC = photocoupler
AAE545-006	AAA079-001	— PHE = photoemitter
AAE555-005	AAA081-001	— IRD = infrared emitting diode
AAE555-005	AAA082-001	— LAS = laser
AAE555-005	AAA080-001	— LED = LED
AAE545-006	AAA083-001	— PHS = photosensor
AAE566-005	AAA084-001	— IR = infrared sensor
AAE566-005	AAA085-001	— U = ultraviolet radiation
AAE566-005	AAA086-001	— VIS = visible radiation
AAE002-006	AAA087-001	— OSC = oscillator
AAE002-006	AAA088-001	— PE = piezoelectric device
AAE002-006	AAA232-001	— PWC= printed wiring circuit
AAE002-006	AAA089-002	— RES = resistor
AAE003-006	AAA090-002	— FIX = fixed

Class, DET	Class	Drawing
AAE114-007	AAA091-002	
AAF101-006	AAA093-002	
AAF101-006	AAA092-002	
AAJ003-001	AAA512-001	
AAJ003-001	AAA514-001	
AAJ003-001	AAA511-001	
AAJ003-001	AAA509-001	
AAJ003-001	AAA510-001	
AAJ003-001	AAA513-001	
AAE114-007	AAA094-001	
AAE122-005	AAA095-001	
AAE122-005	AAA096-002	
AAE126-005	AAA097-001	
AAE126-005	AAA098-002	
AAE122-005	AAA099-001	
AAE003-006	AAA100-003	
AAE139-005	AAA102-002	
AAJ006-002	AAA516-002	
AAJ006-002	AAA607-001	
AAJ006-002	AAA517-001	
AAJ006-002	AAA609-001	
AAJ006-002	AAA608-001	
AAE139-005	AAA101-001	
AAE002-006	AAA596-001	



Class. DET	Class	Drawing
AAE002-006	AAA103-001	
AAE892-005	AAA104-001	
AAE892-005	AAA105-001	
AAE892-005	AAA106-001	
AAE892-005	AAA107-001	
AAE892-005	AAA108-001	
AAE892-005	AAA109-001	
AAE892-005	AAA110-001	
AAE002-006	AAA595-001	
AAJ081-001	AAA605-001	
AAJ081-001	AAA606-001	
AAE002-006	AAA111-001	
AAE152-001	AAA112-001	
AAE003-006	AAA113-001	
AAA114-001	AAA114-001	
AAE152-001	AAA115-002	
AAE003-006	AAA116-001	
AAE003-006	AAA117-001	
AAE002-006	AAA118-001	
AAE401-001	AAA119-002	
AAE971-007	AAA120-002	
AAF146-005	AAA121-001	
AAF146-005	AAA122-001	
AAE971-007	AAA123-002	
AAF146-005	AAA124-001	

SEN = sensor

HUM = relative humidity

LGT = light

MGN = magnetic field strength

NCL = nuclear

PRS = pressure

PRX = proximity

TMP = temperature

SPARK = spark gaps

AIR = air spark gaps

GAS = gas-filled spark gaps

TFM = transformer

POW = power

FIX = fixed

VAR = variable

SIG = signal

FIX = fixed

VAR = variable

TRA = transistor

BIP = bipolar transistor

POW = power signal transistor

LF = low frequency

RF = radio frequency

SIG = small signal transistor

LF = low frequency

Class. DET	Class	Drawing
AAF146-005	AAA125-001	
AAE401-001	AAA126-002	
AAE971-007	AAA127-002	
AAF146-005	AAA128-001	
AAF146-005	AAA129-001	
AAE971-007	AAA130-002	
AAE002-006	AAA131-001	
AAE724-005	AAA132-001	
AAE724-005	AAA133-001	
AAE743-005	AAA134-001	
AAE743-005	AAA135-001	
AAE743-005	AAA136-001	
AAE724-005	AAA137-001	
AAE002-006	AAA138-001	
AAE696-005	AAA139-001	
AAF202-005	AAA140-001	
AAF202-005	AAA141-002	
AAE696-005	AAA142-001	
AAE696-005	AAA142-001	
AAE696-005	AAA142-001	
AAE696-005	AAA142-001	
AAE002-006	AAA146-001	
AAE001-005	AAA147-003	
AAE060-006	AAA148-002	
AAE349-006	AAA518-001	
AAE349-006	AAA522-001	

FET = field effect transistor	RF = radio frequency
POW = power signal transistor	
LF = low frequency	
RF = radio frequency	
SIG = small signal transistor	
TRG = trigger device	
DIA = diac	
THY = thyristor	
FTO = fast turn-off thyristor	
GTO = gate turn-off thyristor	
RVB = reverse blocking thyristor	
TRI = triac	
TUB = tube	
CRT = display tube (cathode-ray tube)	
COL = colour display tube	
MCR = monochrome display tube	
GAS = gas filled tube	
PHO = photo sensitive tube	
SCC = space charge controlled tube	
SCW = space charged wave tube	
TUN = tuner	
EM = electromechanical	
CON = connector	
CIRC = circular connector	
IC = IC connector	

Class. DET	Class	Drawing
AAE349-006	AAA526-001	
AAE349-006	AAA549-001	
AAJ024-001	AAA550-001	
AAJ024-001	AAA536-001	
AAJ025-001	AAA538-001	
AAJ025-001	AAA539-001	
AAJ025-001	AAA537-001	
AAJ024-001	AAA540-001	
AAJ026-001	AAA542-001	
AAJ026-001	AAA543-001	
AAJ026-001	AAA541-001	
AAJ026-001	AAA544-001	
AAJ024-001	AAA545-001	
AAJ027-001	AAA548-001	
AAJ027-001	AAA547-001	
AAJ027-001	AAA546-001	
AAE349-006	AAA523-001	
AAE349-006	AAA520-001	
AAE349-006	AAA519-001	
AAE349-006	AAA521-001	
AAE349-006	AAA527-001	
AAJ028-001	AAA565-001	
AAJ028-001	AAA564-001	
AAJ028-001	AAA555-001	
AAJ028-001	AAA563-001	

JACK = plug and jack

ASSY = plug assemblies

CMPLX = complex jack boards

CONC = concentric plug and jack

JACK = concentric jack

MULT = multiple concentric plug

PLUG = concentric plug

PIN = pin plug and jack

JACK = pin jack

MULT = pin multiple jack

PIN = pin plug

SHLD = shielded pin jack

PWR = plug and jack for d.c. power

CAR = car plug

JACK = dc power jack

PLUG dc power plug

MOD = modular connector

PCB = printed circuit board

RECT = rectangular connector

RF = RF connector

SOCK = sockets

ANT = socket for antenna feeder

FUSE = fuse holder and socket

IC = socket for integrated circuits

LIGHT = lighting socket

Class. DET	Class	Drawing
AAJ028-001	AAA556-001	
AAJ028-001	AAA557-001	
AAJ028-001	AAA561-001	
AAJ028-001	AAA554-001	
AAJ028-001	AAA551-001	
AAJ028-001	AAA562-001	
AAE349-006	AAA528-001	
AAJ031-001	AAA569-001	
AAJ031-001	AAA572-001	
AAJ031-001	AAA573-001	
AAJ031-001	AAA566-001	
AAE060-006	AAA610-001	
AAF464-001	AAA524001	
AAF464-001	AAA525-001	
AAF464-001	AAA611-001	
AAF464-001	AAA612-001	
AAF464-001	AAA613-001	
AAE060-006	AAA149-002	
AAJ012-002	AAA575-001	
AAJ012-002	AAJ576-001	
AAE060-006	AAA150-001	
AAE005-006	AAA154-001	
AAE005-006	AAA157-001	
AAE005-006	AAA153-001	
AAE005-006	AAA152-001	
AAE005-006	AAA158-001	

—	PCB = socket for PCB
—	PWR = power socket
—	SIG = signal socket
—	TRA = transistor socket
—	TUBE = socket for tube
—	XTAL = socket for quartz cristal
—	TERM = terminals
—	ARRAY = terminal array
—	BRD = terminal board
—	ROD = terminal rod
—	SM = small terminals
—	CONPART = connector part
—	CONTACT = connector contact
—	ACCY = connector accessoires
—	TOOL = connector tool
—	SHELL = connector shell
—	INSERT = connector insert
—	FUS = fuse
—	CUR current activated fuse
—	TERM = thermally activated fuse
—	LSP = loudspeaker
—	ELM = electromagnetic loudspeaker
—	ELS = electrostatic loudspeaker
—	ION = ionic loudspeaker
—	MGD = magnetodynamic loudspeaker
—	MGS = magnetostrictive loudspeaker

Class. DET	Class	Drawing
AAE005-006	AAA151-001	MVC = moving conductor loudspeaker
AAE005-006	AAA156-001	PXE = piezoelectric loudspeaker
AAE005-006	AAA155-001	PNM = pneumatic loudspeaker
AAE060-006	AAA159-001	MIC = microphone
AAE060-006	AAA160-005	MOT = motor
AAE179-005	AAA161-001	LIN = linear
AAE178-005	AAA162-001	AC = ac
AAE178-005	AAA163-001	DC = dc
AAE178-005	AAA164-001	STP = stepping motor (pulse)
AAE178-005	AAA165-001	UNI = universal motor (ac or dc)
AAE179-001	AAA166-001	ROT = rotational
AAE178-005	AAA167-001	AC = ac
AAE178-005	AAA168-001	DC = dc
AAE178-005	AAA169-001	STP = stepping motor (pulse)
AAE178-005	AAA170-001	UNI = universal motor (ac or dc)
AAE060-006	AAA171-001	REL = relay
AAE60-005	AAA172-001	SWI = switch
AAE926-005	AAA174-002	MEC = mechanical switch
AAE926-005	AAA173-001	REE = reed switch
AAE926-005	AAA175-001	THE = thermostatic switch
AAE001-005	AAA215-001	MP = magnetic part
AAE759-005	AAA216-001	HRD = hard magnetic
AAE759-005	AAA217-001	SFT = soft magnetic
AAE000-001	AAA301-001	GEO = geometries
AAG000-001	AAA302-001	DIE = die device

Class. DET	Class	Drawing
AAD004-001	AAA295-001	
AAD004-001	AAA296-001	
AAD004-001	AAA299-001	
AAD004-001	AAA297-001	
AAD004-001	AAA298-001	
AAG000-001	AAA303-001	
AAG057-001	AAA304-001	
AAG056-001	AAA322-001	
AAG058-001	AAA353-001	
AAG054-001	AAA391-001	DAA001-001
AAG056-001	AAA323-001	
AAG058-001	AAA354-001	
AA9054-001	AAA392-001	DAA002-001
AAG054-001	AAA393-001	DAA003-001
AAG057-001	AAA305-001	
AAG056-001	AAA324-001	
AAG058-001	AAA355-001	
AAG054-001	AAA394-001	
AAG055-001	AAA445-001	DAA040-001
AAG058-001	AAA356-001	
AAG054-001	AAA395-001	
AAG055-001	AAA446-001	DAA041-001
AAG055-001	AAA447-001	DAA042-001
AAG057-001	AAA307-001	
AAG056-001	AAA325-001	

— BARE = bare die with pads on one side and without connection structure

— BUMP = bare die with bumped pads

— DUAL = bare die with pads on both surfaces

— LEAD = bare die with attached lead frame

— MPD = minimally packaged die device

— PAK = packaging outline

— BD = beads

— A = axial

— W = wire

— B = bottom

— T001 = straight

— W = wire

— T001 = straight

— T002 = formed

— CC = chip carriers

— Q = quad

— J = J-bend

— T000 = standard

— B002 = non-bumped package

— N = no lead

— T000 = standard

— B009 = non-cavity package (moulded)

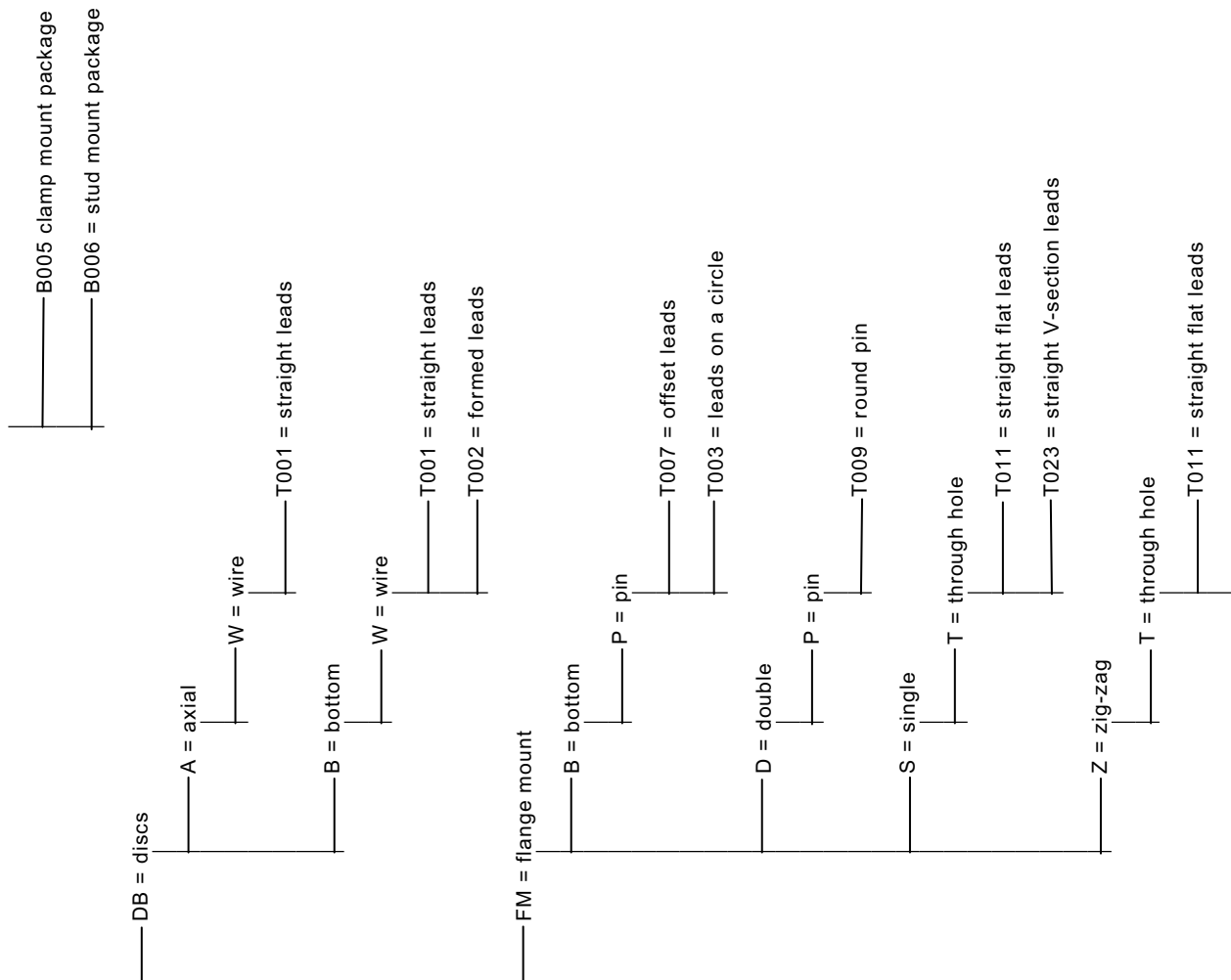
— B010 = cavity package (ceramic)

— CY = cylindricals

— A = axial

Class. DET	Class	Drawing
AAE005-006	AAA151-001	MVC = moving conductor loudspeaker
AAE005-006	AAA156-001	PXE = piezoelectric loudspeaker
AAE005-006	AAA155-001	PNM = pneumatic loudspeaker
AAE060-006	AAA159-001	MIC = microphone
AAE060-006	AAA160-005	MOT = motor
AAE179-005	AAA161-001	LIN = linear
AAE178-005	AAA162-001	AC = ac
AAE178-005	AAA163-001	DC = dc
AAE178-005	AAA164-001	STP = stepping motor (pulse)
AAE178-005	AAA165-001	UNI = universal motor (ac or dc)
AAE179-001	AAA166-001	ROT = rotational
AAE178-005	AAA167-001	AC = ac
AAE178-005	AAA168-001	DC = dc
AAE178-005	AAA169-001	STP = stepping motor (pulse)
AAE178-005	AAA170-001	UNI = universal motor (ac or dc)
AAE060-006	AAA171-001	REL = relay
AAE60-005	AAA172-001	SWI = switch
AAE926-005	AAA174-002	MEC = mechanical switch
AAE926-005	AAA173-001	REE = reed switch
AAE926-005	AAA175-001	THE = thermostatic switch
AAE001-005	AAA215-001	MP = magnetic part
AAE759-005	AAA216-001	HRD = hard magnetic
AAE759-005	AAA217-001	SFT = soft magnetic
AAE000-001	AAA301-001	GEO = geometries
AAG000-001	AAA302-001	DIE = die device

Class. DET	Class	Drawing
AA G055-001	AAA452-001	DAA047-001
AA G055-001	AAA453-002	DAA048-002
AA G057-001	AAA308-001	
AA G056-001	AAA330-001	
AA G058-001	AAA364-001	
AA G054-001	AAA407-001	DAA012-001
AA G056-001	AAA331-001	
AA G058-001	AAA365-001	
AA G054-001	AAA408-001	DAA013-001
AA G054-001	AAA409-001	DAA014-001
AA G057-001	AAA309-001	
AA G056-001	AAA332-001	
AA G058-001	AAA366-001	
AA G054-001	AAA410-001	DAA015-001
AA G054-001	AAA411-001	DAA016-001
AA G056-001	AAA333-001	
AA G058-001	AAA367-001	
AA G054-001	AAA412-001	DAA017-001
AA G056-001	AAA334-001	
AA G058-001	AAA368-001	
AA G054-001	AAA413-001	DAA018-001
AA G054-001	AAA414-001	DAA019-001
AA G056-001	AAA335-001	
AA G058-001	AAA369-001	
AA G054-001	AAA415-001	



Class. DET	Class	Drawing
AAG054-001	AAA416-001	
AAG057-001	AAA311-001	
AAG056-001	AAA336-001	
AAG058-001	AAA370-001	
AAG054-001	AAA417-001	DAA020-001
AAG056-001	AAA337-001	
AAG058-001	AAA371-001	
AAG054-001	AAA418-001	
AAG055-001	AAA454-001	DAA049-001
AAG057-001	AAA312-001	
AAG056-001	AAA338-001	
AAG058-001	AAA372-001	
AAG054-001	AAA419-001	DAA021-001
AAG056-001	AAA339-001	
AAG058-001	AAA373-001	
AAG054-001	AAA420-001	
AAG055-001	AAA455-001	DAA050-001
AAG055-001	AAA456-001	DAA051-001
AAG057-001	AAA313-001	
AAG056-001	AAA340-001	
AAG058-001	AAA374-001	
AAG054-001	AAA421-001	DAA022-001
AAG054-001	AAA422-001	DAA023-001
AAG058-001	AAA375-001	
AAG054-001	AAA423-001	DAA024-001
AAG056-001	AAA341-001	

T023 = straight V-section leads

FP = flat pack

D = double

F = flat

T011 = straight flat leads

Q = quad

G = gull wing

T000 = standard form

B002 = non-bumped package

GA = grid arrays

B = bottom

B = butt

T012 = solder ball

P = perpendicular

P = pin

T009 = round pin

B007 = cavity up

B008 = cavity down

IP = in line

D = double

P = pin

T009 = round pin

T010 = rectangular pin

T = through hole

T000 = standard form

Q = quad

Class. DET	Class	Drawing
AAG058-001	AAA376-001	
AAG054-001	AAA424-001	
AAG056-001	AAA342-001	
AAG058-001	AAA377-001	
AAG054-001	AAA425-001	
AAG056-001	AAA343-001	
AAG058-001	AAA378-001	
AAG054-001	AAA426-001	
AAG056-001	AAA344-001	
AAG058-001	AAA379-001	
AAG054-001	AAA427-001	
AAG057-001	AAA314-001	
AAG056-001	AAA345-001	
AAG058-001	AAA380-001	
AAG054-001	AAA428-001	
AAG057-001	AAA318-001	
AAG056-001	AAA346-001	
AAG058-001	AAA381-001	
AAG054-001	AAA429-002	DAA025-002
AAG054-001	AAA430-002	DAA026-002
AAG058-001	AAA382-001	
AAG054-001	AAA431-002	DAA027-002
AAG054-001	AAA432-002	DAA028-002
AAG054-001	AAA433-002	DAA029-002
AAG054-001	AAA434-002	DAA030-002

T = through hole

T000 = standard form

S = single

T = through hole

T000 = standard form

T = triple

T = through hole

T000 = standard form

Z = zig-zag

T = through hole

T000 = standard form

LF = long form

A = axial

W = wire

T001 = straight

PM = post mount

U = upper

D = solder lug

T013 = one fixed tag

T014 = two fixed tags

H = high current cable

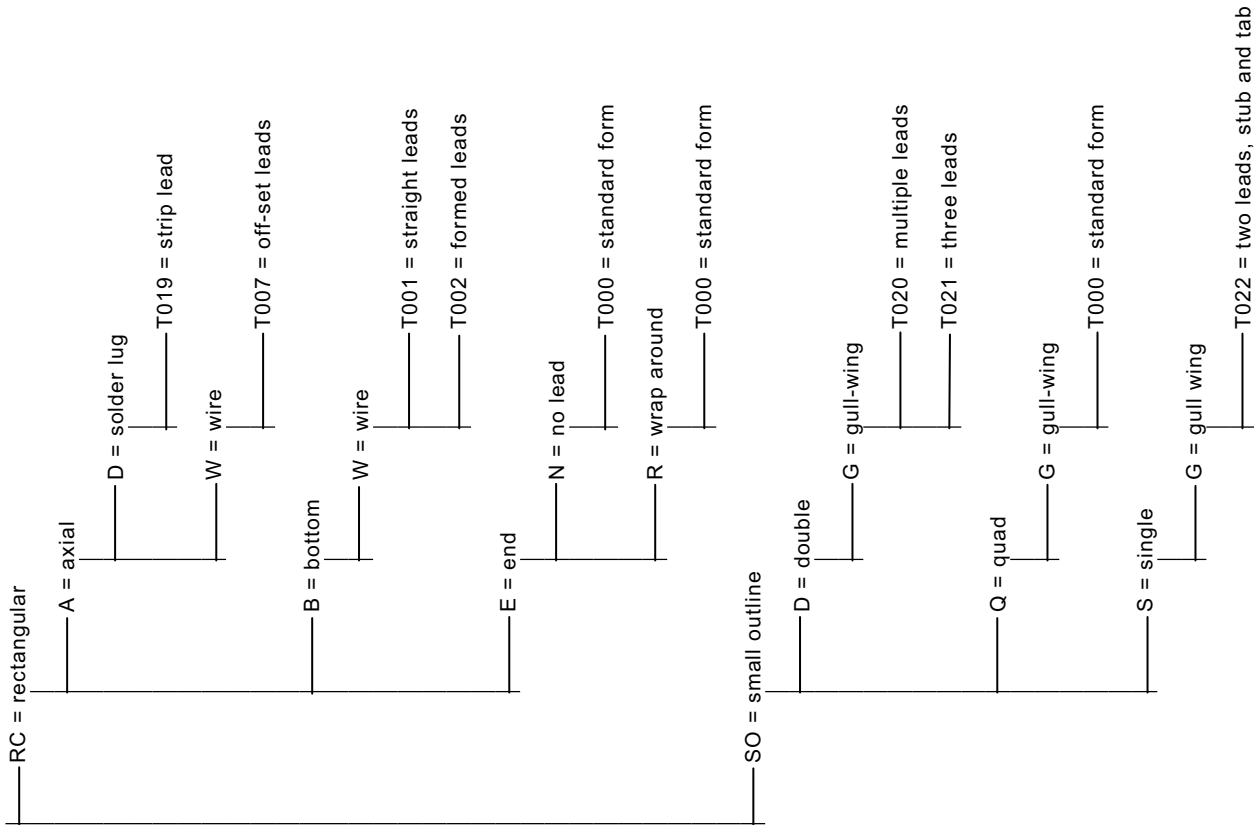
T015 = one lead with tag

T016 = two leads with tags

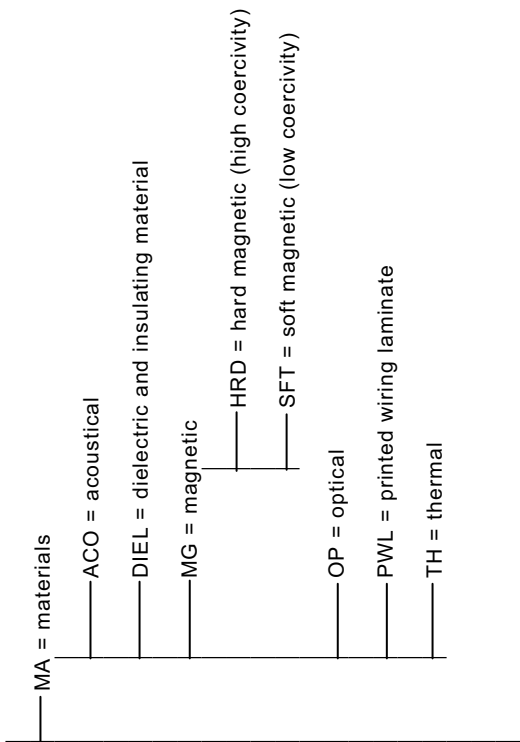
T017 = three leads with tags

T018 = one lead no tag

Class. DET	Class	Drawing
AAG057-001	AAA319-001	
AAG056-001	AAA347-001	
AAG058-001	AAA383-001	
AAG054-001	AAA435-001	DAA031-001
AAG058-001	AAA384-001	
AAG054-001	AAA436-001	DAA032-001
AAG056-001	AAA348-001	
AAG058-001	AAA385-001	
AAG054-001	AAA437-001	DAA033-001
AAG054-001	AAA438-001	DAA034-001
AAG056-001	AAA349-001	
AAG058-001	AAA386-001	
AAG054-001	AAA439-001	DAA035-001
AAG058-001	AAA387-001	
AAG054-001	AAA440-001	DAA036-001
AAG057-001	AAA320-001	
AAG056-001	AAA350-001	
AAG058-001	AAA388-001	
AAG054-001	AAA441-001	DAA037-001
AAG054-001	AAA442-001	DAA038-001
AAG056-001	AAA351-001	
AAG058-001	AAA389-001	
AAG054-001	AAA443-001	
AAG056-001	AAA352-001	
AAG058-001	AAA390-001	
AAG054-001	AAA444-001	DAA039-001



Class. DET	Class	Drawing
AAE000-001	AAA218-001	
AAF311-007	AAA219-001	
AAF311-007	AAA231-001	
AAF311-007	AAA220-001	
AAE759-005	AAA221-001	
AAE759-005	AAA222-001	
AAF311-006	AAA223-001	
AAF311-007	AAA230-001	
AAF311-007	AAA224-001	



Annex B (normative) Class definitions

AAA000-001 01**IEC reference collection****IECREF**

Root class providing a name scope for the characteristic properties in the IEC reference collection of standard data element types.

NOTE

IEC REFERENCE COLLECTION is a data dictionary containing a classification with associated sets of properties for the description of electric/electronic and electromechanical components and materials.

AAE000-001 IEC reference class**AAA001-001 02****Components****CO**

A set of industrial products of which each product can be described with the same group of data element types.

NOTE

COMPONENTS are industrial products which serve a specific function or functions, which are not decomposable or physically divisible and which are intended for use in a higher-order assembled product.

Properties

AAE006-006	mounting features
AAE012-005	international standard
AAE017-005	reference temperature
AAE019-005	body length
AAE020-005	body height
AAE021-005	body breadth
AAE022-005	outside diameter
AAE111-005	packing type
AAE112-005	taping
AAE687-005	quality approval authority
AAE752-005	mass
AAE753-005	inside diameter
AAE834-005	component description
AAE965-005	component status
AAF043-005	national standard
AAF265-005	packing arrangement
AAF267-005	inner tape spacing
AAF268-005	orientation
AAF269-005	marking method
AAF276-002	stress temperature min
AAF277-002	stress temperature max
AAF278-002	stress ambient temperature
AAF279-002	stress relative humidity
AAF318-001	flange breadth
AAF356-001	reference view
AAF357-001	terminal identifier
AAF358-001	swapability indicator
AAF359-001	permutability indicator
AAF362-001	centre of gravity (x-axis)
AAF363-001	centre of gravity (y-axis)

AAF364-001	probability distribution
AAF365-001	normal average value
AAF366-001	normal standard deviation
AAF367-001	Poisson variance value
AAF368-001	Poisson expectation value
AAF369-001	test voltage coefficient
AAF370-001	MIL specification
AAF372-001	preformed lead
AAF388-001	case size
AAF391-001	connect-node code
AAF392-001	project view code
AAF393-001	x-coordinate of the reference point
AAF394-001	y-coordinate of the reference point
AAF395-001	z-coordinate of the reference point
AAF396-001	scale
AAF397-001	net area
AAF398-001	gross area
AAF399-001	net space
AAF400-001	gross space
AAF401-001	x-coor. preferred mounting position
AAF402-001	x-coor. preferred mounting position
AAF403-001	z-coor. preferred mounting position
AAF404-001	mounting deviation y/z
AAF405-001	mounting deviation y/x
AAF406-001	x-coordinate position location
AAF407-001	y-coordinate position location
AAF408-001	z-coordinate position location
AAF409-001	cylinder radius
AAF410-001	cylinder height
AAF411-001	angle axis to x-axis
AAF412-001	angle axis to y-axis
AAF413-001	angle axis to z-axis
AAF414-001	cone radius
AAF415-001	cone height
AAF416-001	semi angle
AAF417-001	sphere radius
AAF418-001	x-coordinate of centre
AAF419-001	y-coordinate of centre
AAF420-001	z-coordinate of centre
AAF421-001	major radius of torus
AAF422-001	minor radius of torus
AAF423-001	wedge x-size
AAF424-001	wedge y-size
AAF425-001	wedge z-size
AAF426-001	major edge
AAF427-001	minor edge
AAF428-001	primitive height
AAF429-001	edge-length
AAF430-001	internal radius
AAF431-001	external radius
AAF432-001	minor radius
AAF433-001	installation instruction
AAF435-001	terminal connection type
AAF436-001	simultaneity factor
AAF437-001	column type

AAE001-005 main class of component**Subclasses**

AAA002-003	Electric/electronic components
AAA147-001	Electromechanical components
AAA215-001	Magnetic parts


Documents

Document Sharing Hub

AAA002-003 01

Electric/electronic components EE

A set of electric/electronic components of which each component can be described with the same group of data element types.

NOTE

ELECTRIC/ELECTRONIC COMPONENTS are groups of components, as used in the classification to indicate a class of functions with a common set of data elements.

Properties

AAE007-005	terminal shape
AAE008-005	terminal placement
AAE023-005	terminal diameter
AAE024-005	terminal pitch
AAE027-005	mounted height
AAE072-005	terminal length
AAE149-005	safety approval
AAE257-005	power dissipation
AAE259-005	shape/size code BSI
AAE267-005	rated temperature
AAE347-005	CECC specification
AAE540-005	current rms
AAE633-005	lacquered length
AAE634-005	terminal material
AAE688-005	thermal resistance
AAE785-005	signal type
AAE841-005	storage temperature
AAE891-005	ambient temperature
AAE905-005	dissipation derating factor
AAE987-005	power consumption
AAF316-001	hole pitch
AAF317-001	flange length
AAF319-001	flange height
AAF320-001	body diameter
AAF321-001	pitch (x-axis)
AAF322-001	pitch (y-axis)
AAF337-001	pitch circle diameter
AAF338-001	terminal breadth
AAF339-001	terminal thickness
AAF340-001	offset (y-axis)
AAF341-001	offset (x-axis)
AAF342-001	flange diameter
AAF343-001	mounting method
AAF344-001	body shape
AAF345-001	terminal exit position SMD
AAF346-001	terminal exit position non-SMD
AAF347-001	terminal shape non-SMD
AAF348-001	terminal shape SMD
AAF351-001	number of holes
AAF352-001	basic aspect
AAF353-001	size code EIA
AAF371-001	adjuster placement
AAF373-001	number of studs
AAF374-001	number of pitches (x-axis)
AAF375-001	number of pitches (y-axis)
AAF376-001	terminal cross-section shape
AAE002-006	category EE component

Subclasses

AAA003-001	Amplifiers
AAA013-001	Antennas
AAA017-001	Batteries
AAA020-001	Capacitors
AAA032-001	Conductors

AAA041-001	Delay lines
AAA042-001	Diode devices
AAA578-001	Fibre optics
AAA056-002	Filters
AAA057-001	Integrated circuits
AAA074-002	Inductors
AAA075-001	Lamps
AAA076-001	Liquid crystal displays
AAA229-001	Microwave components
AAA077-001	Optoelectronic devices
AAA087-001	Oscillators
AAA088-001	Piezoelectric devices
AAA232-001	Printed wiring circuits
AAA089-002	Resistors
AAA596-001	Resonators
AAA103-001	Sensors
AAA595-001	Spark gaps
AAA111-001	Transformers
AAA118-001	Transistors
AAA131-001	Trigger devices
AAA138-001	Tubes
AAA146-001	Tuners

AAA003-001 02

Amplifiers AMP

A set of amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

AMPLIFIERS are active two-port devices essentially designed to produce an output signal of greater power than that of the input signal. IEC 60050(702) (1992)

Properties

AAE697-005	current consumption
AAE969-005	amplifier package
AAE974-005	input standing wave ratio
AAE975-005	output standing wave ratio

AAF146-005 frequency application

Subclasses

AAA004-001	Low-frequency amplifiers
AAA011-001	Radio frequency amplifiers
AAA012-001	Wideband amplifiers

AAA004-001 02

Low-frequency amplifiers LF

A set of low-frequency amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

LOW-FREQUENCY AMPLIFIERS are amplifiers designed for use with baseband unmodulated signals, for example audio, video and switching signals.

AAF169-005 amplified quantity**Subclasses**

AAA005-001 Power amplifiers
 AAA006-001 Voltage amplifiers

AAA005-001 02**Power amplifiers****PWA**

A set of power amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

POWER AMPLIFIERS are amplifiers optimized to deliver output power to the load. Normally the voltage gain is insignificant and the power gain is thus mainly due to current gain.

AAA006-001 02**Voltage amplifiers****VTA**

A set of voltage amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

VOLTAGE AMPLIFIERS are amplifiers designed primarily to amplify the signal voltage, without supplying appreciable power.

Properties

AAF158-005 output voltage peak-to-peak
 AAF159-005 large-signal voltage gain
 AAF162-005 slew rate
 AAF165-005 output resistance
 AAF166-005 unity-gain frequency
 AAF167-005 gain bandwidth product
 AAF168-005 total response time

AAF191-005 input configuration**Subclasses**

AAA007-001 Differential amplifiers
 AAA010-001 Single-sided amplifiers

AAA007-001 02**Differential amplifiers****DFA**

A set of differential amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

DIFFERENTIAL AMPLIFIERS are amplifiers whose output signal is proportional to the algebraic difference between the voltages applied to their two inputs.

Properties

AAF157-005 common-mode input voltage
 AAF160-005 common-mode rejection ratio
 AAF163-005 differential input resistance
 AAF164-005 common-mode input resistance

AAF192-005 coupling method**Subclasses**

AAA008-001 Operational amplifiers
 AAA009-001 AC-coupled amplifiers

AAA008-001 02**Operational amplifiers****OPA**

A set of operational amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

OPERATIONAL AMPLIFIERS are high-gain differential dc-coupled amplifiers.

Properties

AAF152-005 input offset current
 AAF153-005 temp coef input offset current
 AAF154-005 average bias current
 AAF155-005 input offset voltage
 AAF156-005 temp coef input offset voltage
 AAF161-005 supply voltage sensitivity
 AAF170-005 power supply rejection ratio

AAA009-001 02**AC-coupled amplifiers****ACA**

A set of ac-coupled amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

AC-COUPLED AMPLIFIERS are differential ac-coupled amplifiers.

AAA010-001 02**Single-sided amplifiers****SSA**

A set of single-sided amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

SINGLE-SIDED AMPLIFIERS are amplifiers of which one input terminal is directly connected to earth.

AAA011-001 02**Radio frequency amplifiers****RF**

A set of RF amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

RADIO FREQUENCY AMPLIFIERS are amplifiers designed for use with signals modulated on a radio-frequency carrier. IEC 60050(702) (1992)

AAA012-001 02

Wideband amplifiers WB

A set of wideband amplifiers of which each amplifier can be described with the same group of data element types.

NOTE

WIDEBAND AMPLIFIERS are amplifiers designed for uniform operation within a broad range of frequencies, usually accommodating several signal channels.

Properties

AAE424-005	power gain
AAE698-005	output voltage
AAE699-005	composite triple beat
AAE700-005	2nd-order beat
AAE701-005	input return losses
AAE702-005	output return losses
AAE703-005	cross modulation
AAE705-005	slope cable equivalent
AAE706-005	conformity of frequency response

AAA013-002 02

Antennas ANT

A set of antennas of which each antenna can be described with the same set of data element types.

NOTE

ANTENNAS are transducers which either emit radio frequency power into space from a signal source or intercepts an arriving electromagnetic field, converting it into an electric signal. IEC 60747-1 (1983)

Properties

AAE340-005	effective frequency f_{e2}
AAE341-005	effective frequency f_{e1}

AAE511-007 impedance type

Subclasses

AAA014-001	Capacitive antennas
AAA015-001	Inductive antennas
AAA016-001	Resistive antennas

AAA014-001 02

Capacitive antennas CAP

A set of capacitive antennas of which each antenna can be described with the same group of data element types.

NOTE

CAPACITIVE ANTENNAS are antennas in which, under given conditions, the predominant function is effected by means of capacitance.

Properties

AAE996-005	number of sections
AAE997-005	extended length
AAE998-005	non-extended length

AAA015-001 02

Inductive antennas IND

A set of inductive antennas of which each antenna can be described with the same group of data element types.

NOTE

INDUCTIVE ANTENNAS are antennas in which, under given conditions, the predominant function is effected by means of inductance.

Properties

AAE151-005	winding configuration
AAE517-005	inductance
AAE518-005	quality factor

AAA016-001 02

Resistive antennas RES

A set of resistive antennas of which each antenna can be described with the same group of data element types.

NOTE

RESISTIVE ANTENNAS are antennas in which, under given conditions, the predominant function is effected by means of resistance.

AAA017-001 02

Batteries BAT

A set of batteries of which each battery can be described with the same group of data element types.

NOTE

BATTERIES are electrochemical energy sources consisting of one or more cells. (derivation)

Properties

AAE262-005	encapsulation technology
AAE529-005	open-circuit voltage
AAE530-005	nominal capacity
AAE940-005	number of cells in series
AAE942-005	storage life

AAE510-005 chargeability type

Subclasses

AAA018-001	Primary batteries
AAA019-001	Secondary batteries

AAA018-001 02

Primary batteries PRI

A set of primary batteries of which each battery can be described with the same group of data element types.

NOTE

PRIMARY BATTERIES are electrochemical systems (batteries) designed for delivery of electric energy in one single uninterrupted (continuous) or interrupted (intermittent) discharge. IEC 60086-1 (2000)

Properties

AAE531-005 primary electrochemical system

AAA019-001 02**Secondary batteries****SEC**

A set of secondary batteries of which each battery can be described with the same group of data element types.

NOTE

SECONDARY BATTERIES are electrochemical systems (batteries) capable of storing in chemical form the electric energy received and which can give it back by reconversion. (derivation) IEC 60050(486) (1991)

Properties

AAE532-005 secondary electrochemical system
AAE941-005 voltage during charge
AAE943-005 charge time
AAE944-005 number of charge cycles

AAA020-001 02**Capacitors****CAP**

A set of capacitors of which each capacitor can be described with the same group of data element types.

NOTE

CAPACITORS are systems of two conductors (plates) separated over the extent of their surfaces by a thin insulating medium (dielectric), their intended characteristic being capacitance.

Properties

AAE010-005 climatic category
AAE030-005 E series
AAE044-005 rated voltage (dc)
AAE065-005 tangent of loss angle
AAE067-005 temperature coefficient (cap)
AAF360-001 max range value
AAF361-001 min range value
AAJ053-001 category voltage
AAJ054-001 surge voltage
AAJ055-001 rated temperature
AAJ056-001 category temperature
AAJ057-001 capacitance change with temperature
AAJ058-001 impedance of a capacitor

AAE003-006 adjustability type**Subclasses**

AAA021-003 Fixed capacitors
AAA031-002 Variable capacitors

AAA021-003 01**Fixed capacitors****FIX**

A set of fixed capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED CAPACITORS are capacitors that are designed so that the spatial relationship of their parts cannot be changed.

Properties

AAE009-005 performance grade
AAE018-001 capacitance lower tolerance (%)
AAE034-005 circuit application (capacitor)
AAE036-005 safety class
AAE046-005 capacitance
AAE047-001 capacitance upper tolerance (%)
AAE063-005 insulation resistance
AAE066-005 time constant (of capacitor)
AAE071-005 capacitance tolerance
AAE262-005 encapsulation technology
AAE268-001 capacitance upper tolerance
AAE269-001 capacitance lower tolerance
AAF462-001 toleranced capacitance
AAJ008-001 size code

AAE004-007 dielectric material type**Subclasses**

AAA022-001 Fixed air capacitors
AAA023-001 Fixed ceramic capacitors
AAA026-002 Fixed electrolytic capacitors
AAA027-001 Fixed film capacitors
AAA028-001 Fixed glass capacitors
AAA029-002 Fixed mica capacitors
AAA030-001 Fixed paper capacitors
AAA005-001 Fixed mixed-dielectric capacitors

AAA022-001 02**Fixed air capacitors****AIR**

A set of fixed air capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED AIR CAPACITORS are fixed capacitors with a dielectric consisting of air.

AAA023-001 02**Fixed ceramic capacitors****CER**

A set of fixed ceramic capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED CERAMIC CAPACITORS are fixed capacitors with a dielectric consisting of a ceramic material.

AAE038-005 dielectric class (ceramic cap)

Subclasses

AAA024-001 Fixed class1 ceramic capacitor
AAA025-001 Fixed class2 ceramic capacitor

AAA024-001 02

Fixed class1 ceramic capacitor CL1

A set of fixed ceramic capacitors class1 of which each capacitor can be described with the same group of data element types.

NOTE

FIXED CLASS1 CERAMIC CAPACITORS are ceramic capacitors specially designed and suited for resonant circuit application where low losses and high stability of capacitance are essential or where a precisely defined temperature coefficient is required. The ceramic dielectric is defined by their rated temperature coefficient (alpha). IEC 60384-8 (1988)

Properties

AAE035-005 temperature coefficient code
AAE266-005 dielectric subclass 1

AAA025-001 02

Fixed class2 ceramic capacitor CL2

A set of fixed ceramic capacitors class2 of which each capacitor can be described with the same group of data element types.

NOTE

FIXED CLASS2 CERAMIC CAPACITORS are ceramic capacitors which have a dielectric with a high permittivity and which are suitable for by-pass and coupling applications or for frequency discriminating circuits where low losses and high stability of capacitance are not of major importance. The ceramic dielectric is characterized by the non-linear change of capacitance over the category temperature range. IEC 60384-9 (1988)

Properties

AAE037-005 EIA temperature characteristic
AAE076-005 dielectric subclass 2

AAA026-002 01

Fixed electrolytic capacitors ELC

A set of fixed electrolytic capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED ELECTROLYTIC CAPACITORS are fixed capacitors in which the electrolytically formed oxide layer on the surface of the anode serves as a dielectric and having a solid or non-solid electrolyte forming the cathode, usually having polar properties.

Properties

AAE040-005 electrode material type
AAE041-005 shelf life
AAE042-005 leakage current short-term
AAE043-005 leakage current continuous
AAE064-005 equivalent series resistance
AAE073-005 endurance
AAE263-005 polarity type
AAE960-005 ripple current
AAJ051-001 electrolyte type
AAJ052-001 anode type

AAJ001-001 electrolytic capacitor type

Subclasses

AAA501-001 Solid tantalum
AAA502-001 Non-solid tantalum
AAA503-001 Solid aluminium
AAA504-001 Non-solid aluminium

AAA027-001 02

Fixed film capacitors FLM

A set of fixed film capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED FILM CAPACITORS are fixed capacitors with a dielectric consisting of a plastic film.

Properties

AAE031-005 electrode technology
AAE033-005 voltage application
AAE039-005 film dielectric material
AAE045-005 rated voltage (ac)

AAA028-001 02

Fixed glass capacitors GLS

A set of fixed glass capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED GLASS CAPACITORS are fixed capacitors with a dielectric consisting of glass.

AAA029-002 01

Fixed mica capacitors MICA

A set of fixed mica capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED MICA CAPACITORS are fixed capacitors with a dielectric consisting of mica.

AAA030-001 02**Fixed paper capacitors PAP**

A set of fixed paper capacitors of which each capacitor can be described with the same group of data element types.

NOTE

FIXED PAPER CAPACITORS are fixed capacitors with a dielectric consisting of paper, usually impregnated.

AAA031-002 01**Variable capacitors VAR**

A set of variable capacitors of which each capacitor can be described with the same group of data element types.

NOTE

VARIABLE CAPACITORS are capacitors designed so that their main property can be varied by mechanically changing the spatial relationship of their parts.

Properties

AAE068-005	maximum capacitance
AAE069-005	minimum capacitance
AAE070-005	adjustability class
AAE106-005	number of functions
AAE172-005	ganging number
AAF014-005	driving feature
AAJ002-001	variable capacitor type

AAA032-001 02**Conductors CND**

A set of conductors of which each conductor can be described with the same group of data element types.

NOTE

CONDUCTORS are components containing one or more electric conductors.

Properties

AAF240-005	conductor finish
AAF241-005	conductive material
AAF242-006	conductor shape
AAF243-005	conductor configuration
AAF244-005	conductor size AWG
AAF245-005	dc resistance
AAF246-005	conductor diameter
AAF247-005	cross-section
AAF434-001	bending radius

AAF239-005 bare/insulated**Subclasses**

AAA033-001	Bare conductors
AAA034-001	Insulated conductors

AAA033-001 02**Bare conductors BAR**

A set of bare conductors of which each conductor can be described with the same group of data element types.

NOTE

BARE CONDUCTORS are conductors consisting of a single uninsulated conductive part.

AAA034-001 02**Insulated conductors INS**

A set of insulated conductors of which each conductor can be described with the same group of data element types.

NOTE

INSULATED CONDUCTORS are conductors containing one or more insulated conductive parts.

Properties

AAF248-005	insulating material
AAF251-005	test voltage minimum

AAF249-005 cable/wire**Subclasses**

AAA035-001	Cables
AAA040-001	Insulated wires

AAA035-001 02**Cables CBL**

A set of cables of which each cable can be described with the same group of data element types.

NOTE

CABLES (electric) are an assembly of conductors insulated from one another and enclosed in a common binding or sheathing, and having some degree of flexibility.

Properties

AAF252-005	MIL cable type
AAF254-005	cable configuration
AAF255-005	number of cable elements
AAF258-005	working voltage
AAF259-005	capacitance between conductors

AAE152-005 power/signal**Subclasses**

AAA036-001	Power cables
AAA037-001	Signal cables

AAA036-001 02

Power cables POW

A set of power cables of which each cable can be described with the same group of data element types.

NOTE

POWER CABLES are cables designed for the purpose of handling energy.

AAA037-001 02

Signal cables SIG

A set of signal cables of which each cable can be described with the same group of data element types.

NOTE

SIGNAL CABLES are cables designed for the purpose of handling a signal.

AAF146-005 frequency application

Subclasses

AAA038-001 LF cables

AAA039-001 RF cables

AAA038-001 02

LF cables LF

A set of low-frequency cables of which each cable can be described with the same group of data element types.

NOTE

LF CABLES are cables designed for use with baseband unmodulated signals, for example audio, video and switching signals.

Properties

AAF253-005 LF cable element

AAA039-001 02

RF cables RF

A set of RF cables of which each cable can be described with the same group of data element types.

NOTE

RF CABLES are cables designed for use with signals modulated on a radio-frequency carrier.

Properties

AAF256-005 RF cable element

AAF257-005 dielectric construction

AAF260-005 characteristic impedance

AAF261-005 attenuation

AAA040-001 02

Insulated wires IWR

A set of insulated wires of which each wire can be described with the same group of data element types.

NOTE

INSULATED wires are conductors consisting of a single insulated conductive part.

Properties

AAF250-005 colour code

AAF262-005 wire application

AAA041-001 02

Delay lines DEL

A set of delay lines of which each delay line can be described with the same group of data element types.

NOTE

DELAY LINES are linear two-port devices designed to introduce a desired delay in the transmission of a signal, without modifying the other characteristics of the signal.

Properties

AAE442-005 colour TV transmission

AAE534-005 bandwidth

AAE541-005 frequency

AAE542-005 delay line application

AAE543-005 delay time

AAE544-005 phase delay time

AAE877-005 working principle

AAE878-006 delay line type

AAE879-005 spurious signal level (3-tau)

AAE880-005 spurious signal level

AAE885-005 phase relation

AAE886-005 phase delay drift

AAE887-005 insertion loss

AAA042-001 02

Diode devices DID

A set of diode devices of which each device can be described with the same group of data element types.

NOTE

DIODE DEVICES are components built up of one or more two-terminal semiconductor devices and which can contain also resistors and/or capacitors.

Properties

AAF275-002 junction stress temperature

AAF305-005 category of diode device

Subclasses

AAA043-001 Bridge rectifiers

AAA044-001 Diodes

AAA055-001 Voltage multipliers



Documents

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AAA043-001 02**Bridge rectifiers****BRI**

A set of bridge rectifiers of which each bridge rectifier can be described with the same group of data element types.

NOTE

BRIDGE RECTIFIERS are full-wave rectifiers with four elements connected as a bridge circuit with dc voltage obtained from one pair of opposite junctions when alternating current is applied to the other pair.

Properties

AAE284-005	peak inrush current limit
AAE285-005	non-rep peak input current limit
AAE286-005	average output current
AAE287-005	repetitive peak output current
AAE290-005	repetitive peak input voltage
AAE291-005	rms input voltage
AAE292-005	crest working input voltage

AAA044-002 02**Diodes****DIO**

A set of diodes of which each diode can be described with the same group of data element types.

NOTE

DIODES are two-terminal semiconductor devices having an asymmetric voltage-current characteristic.

Properties

AAE276-005	reverse current
AAE277-005	reverse voltage
AAE279-005	forward voltage
AAE331-005	diode package
AAE337-005	junction temperature
AAE489-005	diode technology
AAE494-005	nearest conventional type
AAE496-005	diode capacitance
AAE546-005	forward current limit

AAE273-007 diode application**Subclasses**

AAA045-001	Breakover diodes
AAA046-001	Rectifier diodes
AAA047-001	Signal diodes
AAA048-001	Stabilizer diodes
AAA054-001	Variable capacitance diodes

AAA045-001 02**Breakover diodes****BOD**

A set of breakover diodes of which each diode can be described with the same set of data element types.

NOTE

BREAKOVER DIODES are two-terminal semiconductor devices that operate in either an OFF (non-conducting) state or an ON (conducting) state,

reaching the conducting state when a voltage of specified minimum value (breakover voltage) is applied across their terminals and then conducting with a low ON-state voltage until the current is reduced below the minimum holding current.

Properties

AAE488-005	diode configuration
------------	---------------------

AAA046-001 02**Rectifier diodes****REC**

A set of rectifier diodes of which each diode can be described with the same group of data element types.

NOTE

RECTIFIER DIODES are semiconductor diodes designed for rectification and including their associated mounting and cooling attachments if integral with them.

Properties

AAE281-005	reverse recovery time
AAE293-005	repetitive peak forward current
AAE294-005	non-repetitive peak forward current
AAE296-005	working peak forward current
AAE297-005	repetitive peak reverse current
AAE299-005	crest working reverse voltage
AAE301-005	non-repetitive peak reverse voltage
AAE302-005	repetitive peak reverse power
AAE303-006	non-rep peak reverse power diss
AAE304-005	non-rep peak rev avalanche energy
AAE305-005	Joule-integral
AAE306-005	total reverse recovery time
AAE336-005	mounting base temperature
AAE488-005	diode configuration
AAE503-005	EHT stack application
AAE505-005	rectifier diode application
AAE966-005	average forward current
AAF301-005	reverse recovery time (I)
AAF302-005	breakdown voltage

AAA047-001 02**Signal diodes****SIGD**

A set of signal diodes of which each diode can be described with the same group of data element types.

NOTE

SIGNAL DIODES are diodes used for the purpose of extracting or processing information contained in an electrical signal which varies with time and may be either analogue or digital.

Properties

AAE281-005	reverse recovery time
AAE293-005	repetitive peak forward current
AAE294-005	non-repetitive peak forward current
AAE300-005	repetitive peak reverse voltage
AAE301-005	non-repetitive peak reverse voltage
AAE302-005	repetitive peak reverse power
AAE303-006	non-rep peak reverse power diss
AAE310-005	diode forward resistance

AAE487-005 frequency band
AAE488-005 diode configuration
AAE490-005 modulation method
AAE966-005 average forward current
AAF301-005 reverse recovery time (I)

AAA048-001 02

Stabilizer diodes STB

A set of stabilizing diodes of which each diode can be described with the same group of data element types.

NOTE

STABILIZER DIODES are diodes exhibiting a breakdown caused by the transition of electrons from the valence band to the conduction band due to tunnel action under the influence of a strong electric field in the reverse direction. IEC 60050-521 (2002)

Properties

AAE318-005 non-repetitive peak reverse current
AAE327-006 non-rep peak reverse power diss
AAF389-001 non-rep peak reverse power diss

AAE312-005 diode function

Subclasses

AAA049-001 Current regulator diodes
AAA050-001 Voltage reference diodes
AAA051-001 Voltage regulator diodes
AAA052-001 Stabistor diodes
AAA053-001 Transient suppressor diodes

AAA049-001 02

Current regulator diodes CUR

A set of current regular diodes of which each diode can be described with the same group of data element types.

NOTE

CURRENT REGULATOR DIODES are diodes that limit current to an essentially constant value over a specified voltage range.

AAA050-001 02

Voltage reference diodes REF

A set of voltage reference diodes of which each diode can be described with the same group of data element types.

NOTE

VOLTAGE REFERENCE DIODES are diodes which develop a reference voltage of specified accuracy across their terminals, when biased to operate within a specified current range. IEC 60747-1 (1983)

Properties

AAE316-005 working current
AAE317-005 peak working current
AAE322-005 temperature coefficient S_Z

AAE323-005 differential resistance
AAE324-005 working voltage

AAA051-001 02

Voltage regulator diodes REG

A set of voltage regulator diodes of which each diode can be described with the same group of data element types.

NOTE

VOLTAGE REGULATOR DIODES are diodes which develop an essential constant voltage across their terminals throughout a specified current range. IEC 60747-1 (1983)

Properties

AAE316-005 working current
AAE317-005 peak working current
AAE322-005 temperature coefficient S_Z
AAE324-005 working voltage
AAE328-005 differential resistance

AAA052-001 02

Stabistor diodes STA

A set of stabistor diodes of which each diode can be described with the same group of data element types.

NOTE

STABISTOR DIODES are diodes having closely controlled conductance, controlled storage charge, and low leakage, as required for clippers, clamping circuits, bias regulators, and other logic circuits that require tight voltage-level tolerance.

Properties

AAE293-005 repetitive peak forward current
AAE300-005 repetitive peak reverse voltage
AAE328-005 differential resistance
AAE329-005 temperature coefficient S_F

AAA053-001 02

Transient suppressor diodes SUP

A set of transient suppressor diodes of which each diode can be described with the same group of data element types.

NOTE

TRANSIENT SUPPRESSOR DIODES are diodes utilizing the steep slope of the blocking current-voltage characteristics of selenium plates for limiting transient overvoltages. Suppressors may be of two types: a Polarized: Selenium transient overvoltage suppressor having an asymmetrical current-voltage characteristic; Non-polarized: Selenium transient overvoltage suppressor having a symmetrical current-voltage characteristic.

Properties

AAE313-005 clamping voltage
AAE316-005 working current

AAA054-001 02**Variable capacitance diodes VARD**

A set of variable capacitor diodes of which each diode can be described with the same group of data element types.

NOTE

VARIABLE CAPACITANCE DIODES are diodes that are designed so that their capacitance can be varied by changing the voltage between their terminals.

Properties

AAE310-005	diode forward resistance
AAE311-005	diode reverse resistance
AAE487-005	frequency band
AAE488-005	diode configuration
AAE490-005	modulation method
AAE502-005	capacitance ratio
AAF303-005	diode upper capacitance
AAF304-005	diode lower capacitance

AAA055-001 02**Voltage multipliers VMP**

A set of voltage multipliers of which each multiplier can be described with the same group of data element types.

NOTE

VOLTAGE MULTIPLIERS are rectifier circuits capable of supplying a dc output voltage that is greater than (generally two or more times) the peak value of the ac input voltage.

Properties

AAE282-005	output current EHT supply
AAE283-005	output current focus supply
AAE288-005	input voltage peak-to-peak
AAE289-005	output voltage EHT supply
AAE290-005	repetitive peak input voltage

AAA056-002 01**Filters FIL**

A set of filters of which each filter can be described with the same group of data element types.

NOTE

FILTERS ARE linear two-port devices designed to transmit spectral components of signals according to a specified law, generally in order to pass the components in certain frequency bands and to attenuate those in other bands. IEC 60050(702) (1992)

Properties

AAE527-005	centre frequency
AAE533-005	input impedance
AAE534-005	bandwidth
AAE543-005	delay time
AAE888-005	spurious signal level (2-tau)
AAF044-005	output impedance

AAF119-005	frequency application
AAF120-005	comb depth
AAF121-005	pass-band attenuation
AAJ059-001	filter type

AAA057-001 02**Integrated circuits IC**

A set of integrated circuits of which each integrated circuit can be described with the same group of data element types.

NOTE

INTEGRATED CIRCUITS are circuits in which all or some of the circuit elements are inseparably associated and electrically interconnected so that they are considered to be indivisible for the purpose of construction and commerce. IEC 60748-1 (2002)

Properties

AAE074-005	IC application field
AAE086-005	supply voltage limit
AAE106-005	number of functions
AAE210-005	input voltage limit
AAE214-005	power dissipation per output
AAE336-005	mounting base temperature
AAE337-005	junction temperature
AAE442-005	colour TV transmission
AAE458-005	number of inputs
AAE487-005	frequency band
AAE490-005	modulation method
AAE686-005	IC technology
AAE690-005	supply voltage
AAE691-005	supply current
AAE786-005	mode of operation
AAE838-005	IC package code
AAE898-005	input capacitance
AAF275-002	junction stress temperature

AAE077-005 signal type**Subclasses**

AAA058-001	Analogue signal functions
AAA059-001	Digital signal functions
AAA072-001	Analogue/digital signal functi
AAA073-001	Periodic/dc functions

AAA058-001 02**Analogue signal functions ANA**

A set of analogue signal function ICs of which each function can be described with the same group of data element types.

NOTE

ANALOGUE SIGNAL FUNCTIONS are functions designed to carry out operations on analogue signals.

Properties

AAE084-005	analogue function
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AAA059-001 02

Digital signal functions DIG

A set of digital signal function ICs of which each function can be described with the same group of data element types.

NOTE

DIGITAL SIGNAL FUNCTIONS are functions designed to carry out operations on digital signals.

Properties

AAE092-005	HIGH-state output voltage
AAE093-005	HIGH-state output voltage ref
AAE094-005	LOW-state output voltage ref
AAE097-005	LOW-state output voltage
AAE217-005	input current limit
AAE218-005	output current limit
AAE223-005	input leakage current
AAE235-005	output fall time
AAE238-005	output rise time
AAE239-005	HIGH off-state output current
AAE240-005	LOW off-state output current
AAE254-005	LOW-state output current
AAE255-005	HIGH-state output current
AAE457-005	numeral system
AAE459-005	word size
AAE464-005	mode of control
AAE718-005	HIGH-state input voltage
AAE719-005	LOW-state input voltage
AAE787-005	input/output characteristic
AAE896-005	quiescent current
AAE897-005	additional quiescent current
AAE899-005	HIGH-state input current
AAE900-005	LOW-state input current
AAE901-005	HIGH-state supply current
AAE902-005	LOW-state supply current
AAE903-005	off-state supply current
AAF207-005	output short-circuit current
AAF323-005	interface compatibility

AAE085-005 digital function

Subclasses

AAA060-001	Combinational/sequential/interface
AAA061-001	Microcontrollers
AAA062-001	Microprocessors
AAA063-001	Programmable logic devices
AAA064-001	Storage functions

AAA060-001 03

Combinational/sequential/interface CSI

A set of combinatorial/sequential/interface function ICs of which each function can be described with the same group of data element types.

NOTE

COMBINATIONAL/SEQUENTIAL/INTERFACE is an abbreviated term for combinatorial, sequential and interface, as used in the classification to indicate a class of functions with a common set of data element types.

Properties

AAE231-005	propagation delay
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AAE233-005	HIGH to LOW propagation time
AAE237-005	LOW to HIGH propagation time
AAE692-005	standby current disabled
AAE693-005	standby current enabled
AAE790-005	CSI functions
AAF208-005	positive-going threshold
AAF209-005	negative-going threshold
AAF210-005	hysteresis
AAF211-005	maximum clock frequency
AAF212-005	set-up time
AAF213-005	hold time
AAF214-005	output enable time
AAF215-005	output disable time
AAF216-005	pulse width HIGH
AAF217-005	pulse width LOW
AAF218-005	metastable window
AAF219-005	recovery time

AAA061-001 02

Microcontrollers MUC

A set of microcontrollers of which each microcontroller can be described with the same group of data element types.

NOTE

MICROCONTROLLERS are controllers whose elements have been miniaturized into an IC. They are generally dedicated to a single application, mainly real time control.

Properties

AAF223-005	machine cycle
AAF224-005	clock frequency
AAF225-005	internal clock frequency
AAF226-005	address bus width
AAF227-005	data bus width
AAF228-005	addressable storage size
AAF229-005	instruction rate
AAF230-005	number of internal registers
AAF324-005	instruction set
AAF325-005	interrupt type
AAF326-005	addressing mode
AAF327-005	on-chip memory
AAF328-005	I/O bus width
AAF329-005	number of peripherals
AAF330-005	peripheral word size

AAA062-001 02

Microprocessors MUP

A set of microprocessors of which each microprocessor can be described with the same group of data element types.

NOTE

MICROPROCESSORS are processors whose elements have been miniaturized into an IC.

Properties

AAF221-005	bus structure
AAF222-005	instruction set architecture
AAF223-005	machine cycle
AAF224-005	clock frequency
AAF225-005	internal clock frequency

AAF226-005	address bus width
AAF227-005	data bus width
AAF228-005	addressable storage size
AAF229-005	instruction rate
AAF230-005	number of internal registers
AAF324-005	instruction set
AAF325-005	interrupt type
AAF326-005	addressing mode
AAF328-005	I/O bus width

AAA063-001 02**Programmable logic devices PLD**

A set of programmable logic devices of which each device can be described with the same group of data element types.

NOTE

PROGRAMMABLE LOGIC DEVICES are device consisting of a programmable AND array whose output terms are fed to a fixed or programmable. (a PLD may also include registers)

Properties

AAF231-005 PLD programmability

AAA064-002 02**Storage functions STO**

A set of storage functions of which each function can be described with the same group of data element types.

NOTE

STORAGE FUNCTIONS are functional units in which data (information) can be placed, in which they can be retained and from which they can be retrieved. ISO 2382-11 (1987)

Properties

AAE474-005	storage size
AAE720-005	access time
AAF232-005	output data-valid time
AAJ098-001	address set-up time
AAJ099-001	address hold time
AAJ100-001	input set-up time
AAJ101-001	input hold time
AAJ102-001	clockset-up time
AAJ103-001	clock hold time
AAJ104-001	output hold time
AAJ105-001	transition time

AAE722-007 storage function**Subclasses**

AAA065-001	Content addressable memory ICs
AAA066-001	Charge coupled device ICs
AAA067-001	Random access memory ICs
AAA070-001	Read only memory ICs
AAA071-001	Registers

AAA065-001 02**Content addressable memory ICs CAM**

A set of content addressable memory ICs of which each memory can be described with the same group of data element types.

NOTE

CONTENT ADDRESSABLE MEMORY are memories that respond with all the data in a storage zone if a portion of that data matches the data used for addressing the memory. If a match could occur in more than one storage zone, then usually the data read out will be that contained in the storage zone having the lowest address value.

AAA066-001 02**Charge coupled device ICs CCD**

A set of charge coupled device ICs of which each charge coupled device can be described with the same group of data element types.

NOTE

CHARGE COUPLED DEVICE ICs are charge-transfer devices that store charge in potential wells and transfers this charge almost completely as a packet by translating the position of the potential wells. This device operates by changing the position of the same packet of charge.

AAA067-001 02**Random access memory ICs RAM**

A set of random access memory ICs of which each memory can be described with the same group of data element types.

NOTE

RANDOM ACCESS MEMORY ICs are memories that permit access to any of their address locations in any desired sequence.

AAF233-005 RAM type**Subclasses**

AAA068-001	Dynamic ram ICs
AAA069-001	Static ram ICs

AAA068-001 02**Dynamic RAM ICs DRM**

A set of dynamic RAM ICs of which each IC can be described with the same group of data element types.

NOTE

DYNAMIC RAM ICs are memories in which the cells (elements) require the repetitive application of control signals in order to retain the data stored. A dynamic memory may use dynamic addressing and/or sensing circuits. This definition applies whether or not the control signals are generated inside or outside the memory.

Properties

AAE721-005	access time from CAS
AAF331-006	refresh time interval
AAJ091-001	access time from address
AAJ092-001	access time from clock
AAJ093-001	burst-mode cycle time
AAJ094-001	random read/write cycle time
AAJ095-001	access time from RAS
AAJ096-001	clock frequency

AAA069-001 02

Static RAM ICs

SRM

A set of static RAM ICs of which each IC can be described with the same group of data element types.

NOTE

STATIC RAM ICs are memories in which the data content is retained in the absence of control signals. A static memory may use dynamic addressing and/or sensing circuits.

Properties

AAF332-005	data retention current
AAF333-005	data retention voltage
AAF336-005	standby current chip disabled

AAA070-001 03

Read only memory ICs

ROM

A set of read only memory ICs of which each memory can be described with the same group of data element types.

NOTE

READ ONLY MEMORY ICs are memories in which the content is intended to be read only and not to be altered during normal operation.

Properties

AAF235-005	virginity state
AAF236-005	ROM programmability
AAF237-005	programming current
AAF238-005	programming voltage

AAA071-001 02

Registers

REGI

A set of registers of which each register can be described with the same group of data element types.

NOTE

REGISTERS are one-dimensional arrangements of bistable circuits by means of which information may be accepted, stored, and retrieved. (derivation)

Properties

AAF211-005	maximum clock frequency
AAF234-005	register type

AAA072-001 03

Analogue/digital signal functions AD

A set of analogue/digital signal function ICs of which each function can be described with the same group of data element types.

NOTE

ANALOGUE / DIGITAL SIGNAL FUNCTIONS indicate functions which involve analogue signals as well as digital signals.

Properties

AAE788-005	AD function
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AAA073-001 02

Periodic/dc functions

PER

A set of periodic/dc functions of which each function can be described with the same group of data element types.

NOTE

PERIODIC / DC FUNCTIONS indicate either periodic signals : signals $f(x)$ of a real or complex variable with period T if $f(x+T)=f(x)$ for every value of x ; or dc signals : signals whose electric current flows in one direction only, as opposed to alternating current signal.

Properties

AAE789-005	periodic/dc function
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AAA074-002 01

Inductors

IND

A set of inductors of which each inductor can be described with the same group of data element types.

NOTE

INDUCTORS are devices consisting of one or more associated windings, with or without a magnetic core, for introducing inductance into an electric circuit.

Properties

AAE262-005	encapsulation technology
AAE517-005	inductance
AAE518-005	quality factor
AAE755-005	impedance
AAE756-005	impedance decrease
AAE758-005	frequency at $Z_{\max}$
AAF052-005	resonance frequency
AAF090-005	dc resistance
AAF103-005	current dc
AAF151-005	adjustability type
AAJ076-001	inductance tolerance (%)
AAJ077-001	inductance tolerance

AAE003-006 adjustability type**Subclasses**

AAA601-001 Fixed inductors
 AAA602-001 Variable inductors

AAA075-001 02**Lamps****LAM**

A set of lamps of which each lamp can be described with the same group of data element types.

NOTE

LAMPS are sources made in order to produce an optical radiation, usually visible.

Properties

AAE519-005 nominal voltage
 AAE521-005 nominal current
 AAE522-005 mounting-cap code

AAA076-001 02**Liquid crystal displays****LCD**

A set of liquid crystal displays of which each display can be described with the same group of data element types.

NOTE

LIQUID CRYSTAL DISPLAYS are displays made of material whose reflectance or transmittance changes when an electric field is applied.

Properties

AAE839-005 driving method
 AAE840-005 quality grade
 AAE843-005 dc voltage component
 AAE844-005 drive frequency
 AAE845-005 specific current consumption
 AAE846-005 turn-on time
 AAE847-005 turn-off time
 AAE848-005 contrast ratio
 AAE849-005 display construction
 AAE850-005 character length
 AAE851-005 character height
 AAE852-005 dot length
 AAE853-005 dot height
 AAE854-005 viewing area length
 AAE855-005 viewing area height
 AAE856-005 illumination mode
 AAE984-005 digit height
 AAE985-005 connection method
 AAE986-005 dot spacing
 AAE989-005 backlight
 AAE990-005 specific capacitance
 AAE991-005 preferred viewing direction
 AAE992-005 operating voltage
 AAF145-005 digit length

AAA077-001 02**Optoelectronic devices****OPT**

A set of optoelectronic devices of which each device can be described with the same group of data element types.

NOTE

OPTOELECTRONIC DEVICES are semiconductor devices that emit or detect or that are responsive to coherent or non-coherent optical radiation or that utilise such radiation for their internal purposes.

Properties

AAE276-005 reverse current
 AAE277-005 reverse voltage
 AAE279-005 forward voltage
 AAE336-005 mounting base temperature
 AAE337-005 junction temperature
 AAE405-005 collector current (dc) max
 AAE496-005 diode capacitance
 AAE546-005 forward current limit
 AAE816-005 optoelectronic package

AAE545-006 optoelectronic device function**Subclasses**

AAA078-001 Photocouplers
 AAA079-001 Photoemitters
 AAA083-001 Photosensors
 AAA597-001 Image pickup devices

AAA078-001 02**Photocouplers****PHC**

A set of photocouplers of which each photocoupler can be described with the same group of data element types.

NOTE

PHOTOCOUPPLERS are semiconductor optoelectronic devices designed for the transfer of electric signals by utilizing radiant energy to provide coupling with electrical isolation between the input and the output.

Properties

AAE548-005 current transfer ratio
 AAE550-005 isolation voltage min
 AAE551-005 collector-emitter sat voltage
 AAE553-005 turn-off time
 AAE554-005 turn-on time
 AAF066-005 collector-emitter breakdown voltage
 AAF140-005 collector current light
 AAF141-005 cut-off current dark I_{CEO}
 AAF142-005 cut-off current dark I_{CBO}

AAA079-001 02**Photoemitters****PHE**

A set of photoemitters of which each photoemitter can be described with the same group of data element types.

NOTE

PHOTOEMITTERS are semiconductor optoelectronic devices that directly convert electric energy into optical radiant energy.