



Standard of Japan Electronics and Information Technology Industries Association

EIAJ ED – 7631

**Marking method for recycle of
semiconductor device packing magazines**

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Prepared by
Technical Standardization Committee on Semiconductor Device Package

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Marking method for recycle of semiconductor device packing magazines

1. Scope

This standard specifies the marking method for facilitating selection to efficiently promote the reuse and recycle of semiconductor device packing magazines.

Remarks: Listed below are the standards related to this document.

- EIAJ ED-7303** Name and code for integrated circuits package
- EIAJ ET-7101** Taping for electronic parts (adhesive type)
- JIS K 6999** Plastics; ID codes and markings on plastic products
- JIS C 0806-3** Taping for electronic parts (surface mount parts)

2. Definitions of Terms

The definitions of major terms used herein conform to the **EIAJ ED-7303**, **EIAJ ET-7101** and **JIS C 0806-3**.

The terms "semiconductor product" and "magazine" are defined as stated below.

(1) Semiconductor Product

In this standard, the term "semiconductor product" means a diode, transistor, integrated circuit or the like. Any passive parts (such as resistors and capacitors), connection parts (such as converters and cartridges), and elements constituting these parts are not included in the category of this term.

(2) Magazine

In this standard, the term "magazine" means a cylindrical container in which semiconductor products are stored in line. The magazine, containing semiconductor products, is also used as a jig for mounting the semiconductor products. It is also referred to as a stick or tube.

3. Marking Codes

3.1 Marking Items

Table 1 shows the standard marking items. Note that the marking position code, company name and type code may be determined arbitrarily by the user.

Table 1 Standard Marking Items

Item	Indication
Material name	Indicates a name of each material constituting the magazine.
Marking position code	Indicates a reference position for marking.
Company name	Indicates a name of the company that supplies semiconductor products using the magazine.
Type code	Indicates a magazine type code for each company.

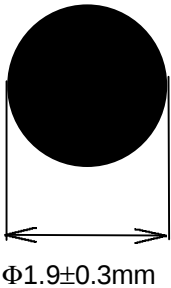
3.2 Marking Symbols and Characters

For the standard marking items, the symbols shown in **Table 2** shall be used. It is required to indicate a material name in any case. The characters and other items may be determined arbitrarily.

Table 2 Marking Symbols and Characters

Item	Indication
Material name	Symbols specified in the JIS K 6899
Company name	Arbitrary symbol (e.g., company logo)
Marking position code	Symbol shown in Fig. 1 , if indicated Blank, if not indicated

Figure 1 Marking Position Code



3.4 Size of Marking Character

In principle, each marking character shall be 2mm to 3mm in height. Where there is a limited marking space, the height of each marking character may be less than 2mm.

3.4 Marking Position

The standard item marking shall be provided at a predetermined end position. The surface on which the marking is provided shall be flat without irregularity. In principle, the standard item marking position shall be at least 0.5 mm apart from a thick wall part such as an internal rib or wall. The details of the marking items and positions are shown in **Figures. 2, 3 and 4.**

In a case where the standard item marking is provided at both ends, the identical indication shall be given in a fashion of mutually inverted symmetry.

Fig. 2 Marking Space Arrangement Diagram

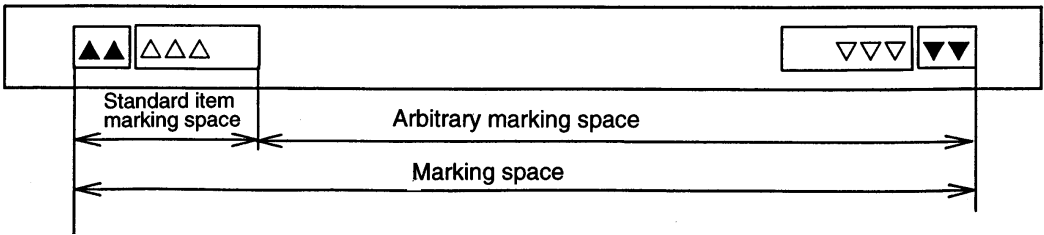


Fig. 3 Enlarged View of Standard Item Marking Space

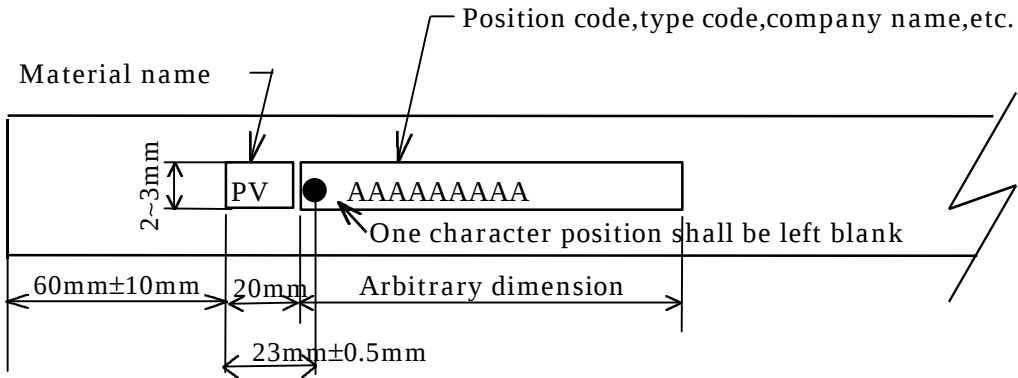
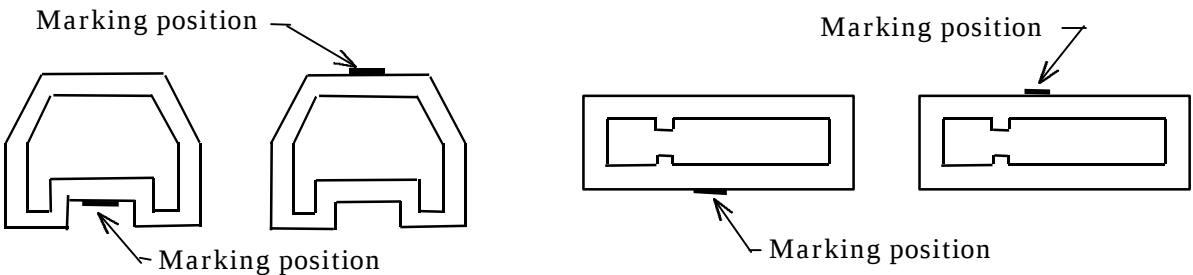


Fig. 4 Marking Position Examples



3.5 Marking Method and Marking Examples

In each marking space, a left-justified indication shall be provided. An arbitrary method of inscription/printing may be used, but the markings shall be made so that they will not be deleted readily.

4. Applicable Objects for Markings

In principle, the markings shall be provided on magazines to be shipped which are applicable as specified in Items **3.1**, **3.2**, **3.3**, **3.4** and **3.5**.

Supplemental Table 1 Related Standards

Issue/Standard Number	Title of Standard
JIS K 6899	Plastic codes - Part 1: Fundamental polymers and characteristics thereof
ISO 1629 (1987)	Rubber and latex codes
Japan Plastic Industry Federation	Voluntary marking method for container materials
Association for Electric Home Appliances	Recommendations for markings of synthetic resin part materials
Association of Plastic Industry, U.S.A.	SIP's voluntary national container material code system
DIN 6120, Germany	Marking of plastic products for recycling

Explanation

1. Purpose of Establishment of the Standards

The standards contained herein have been determined for standardizing the marking indications so that selection can be made with ease, in expectation of efficient promotion of the reuse and recycle of semiconductor device packing magazines used for shipment.

Electronic Industries Association of Japan (EIAJ) and the Japan Electronic Development Association (JEIDA) have merged effective November 1, 2000, the Japan Electronics and Information Technology Industries Association (JEITA).

2. Progress Record of Establishment of the Standards

In 1995, the Semiconductor Packing Subcommittee made a proposal for marking rules, and it was determined to deliberate this proposal as a matter in business planning. Then, this matter was subjected to a series of deliberations and examinations, and in 2000, the marking standards were approved and established through investigation conducted by the Committee of Semiconductor Package Standardization in business planning.

If any question arises in the future, deliberation/examination shall be made properly to revise the standards as required.

3. Matters Discussed Particularly in Deliberations

As to the configurations and dimensions of magazines used by semiconductor manufacturers, the survey was conducted using questionnaires mailed to them. Although unified agreement was not achieved in deliberations, it was proposed to standardize the markings for coping with environmental problems. Then, examinations were carried out in the Magazine Marking Project.

At first, all the kinds of electronic parts were subjected to examinations. However, since technical research in each industry was needed in such a case, the Semiconductor Packing Subcommittee was formed to handle only the matters of markings for semiconductor products.

Since a long period of time was anticipated before establishment of the standards, questionnaires concerning the necessity of establishment thereof were sent to member companies of the Semiconductor Packing Subcommittee. In the answers returned from 19 companies, it was reported that the standardization was necessary.

It was considered that the indication item of material names was most important in standardization. Therefore, it was determined to indicate material names in any case as a mandatory requirement in standard marking. Marking position code is necessary for selecting the magazines by automatic visual machines. But now only few companies use the machine, so it was decided that the marking position code is a recommendation. As to other items, it was agreed to make recommendations for them.

4. Deliberation committee

This standard was deliberated mainly by the subcommittee on Packing for Semiconductor Device in the Standardization Technical Committee on Semiconductor Device Package.

The committee members are shown below.

<Technical Standardization Committee on Semiconductor Device Package>

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<Sub-committee on Packing for Semiconductor Devices>

Chief	Toshiyuki Miyata	Toshiba Corp.
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Vice Chief	Yukio Ando	Fujitsu Ltd.
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	Munehiro Yamada	Hitachi Ltd.
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Member	Hirohide Takahashi	Oki Electric Industry Co., Ltd.
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	Masatoshi Hanada	Nippo Co., Ltd.
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	Yukio Yamaguchi	Matsushita Electronics Corp.
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	Yukio Yamauchi	Mitsubishi Electric Corp.
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	Teruyasu Sakurai	Yayoi Corp.
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	Masahide Yamazaki	Unitechno Inc.
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	Tsunemori Yamaguchi	Rohm Inc.
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Leader	Toshiyuki Miyata	Toshiba Corp.
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Member	Hirohide Takahashi	Oki Electric Industry Co., Ltd
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