

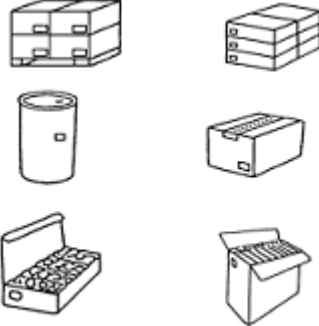
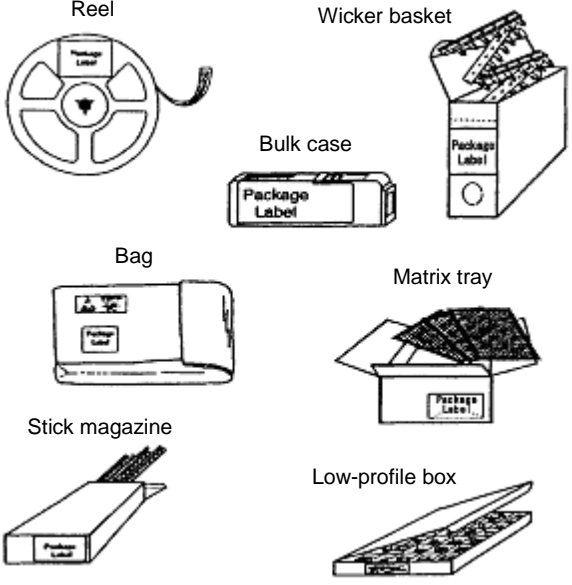
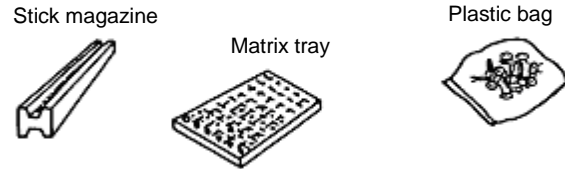
## 7. Bar Code Label System

### 7.1 Details of the Standard Bar Code Label System

#### 7.1.1 Standard Bar Code Label System Application Methods

(1) Package Forms and Labels to be Applied

Table 1

Label Packaging	Package form examples	Label to be applied
Outer packaging		<p>For the package forms on the left, Mode D in principle only in the following cases:</p> <ol style="list-style-type: none"> <li>① One package containing products of one type for one purchase order no.</li> <li>② Two or more packages containing products of one type for one purchase order no.</li> </ol>
Individual packaging		<p>Mode C-3 in principle.  <i>Note: The bag contains reels, sticks, etc.</i></p>
		<p>This standard is not applied for a single item.          (These items are labeled in individual methods.)</p>

**Notes:**

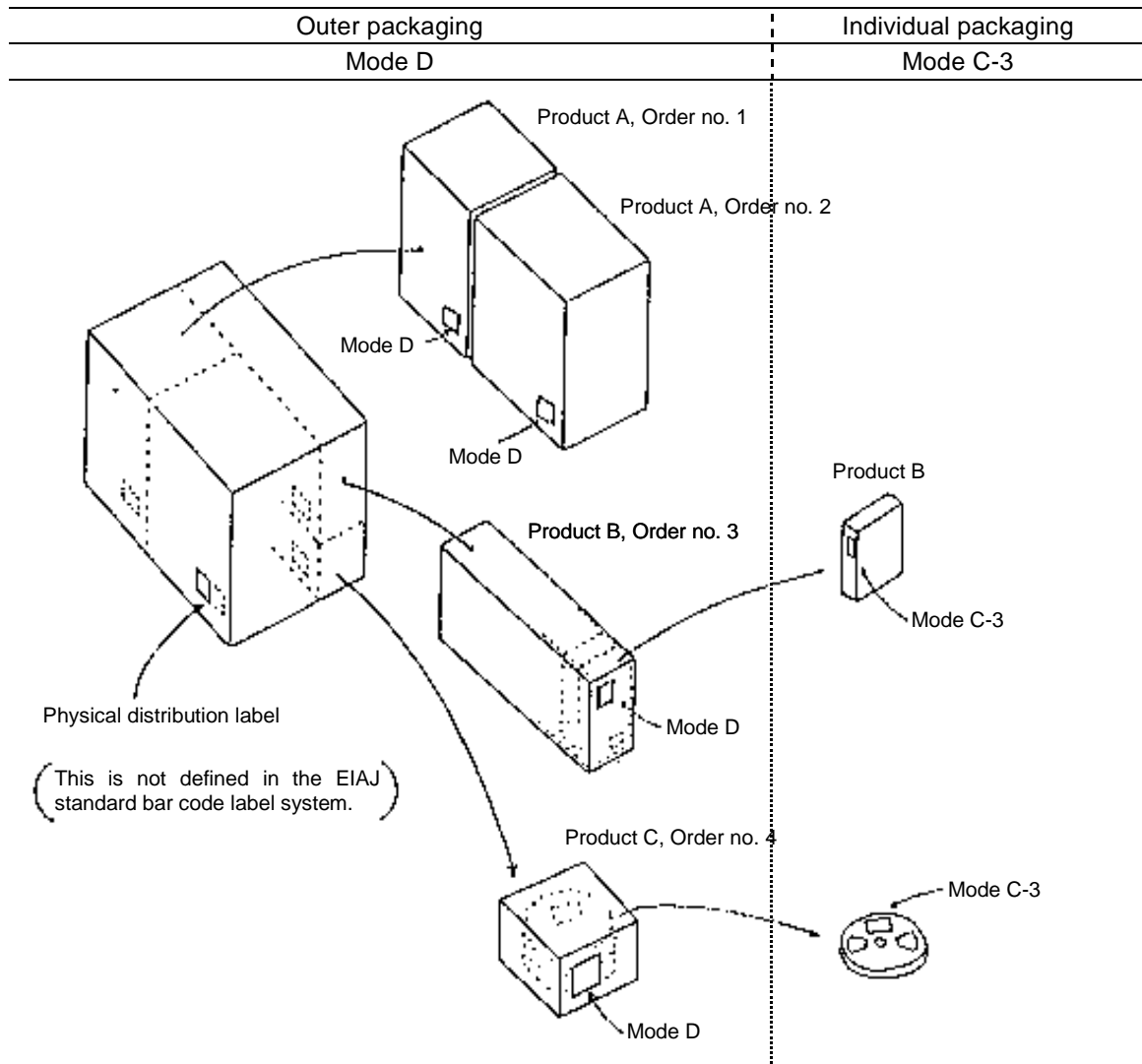
*Outer packaging:* Product packages which can be transported directly.

*Individual packaging:* Minimum packaging unit containing products or parts of one type. This can be from a single product to a lot.

(2) Examples of Package Forms and Labels to be Applied

The labels for each mode are used as shown in Figure 1.

Figure 1



### 7.1.2 Mode C-3

(1) Scope and Purposes

Mode C-3 defines bar code labels used for various forms of minimum unit packages such as a reel or a bulk case (see Table 1), and is established to allow a vendor to create bar code labels without a special agreement with buyers. (Mode C-3 can flexibly display a large amount of information by placing spaces between items. For details, see subsection 7.1.2.(6) Bar Code Display Patterns for Mode C-3 Label.)

(2) Standard Specifications of Mode C-3 Labels

Table 2 shows the dimensions and entry items for the mode C-3 label. These are described in subsections 7.1.2 (3) through 7.1.2 (7).

Table 2

Field name		Selection division	Display of entries	Remarks (Terminology definition)	
Entry item	Fields for buyer	Product name code for buyer (PART no.)	Specification	B, HRI, C	25 digits or less of characters given by a buyer. This code consists of the characters that can be represented by Code 39, and must not contain a space.
		Packaged quantity	Specification	B, HRI, C	No. of products contained in a package (for each label). The no. of digits of bar code or HRI (Human Readability Interpretation) are variable within 7 digits. This field may be padded on the left with zeros. However, the characters (used for visual check by workers) above a bar code must not padded with zeros.
		Serial no.	Specification	B, HRI, C	12 digits or less of alphanumeric characters given by a vendor. These no. are used for identifying the packages with bar code labels. They are combined with product name codes to be unique for at least a year.
		Vendor code	Specification	B, HRI,	6 digits of a unified corporate code.
	Field for Vendor	Arbitrary	(B), C	Product no. for Vendor, vendor name, provenance, trade mark, etc.	

**Note:**

1. *Display of entries* B: Bar code display  
C: Character display  
HRI: Human Readability Interpretation  
(located in the upper part of the corresponding bar codes)
2. *Selection division* Mandatory: The specified information must be entered.  
Optional: The vendor enters required information.
3. If the product name code for vendor is needed in a bar code, the identifier "1P" may be included in the field for the vendor. Except for the "1P", only characters can be used in the field for the vendor.
4. Bar code display and characters in Mode C-3  
The fields for the buyer must be included in either single- or double-line bar code. Bar code data must use only the characters that can be represented by code 39, and must not contain a space (which is allowed only between items).

(3) Mode C-3 Label Standards

Table 3

Bar code used	Code 39	Minimum	Maximum
Dimensions (nominal)	Thin: Thick element width-ratio	1:2	1:3
	Thin element width	0.125 mm	0.25 mm
	Thick element width	0.250 mm	0.75 mm
	Gap between characters	0.125 mm	0.25 mm
Code density	Characters per inch	15.875	6.383
Height of bar code	5 mm or more		
Gap between bar code lines	5 mm or more (for double-line bar code)		
Blank space	Smallest value of bar code, front to back	3.81 mm	
Check digit	None		
Start/stop	The code for the asterisk character is displayed to indicate the front and back of the bar code, but it does not express a character		
Print quality	Determined with reference to ANSI X3.182.		

**(Description)**

The dimensions for a bar code as shown in the above table can be combined in different ways to create bar codes of various densities. Examples are shown below.

Table 4

Printing density	Dots per mm	8	6	8	12
Dimensions (nominal)	Thin: Thick element width ratio	1:2	1:3	1:2.5	1:2.5
	Thin element width	0.125 mm	0.167 mm	0.250 mm	0.167 mm
	Thick element width	0.250 mm	0.500 mm	0.625 mm	0.417 mm
	Gap between characters	0.125 mm	0.167 mm	0.250 mm	0.167 mm
Code density	Characters per inch	15.875	9.525	7.007	10.496
Required minimum paper width (mm)	* See the following.				

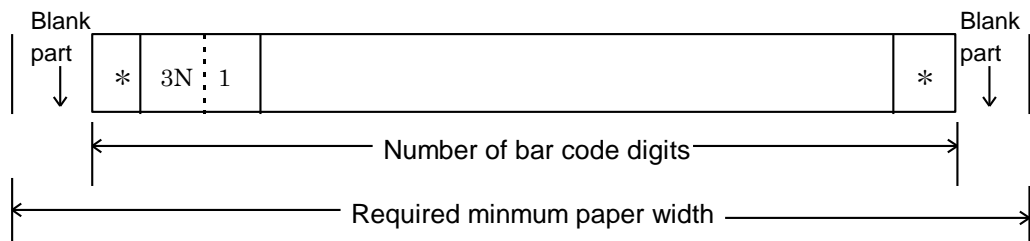
\* Since the mode C-3 bar code is of variable length, the required minimum paper width is not definite and can be calculated by using the following expression:

$$\text{Required minimum paper width (mm)} = \text{NB} \times \{ (6+3\text{R}) \times \text{no. of digits} + (\text{no. of digits} - 1) \} + 3.81 \times 2$$

NB: Thin element width (mm)

R: Ratio of thin and thick element widths (3 if 1:3)

No. of digits: No. of digits of bar code data including the start and stop codes.



(4) Label Dimensions and Display Standards

Table 1-5 shows the dimensions of the mode C-3 label. Sample labels are shown in Figures 1-3 and 1-4.

Table 5

Mode	C-3
Width	50 ~ 100 mm
Height	30 ~ 50 mm

- The dimensions of the mode C-2 label are not definite because the label is used for different sizes of packages.
- The indication which describes that the bar code mode is "EIAJ C-3" must be located at the bottom of the label.

The dimensions can be determined in the range shown above based on the display items and the no. of digits in a bar code.

(5) Bar Code Display Standards

- Standard for Pattern 1a in which one-line of bar code is displayed (Figure 2).

Table 6

Left to right	Code digit	Character display
Start/stop character	1	Not displayed
Identifier "3N"	2	Displayed as "(3N)"
EIAJ bar code line identifier "1"	1	1
Product name code for buyer	MAX 25	MAX 25
Space	1	1
Packaged quantity	MAX 7	MAX 7
Space	1	1
Serial no.	MAX 12	MAX 12
Space	1	1
Vendor code	6	6
Start/stop character	1	Not displayed
Total	MAX 58	MAX 58

- Standard for Pattern 3e in which 2 lines of bar codes are displayed (Figure 2).

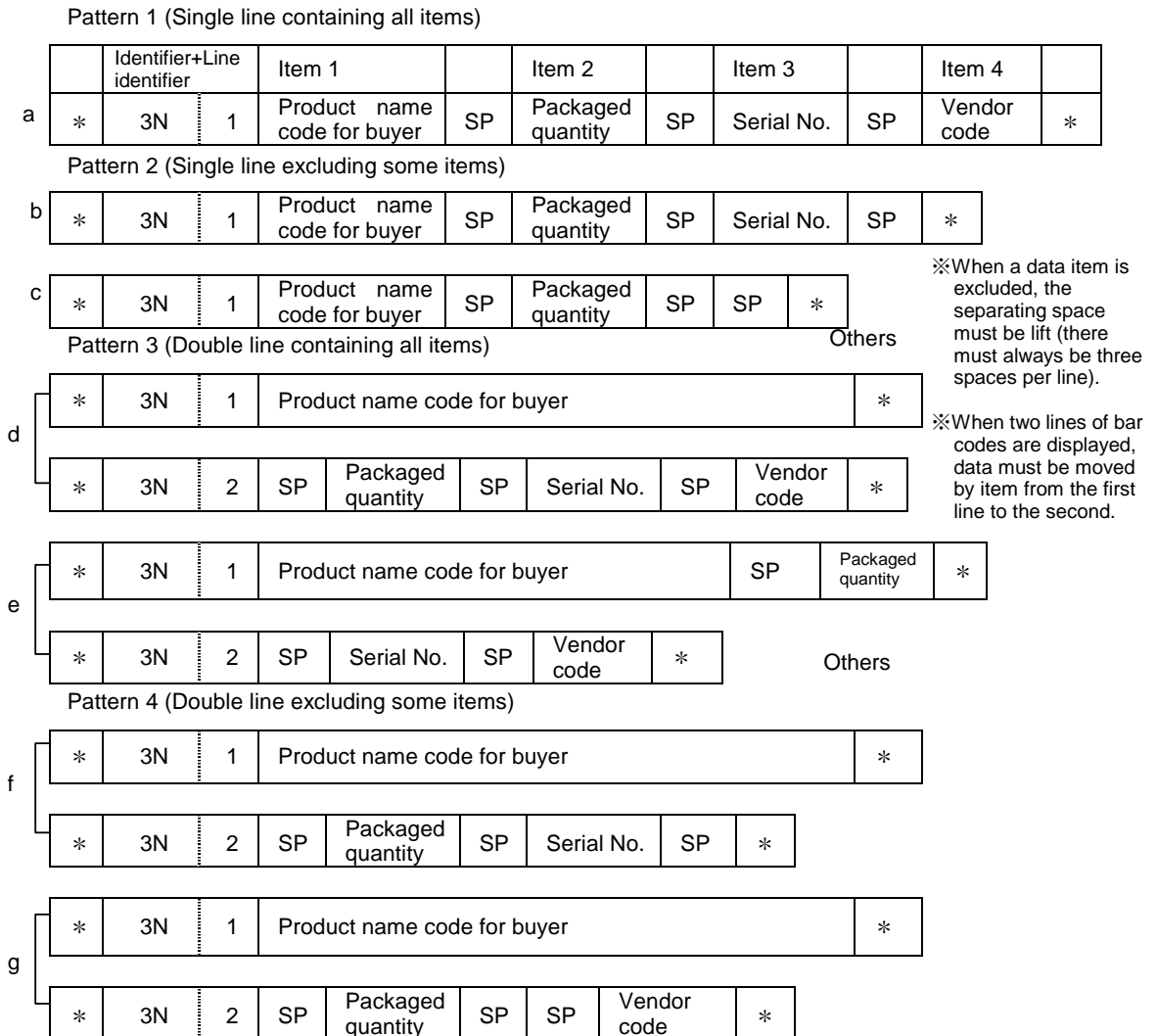
Table 7

First bar code line			Second bar code line		
Left to right	Code digit	Character display	Left to right	Code digit	Character display
Start/stop character	1	Not displayed	Start/stop character	1	Not displayed
Identifier "3N"	2	Displayed as "(3N)"	Identifier "3N"	2	Displayed as "(3N)"
EIAJ bar code line identifier "1"	1	1	EIAJ bar code line identifier "2"	1	1
Product name code for buyer	MAX 25	MAX 25	Space	1	1
Space	1	1	Serial no.	MAX 12	MAX 12
Packaged quantity	MAX 7	MAX 7	Space	1	1
Start/stop character	1	Not displayed	Vendor code	6	6
			Start/stop character	1	Not displayed
Total	MAX 38	MAX 38	Total	MAX 25	MAX 25

(6) Bar Code Display Patterns for Mode C-3 Label

Mode C-3 uses variable length data items and separates them with a space. Since mode C-3 defines the bar code data items, their sequence, identifiers and the locations of spaces, buyers can use a common bar code reader. Figure 3-2 shows the examples of bar code display patterns.

Figure 2



(Definition of item and symbols used in the following figure)

Item 1. Product name code: A variable-length character string within 25 digits that can be for buyer: represented in code 39.

Item 2. Packaged quantity: A variable-length no. within 7 digits that can be preceded by zeros.

Item 3. Serial no.: A variable-length string of alphanumeric characters within 12 digits.

Item 4. Vendor code: First 6 digits of an EIAJ unified corporate code (6 alphanumeric characters).

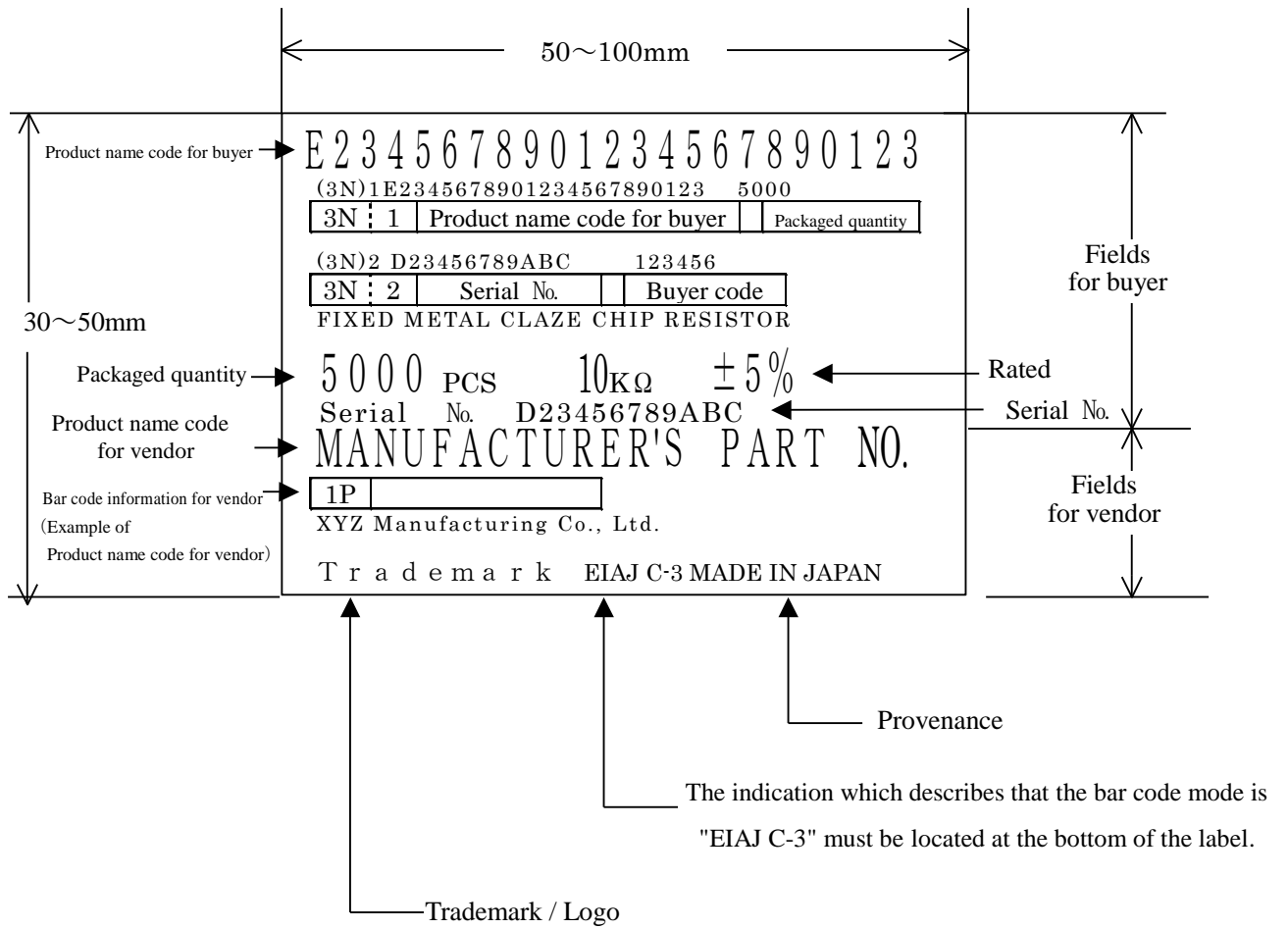
\* Start/stop character

3N1, 3N2 Identifier + EIAJ bar code line identifier: Use "3N1" for the first line and "3N2" for the second line

SP (Space): Space separates data items. In a double-line bar code, a space must be placed after identifier "3N2".

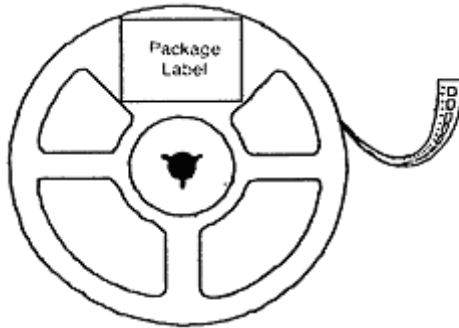
(7) Examples of Mode C-3 Label

Figure 3 Mode C-3 Label (Double-line label)

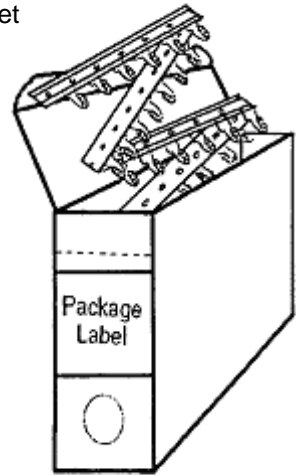


(8) Examples of Mode C-3 Label Application

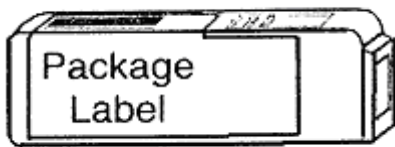
Reel



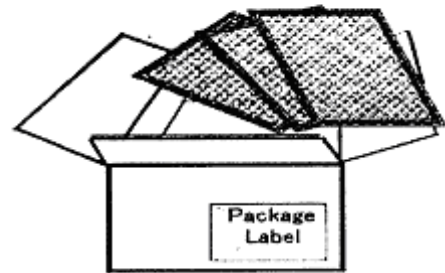
Wicker basket



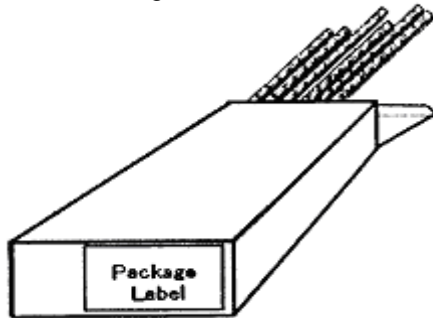
Bulk case



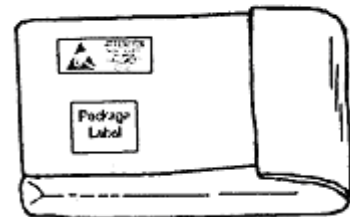
Matrix tray



Magazine stick



Bag



Low-profile box

