JEDEC PUBLICATION

Guidelines for Packing and Labeling of Integrated Circuits in Unit Container Packing (Tubes, Trays, and Tape and Reel)

JEP130C

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JEDEC SOLID STATE TECHNOLOGY ASSOCIATION

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GUIDELINES FOR PACKING AND LABELING OF INTEGRATED CIRCUITS IN UNIT CONTAINER PACKING (TUBES, TRAYS, AND TAPE AND REEL)

Contents

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GUIDELINES FOR PACKING AND LABELING OF INTEGRATED CIRCUITS IN UNIT CONTAINER PACKING (TUBES, TRAYS, AND TAPE AND REEL)

(From JEDEC Board Ballot JCB-23-05, formulated under the cognizance of JC-14.4 Subcommittee on Quality Processes and Methods.)

1 Scope

This document establishes the guidelines for unit container packing of integrated circuits and for the next level of container.

2 Normative References

The following normative documents contain provisions that, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

CEA 556, *Outer Shipping Container Bar Code Label Standard*

EIA 541, *Packaging Material Standards for ESD Sensitive Item*

CEA 624, *Product Package Bar Code label Standard for Non-Retail Applications*

ANSI/ESD S20.20 *Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)*

JESD30, *Descriptive Designation System for Semiconductor-Device Packages*

3 Terms and Definitions

For the purposes of this publication, the following terms and definitions apply.

AUP: Average Unit Price.

Unit Pack Container: A first level wrap or containment of parts (i.e., Tube, Tray, or Tape and Reel).

Date Code: Marking on device package that usually indicates device final seal or encapsulation date.

4 Special Formal Agreement

The formal legal agreement between the Manufacturer and the Distributor may delete, change, or add to the criteria defined by this publication. However, these deletions, changes, or additions shall not impact the quality, reliability, or traceability of the product.

5 Guidelines

5.1 Unit Pack Container Packing

a) Unit Pack Container configurations should be in accordance with existing industry practices; however, the specification for overall tube length should be 22 inches (56 cm.) *maximum*, excluding toppers or other cushioning materials inserted in the tube.

b) Components should be oriented in the same direction, in all Unit Pack Containers.

c) When distributors return parts, *those same parts that were originally shipped in full Unit Pack Container quantities* should be in full quantities. Quality defects may be excluded.

d) Unit Pack Containers are not required to be barcode labeled (as an industry practice or guideline), provided they are contained inside of a barcode labeled intermediate product package (bag, box, or reel).

e) For ESD sensitive items use packing per EIA 541 and handle loose devices per ANSI/ESD S20.20.

5.2 Intermediate Packing

a) Intermediate container packing process should be designed to eliminate the presence of partial quantities.

b) Intermediate packing, which includes boxes, bags, reels, or other intermediate containers, should have an overall length (outer dimensions) of 23.5 inches (60 cm.) maximum. Tube Bags may be longer than 23.5 inches but must be folded to fit.

5.3 Date Codes - for Distributors Only

a) All products shipped, shall meet product specifications and be in accordance with supplier's full warranty. For moisture sensitive parts, packing should follow requirements in IPC/JEDEC J-STD-033: Handling, Packing, Shipping and Use of Moisture, Reflow, and Process Sensitive Devices.

b) As a preferred methodology, there should be no more than one date code per unit pack container. If this is not possible, then there should be no more than two (2) date codes in one unit pack container per intermediate packing container. If two (2) date codes are used, the unit pack container should be clearly identified as having mixed date codes.

c) If possible, there should be no more than three date codes per sealed intermediate container. The label on the intermediate container should list all date codes.

5.4 Intermediate Container and Shipping Labels

This standard reflects current EIA industry bar code specifications (Ref.: CEA 556, CEA 624), and should be used as an example when designing a 1-Dimensional bar code or 2-Dimensional label.

Intermediate Container Label

Mandatory Fields: The following data fields constitute a minimum requirement for bar coding applications.

Part Number (Customer):

a) Data Identifier: P
b) Fixed Length? No
c) Example: P1234567

Date Code:

a) Data Identifier: 9D
b) Fixed Length? Yes (4 characters)
c) Example: 9D9340

Quantity:

a) Data Identifier: Q
b) Fixed Length? No
c) Example: Q2000

Optional Fields: Inclusion of optional data fields should be agreed upon between trading partners. Example, traceability codes.

Traceability Codes (optional):

a) Data Identifier: IT
b) Fixed Length? No
c) Example: 1TMA12345678

5.4 Intermediate Container and Shipping Labels (cont'd)

3S Shipping Label

Mandatory Fields: The following data fields constitute a minimum requirement for bar coding applications.

Package ID:

a) Data Identifier: 3S
b) Fixed Length? No
c) Make up is UCC Vendor ID & Unique "Container Tracking" Number separated by a "+" sign.
d) Example: 3S078799012345H+05

Distributor's Purchase Order Number and Line Item Number:

a) Data Identifier: 14K(K only, if line item is not used)
b) Fixed Length? No
c) Example: 14K12345+00001K12345

Customer Part Number:

a) Data Identifier: P
b) Fixed Length? No
c) Example: P512345A6

Quantity:

a) Data Identifier: Q
b) Fixed Length? No
c) Example: Q15000

Package Count:

a) Number of Shipping containers as box ____ of ____ (Human readable only)
b) Example: 5/10 (Box 5 of 10)

Annex A (Informative) Differences Between Revisions

This annex briefly outlines the changes appearing in this publication, JEP130C, compared to its predecessors JEP130B, JEP130A and JEP130.

If the change to a concept involves any words added or deleted (excluding deletion of accidentally repeated words), it is included. Some punctuation changes are not included.

A.1 Differences between JEP130C and JEP130B:

Clause	Description of Change
2	Removed all eighteen individual definitions of various packages. For example: PDIP: Plastic Dual In-line Package PLCC: Plastic Leaded Chip Carrier
3	Added reference to ANSI/ESD S20.20 and Corrected typo on title of ANSI /ESD.
3	Removed references JEP95 and JEP30
5.1 d)	EIA 541 document was added for reference.
5.3.a)	Added IPC/JEDEC J-STD-033, Handling, Packing, Shipping and Use of Moisture, Reflow, and Process Sensitive Devices.
5.4	Reformatted the “Fields” bullets to reflect latest JEDEC publication format standard. Content of this clause was not changed.

A.2 Differences between JEP130B and JEP130A:

Clause	Description of Change
5.1	Removed item c): “Partial Unit Pack Containers under the AUP of $5.00 (Distributor price) may not be accepted. All distributors should order all semiconductors in full Unit Pack Container quantities for parts less than $5.00 AUP.”
5.3 a)	Date code requirements updated.
5.3 b)	“quantities by date code” removed.
5.3 c)	“quantities by date code” removed.
5.4	3S Shipping Label “o” replaced with “+”.

A.3 Differences between JEP130A and JEP130:

Clause	Description of Change
Title Page	Added “Tubes, Trays, and Tape and Reel” to the title.
2	Added terms and definitions for; QFN, SON, SSOP, PSOP, TSSOP, MSOP, QSOP, PQCC, PQFP, PBGA, GDIP, CPGA, CLCC.
2	Redefined “intermediate container” and changed term to “intermediate package container”.
2	Redefined “unit container” and changed term to “unit package container”.
2	Removed term and definition for “rail”.
3	Added reference documents, JEP95 and JESD30.
4	Subclause 4.4 was removed.
4	Subclause 4.6 was removed.
4	Added new clause 4 “Agreement”.
4/5	Changed clause 4 to clause 5 and renumbered accordingly.
5	Generally, in the new clause 5, the term “Tube” was changed to “Unit Pack”.
7	Table 1 was deleted.

Standard Improvement Form — JEDEC JEP130C

The purpose of this form is to provide the Technical Committees of JEDEC with input from the industry regarding usage of the subject standard. Individuals or companies are invited to submit comments to JEDEC. All comments will be collected and dispersed to the appropriate committee(s).

If you can provide input, please complete this form and return to:

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1. I recommend changes to the following:

☐ Requirement, clause number _____

☐ Test method number _____ Clause number _____

The referenced clause number has proven to be:

☐ Unclear ☐ Too Rigid ☐ In Error

☐ Other _____

2. Recommendations for correction:

_____

_____

_____

_____

3. Other suggestions for document improvement:

_____

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