

ICS 31.180
CCS L 30



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 43863-2024

**Format for LSI - Package - Board interoperable design
(English Translation)**

Issued on: April 25, 2024

Implemented on: August 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents"

Drafting:

This document is modified to adopt IEC 63055:2023 "Common design structure for large-scale integrated circuit (LSI) packaged printed boards":

This document has made the following structural adjustments compared to IEC

63055:2023:

--- Deleted 1:4 Introduction to the standard content, 1:5 Vocabulary usage instructions, and informative Appendix A in IEC 63055:2023~ Appendix H;

--- Move 1:3 Introduction to key elements of IEC 63055:2023 to 4:1 Technical background of this document;

--- Change the suspension section of 6:4:3 of IEC 63055:2023 to 6:4:3:1, and the subsequent numbering shall be postponed;

--- Delete the suspension section 6:4:5:4 of IEC 63055:2023, and change the original 6:4:5:4:1 to 6:4:5:4;

--- Change the suspension section of 9:2:7 of IEC 63055:2023 to 9:2:7:1, and the subsequent numbers will be postponed accordingly:

The technical differences between this document and IEC 63055:2023 and their reasons are as follows:

--- Deleted "component hole, ball, circuit board, component" in Chapter 3 of IEC 63055:2023 component, drill hole, hole, land, line, landless hole), mounting hole, package, pad, pin, plated-through hole hole, solder ball, via, void" terms and definitions:

Defined in GB/T 2036 and SJ/T 10668:

--- Replace "ANSI Standard X3:4-1986" in IEC 63055:2023 with GB/T 1988-1998 (see 5.3) to adapt my country's technical conditions and increase operability:

--- Replace the normative references of IEEE Std 1364TM in IEC 63055:2023 with GB/T 2036, GB/T 14113, SJ/T 10668 (see Chapter 3), increase operability:

1 Scope

This document specifies the design format requirements common to large scale integrated circuits (LSI), packages, and printed circuit boards:

This document is applicable to the exchange and processing of common design data for large-scale integrated circuits, packages and printed circuit boards:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document:

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document:

GB/T 1988-1998 Information technology - seven-bit coded character set for information interchange
GB/T 2036 Terminology for printed circuits
GB/T 14113 Semiconductor integrated circuit packaging terminology
SJ/T 10668 Electronic Assembly Technical Terminology

3 Terms, definitions and abbreviations

3.1

Terms and Definitions the terms and definitions defined in GB/T 2036, GB/T 14113 and SJ/T 10668 apply to this document:

3.1.1

Anti-pad

The isolation area between the via and the non-connected metal layer is mainly used in printed circuit boards and LSI packages:

Note: The shape of the anti-pad is mainly determined by the process limit of the printed circuit board or LSI and the pad format in the design rule format (R format) file:

3.1.2

Ball grid array package balgridarraypackage A type of surface mount package that has one side covered (or partially covered) with solder balls arranged in a grid pattern:

3.1.3

Bonding Finger

The metal electrodes on the surface of the LSI package serve to connect the bonding wires to the internal interconnection patterns:

Note: In the LPB format file, the shape of the bonding area is defined by the pad in the component format (C format):

3.1.4

Bonding wire

Metal wires connecting the die to the bonding area:

Note: In the LPB format file, the shape of the bonding wire is defined in the R format file:

3.1.5

clock

A signal used in synchronous circuits: