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

GB/T 30856-2025

Replacing GB/T 30856-2014

GaAs substrates for LED epitaxial chips

LED外延芯片用砷化镓衬底

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4.1 Classification

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 replaces GB/T 30856-2014 "GaAs substrates for LED epitaxial chips".

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) The specifications have been changed (see 4.1.2, 4.3 of the 2014 edition);
- b) The requirements for electrical performance have been changed (see 5.1, 4.4 of the 2014 edition);
- c) The requirements for reference surfaces and cutouts have been changed (see 5.2, 4.4 of the 2014 edition);
- d) Changed the requirements for surface crystal orientation and crystal orientation deviation (see 5.3, 4.5 of the 2014 edition);
- e) Changed the requirements for dislocation density (see 5.4, 4.6 of the 2014 edition);
- f) The geometric dimension requirements have been changed (see 5.5, 4.9 of the 2014 edition);
- g) Changed the surface quality requirements (see 5.6, 4.7 of the 2014 edition);
- h) The test method for electrical properties has been changed (see 5.2, 4.8 of the 2014 edition);
- i) The inspection method for incisions has been changed (see 6.2.3, 5.5.2 of the 2014 edition);
- j) The inspection rules have been changed (see Chapter 7, Chapter 6 of the 2014 edition);

- k) The logo has been changed (see 8.1, 7.1 of the 2014 edition);
- l) The packaging has been changed (see 8.2, 7.2 of the 2014 edition);
- m) Deleted the method of measuring substrate resistivity using a sheet resistance meter and the method of measuring substrate room temperature carrier concentration and mobility.

Method (see Appendices A and B of the 2014 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was jointly issued by the National Technical Committee on Semiconductor Equipment and Materials Standardization (SAC/TC203) and the National Technical Committee on Semiconductor Equipment and Materials Standardization (SAC/TC203).

It is jointly proposed and coordinated by the Materials Subcommittee of the Chemical Technology Committee (SAC/TC203/SC2).

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This document was first published in 2014 and this is the first revision.

1 Scope

This document specifies the technical requirements, test methods, Inspection rules, marking, packaging, transportation, storage and accompanying documents and order form contents.

This document applies to the production, testing and quality evaluation of gallium arsenide single crystal substrates for LED epitaxial chips.

2 Normative references

GB/T 191

GB/T 1555

GB/T 2828.1-2012

GB/T 4326

GB/T 6618

GB/T 6620

GB/T 6621

GB/T 6624

GB/T 8760

GB/T 11093

GB/T 13387

GB/T 13388

GB/T 14140

GB/T 14264

GB/T 14844

GB/T 20228

3 Terms and Definitions

The terms and definitions defined in GB/T 14264 apply to this document.

4.1 Classification

4.1.1 Gallium arsenide substrates are classified into n-type and p-type according to their conductivity type.

4.1.2 GaAs substrates are classified into five sizes based on diameter. 50.8mm, 76.2mm, 100.0mm, 150.0mm, and 200.0mm.