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

GB/T 30858-2025

Replacing GB/T 30858-2014

Polished mono-crystalline sapphire substrate wafers

蓝宝石单晶衬底抛光片

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**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 30858-2014 "Polished Sapphire Single Crystal Substrates". Compared with GB/T 30858-2014, except for structural adjustments... Aside from integration and editorial changes, the main technical changes are as follows:

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the.2014 edition);
- b) The definition of "highlight" has been changed (see 3.3, 3.5 in the.2014 edition), and terms and definitions such as "sapphire" have been removed (see.2014 edition). (See sections 3.1 to 3.4), and added the terms and definitions of "stain" and "orange peel" (see sections c) A general principle has been added (see Chapter 4);
- d) The requirements for total impurity content have been changed (see 5.1, 4.1 of the.2014 edition);
- e) The requirements for crystal integrity have been changed (see 5.2, 4.2 in the.2014 edition);
- f) The requirement for growth methods has been removed (see 4.3 in the.2014 edition);
- g) The requirements for surface orientation and main reference plane orientation or main reference slot orientation have been changed, and Figures 1 and 2 (see 5.3,.2014) have been deleted. Version 4.4);

1 Scope

GB/T 30858-2025 is the Chinese national standard covering the sapphire wafer an LED is grown on - the crystal orientation and its tolerance, the diameter, thickness and bow, the surface roughness and the subsurface damage left by polishing, and the particle and defect counts. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 30858-2014.

26 Inspection Method for Edge Contour of Silicon Wafers

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 1031 Product Geometric Specification (GPS) - Surface Roughness Parameters and Their Values Using the Surface Structure Profile Method

GB/T 2828.1-2012 Sampling Procedures for Inspection by Attributes - Part

GB/T 29505 Method for measuring surface roughness of flat surfaces of silicon wafers

GB/T 30857 Test Method for Thickness and Thickness Variation of Sapphire Substrates

GB/T 31092 Sapphire Single Crystal Rod

GB/T 31352 Test method for warpage of sapphire substrates

GB/T 31353 Test method for bending of sapphire substrate

GB/T 33236 Trace Element Chemical Analysis of Polycrystalline Silicon by Glow Discharge Mass Spectrometry

GB/T 33763 Method for measuring dislocation density in sapphire single crystals

GB/T 34210 Method for determining the crystal orientation of sapphire single crystals

GB/T 34612 Method for measuring rocking curves of X-ray twin diffraction in sapphire crystals YS/T

3 Terms and Definitions

The terms and definitions defined in GB/T 14264 and GB/T 31092, as well as the following terms and definitions, apply to this document.

3.1 Contaminant Substances that are not intentionally attached to the surface of a sapphire substrate.