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

GB/T 47404-2026

Monocrystalline silicon carbide

碳化硅单晶

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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. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was prepared by the National Technical Committee on Standardization of Semiconductor Equipment and Materials (SAC/TC203) and the National Semiconductor Equipment and Materials Standards Committee. It was jointly proposed and is under the jurisdiction of the Materials Subcommittee of the Chemical Technology Committee (SAC/TC203/SC2). This document was drafted by: Beijing Tianke Heda Semiconductor Co., Ltd., Shandong Tianyue Advanced Technology Co., Ltd., and Nanjing Guosheng. Electronics Co., Ltd., Shanxi Shuohe Crystal Co., Ltd., Guangdong Tianyu Semiconductor Co., Ltd., Ningxia Chuangsheng New Material Technology Co., Ltd. Hangzhou Jingchi Electromechanical Co., Ltd. The main drafters of this document are: She Zongjing, Peng Tonghua, Wang Bo, Zhang Hongyan, Li Guopeng, Hou Xiaorui, Ding Xiongjie, Cai Zhenli, Zou Yu, and Lou Yanfang. Hu Jianrong and Guo Sen. Silicon carbide single crystal

1 Scope

GB/T 47404-2026 is the Chinese national standard covering the SiC single crystal - the substrate of the power devices in electric vehicle inverters and fast chargers, specified on polytype, resistivity, micropipe and dislocation density and the crystal quality that decides the yield of everything built on it. First edition, in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

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 1555 Method for determining crystal orientation of semiconductor single crystals

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

GB/T 6616 Test of resistivity of semiconductor wafers and thin film resistivity of semiconductor films - Non-contact eddy current method

GB/T 6624 Visual Inspection Method for Surface Quality of Polished Silicon Wafers

GB/T 13388 X-ray test method for crystallographic orientation of silicon wafer reference plane

GB/T 14140 Test Method for Diameter of Semiconductor Wafers

GB/T 14264 Semiconductor Materials Terminology

GB/T 26067 Test Method for Knot Dimensions of Silicon Wafers

GB/T 30656 Polished silicon carbide single crystal wafers

GB/T 30868 Test method for microtube density of silicon carbide single crystal wafer

GB/T 41765 Test method for dislocation density of silicon carbide single crystal

GB/T 42271 Non-contact test method for resistivity of semi-insulating silicon carbide single crystals

GB/T 43612 Defect Mapping of Silicon Carbide Crystal Materials SJ/T 11501 Test Method for Crystal Type of Silicon Carbide Single Crystal YS/T 1600 Determination of Trace Impurity Elements in Silicon Carbide Single Crystals by Glow Discharge Mass Spectrometry

3 Terms and Definitions

The terms and definitions defined in GB/T 14264 and GB/T 43612 apply to this document.

4 Brands and Classifications

4.1 Brand The grade of silicon carbide single crystal should comply with the provisions of Appendix A.