

ICS 29.045
CCS H83



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

GB/T 11094-2020

Replacing GB/T 11094-2007

**Gallium arsenide single crystal and cutting wafer grown by
horizontal bridgman method**

水平法砷化镓单晶及切割片

Issued on: September 29, 2020

Implemented on: August 1, 2021

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

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 11094-2007 "Horizontal Method Gallium Arsenide Single Crystal and Cutting Chip". Compared with GB/T 11094-2007, except for In addition to the editorial modification, the main technical changes are as follows:

- Deleted single crystal ingots and microwave devices in the scope (see Chapter 1 of the.2007 edition);
- Deleted GJB1927 in the normative references, and added GB/T 13388, GB/T 14844 (see Chapter 2,.2007 Chapter 2 of the edition);
- Deleted 3.1~3.8 in terms and definitions (see Chapter 3 of the.2007 edition);
- Modified the product brand representation and classification (see Chapter 4, Chapter 4 of the.2007 edition);
- Modified the deflection angle in the growth direction of gallium arsenide single crystal (see 5.1.1, 4.3.1 in.2007 edition);
- Deleted the requirements and test methods for semi-insulating gallium arsenide single crystals (see 4.3.2, 4.4.3, 5.1 in.2007 edition);
- Delete the requirement of n-type non-doped gallium arsenide single crystal (see 4.3.2 of the.2007 edition);
- Modified the carrier concentration range of p-type zinc-doped gallium arsenide single crystal (see 5.1.2,.2007 edition 4.3.2);

---Modified the classification and requirements of dislocation density (see 5.1.3,

1 Scope

GB/T 11094-2020 is the Chinese national standard on gallium arsenide single crystal and cutting wafer grown by horizontal bridgman method, in the field of electrical engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 29 September 2020 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 August 2021. Classification: ICS 29.045, CCS H83. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 1555 Method for determination of crystal orientation of semiconductor single crystals

GB/T 2828.1-2012 Sampling inspection procedure by attributes Part

GB/T 4326 Extrinsic semiconductor single crystal Hall mobility and Hall coefficient measurement method

GB/T 8760 Method for measuring dislocation density of gallium arsenide single crystal

GB/T 13388 Crystallographic orientation X-ray measurement method of silicon wafer reference plane

GB/T 14264 Terminology of Semiconductor Materials

GB/T 14844 Semiconductor material designation method

3 Terms and definitions

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

4 Grades and classifications

4.1 Grade The grades of gallium arsenide single crystals and cutting wafers are expressed in accordance with the regulations of GB/T 14844.If there are special requirements,

negotiated by both parties And indicate in the order form (or contract).

4.2 Classification

4.2.1 GaAs single crystals are divided into n-type and p-type according to the conductivity type.

4.2.2 GaAs cutting discs are divided into four specifications according to their diameters. 50.8mm, 63.5mm, 76.2mm and 82.0mm.