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**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 26-2016

Replacing YS/T 26-1992

Test methods for edge contour of silicon wafers

硅片边缘轮廓检验方法

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces YS/T 26-1992 "Method for Inspection of Wafer Edge Profiles". Major changes in this standard compared to YS/T 26-1992 as follows.

--- Increased normative references, terms and definitions, interference factors, etc.;

--- Added non-destructive testing method B, method C.

This standard is proposed and managed by the National Nonferrous Metals Standardization Technical Committee (SAC/TC243).

This standard was drafted. Luoyang Monocrystalline Silicon Group Co., Ltd., Yanyan Semiconductor Materials Co., Ltd., Zhejiang Jinrui Technology Co., Ltd.

Limited.

1 Scope

This standard specifies the inspection method for the edge profile of the wafer (including the slit).

This standard is applicable to the inspection of the edge profile of the chamfered silicon wafer (including the slit). The inspection of the edge profile of other materials such as gallium arsenide can be used.

Execute according to this standard.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this

document.

GB/T 14264 semiconductor material terminology

3 Terms and definitions

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

4 Method summary

This standard specifies three test methods A, B, and C. The test principles are as follows.

a) Method A. forming a section along the radial direction of the silicon wafer, forming an edge region of the silicon wafer by means of an optical comparator or a projection microscope the profile is focused on the graph and the graph is compared to the edge profile template plot to determine if the edge profile is acceptable. This method is destructive the inspection of discrete points on the circumference, including the reference surface, is often used for the chamfered edge of the silicon reference surface with a diameter of not more than 150 mm.

Detection of contours;

b) Method B. Place the silicon wafer under a parallel light path, the edge of the silicon wafer is projected onto the display, and the image of the edge contour and the edge contour mode Compare the plate coordinates to determine if the edge profile is acceptable. The method is non-destructive and can be used to inspect silicon in addition to the reference surface and the incision.

All the points on the contour of the sheet are often used for the detection of the silicon wafer except the reference surface and the outer edge contour of the slit.

c) Method C. Place the silicon wafer under the light source, the light source is on the edge of the silicon wafer, and the CCD camera will cut the edge of the silicon wafer (excluding the reference surface) or cut the image of the contour shape of the mouth is imported into the computer, and the detected image is analyzed by a dedicated analysis software, and then the contour shape is plotted.

The image and test results are displayed on the display. The test principle is shown in Figure 1. The method is non-contact, non-destructive and can be measured the outline shape of the edge of the wafer and the slit are tested, and the outline size can be measured. The method is simple and convenient to operate and can be determined intuitively.

The wafer edge and slit are suitable for the inspection of wafer edge profiles of various sizes, angles and shapes. This method is applicable for daily process monitoring, such as commissioning of chamfering machines, daily quality control and purchase, factory

inspection, etc.