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**Test method for transmittance of semiconductor single crystal
materials**

半导体单晶材料透过率测试方法

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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.

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.

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Semiconductor single crystal material transmittance test method

1 Scope

This document describes the method for measuring the transmittance of semiconductor single crystal materials in the wavelength range of 0.2 μ m to 300 μ m.

This document applies to semiconductor units such as silicon, germanium, indium phosphide, cadmium selenide, cadmium sulfide, silicon carbide, gallium nitride, gallium oxide, sapphire, and diamond.

Determination of transmittance of crystal materials.

2 Normative references

GB/T 8170

GB/T 13962

GB/T 14264

3 Terms and Definitions

The terms and definitions defined in GB/T 14264 and GB/T 13962 and the following apply to this document.

3.1 transmittance

Transmittance The percentage of the luminous flux transmitted when light passes through the sample to the initial luminous flux.

3.2

Transmittance distribution within a certain area of the sample.

3.3 background spectrumbackgroundspectrum

In an infrared spectrometer, the spectral lines obtained are measured in the absence of a sample.

Note. This usually includes information such as air or nitrogen purge.

3.4 sample spectrum samplespectrum

The spectrum obtained by subtracting the background spectrum from the spectrum of the measured sample.

Note. When using a double-beam instrument, place the sample in the sample light path and leave the reference light path empty; when using a Fourier transform infrared spectrometer and a single-beam spectrometer The background spectrum is subtracted from the spectrum of the measured sample.

4 Principles of the Method

When infrared light, visible light, and ultraviolet light of a certain frequency pass through a semiconductor single crystal, due to the intrinsic absorption, surface scattering, and internal