

ICS 77.040
CCS H 21

YS

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

YS/T 679-2018

Replacing YS/T 679-2008

**Test methods for minority carrier diffusion length in extrinsic
semiconductors. Surface photovoltage method**

非本征半导体中少数载流子扩散长度的测试 表面光电压法

(English Translation)

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What this standard covers

This standard specifies the test method for minority carrier diffusion length in extrinsic semiconductor materials, including steady state photovoltage method, constant luminous flux method and digital oscilloscope recording method. This standard applies to extrinsic semiconductor materials, such as silicon single-wafer or minority-type carrier diffusion in a homogenous epitaxial layer of known resistivity deposited on a reductive substrate of the same conductivity type, test sample (epitaxial) The thickness of the layer) is greater than 4 times the diffusion length. The limits of resistivity and carrier lifetime of this standard can be tested, but P-type and N-type silicon samples with resistivity of 0.1 Ω·cm to 50 Ω·cm and carrier lifetime as short as 2 ns have been tested. . This standard can also calculate the iron content in silicon by testing the diffusion length.

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