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INTERNATIONAL STANDARD

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colour inside

Semiconductor devices – Flexible and stretchable semiconductor devices – Part 6: Test method for sheet resistance of flexible conducting films

Dispositifs à semiconducteurs – Dispositifs à semiconducteurs souples et extensibles – Partie 6: Méthode d'essai pour la résistance de couche des couches conductrices souples

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SEMICONDUCTOR DEVICES – FLEXIBLE AND STRETCHABLE SEMICONDUCTOR DEVICES –

Part 6: Test method for sheet resistance of flexible conducting films

FOREWORD

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The text of this International Standard is based on the following documents:

FDIS	Report on voting
47/2547/FDIS	47/2566/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62951 series, published under the general title *Semiconductor devices – Flexible and stretchable semiconductor devices,* can be found on the IEC website.

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SEMICONDUCTOR DEVICES – FLEXIBLE AND STRETCHABLE SEMICONDUCTOR DEVICES –

Part 6: Test method for sheet resistance of flexible conducting films

1 Scope

This part of IEC 62951 specifies terms, as well as the test method and report of sheet resistance of the flexible conducting film under bending and folding tests. The measurement methods include the 2-point probe, 4-point probe and Montgomery method, which can be applied to in-situ and ex-situ measurement and the measurements of anisotropic sheet resistance.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 291:2008, *Plastics – Standard atmospheres for conditioning and testing*

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

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- IEC Electropedia: available at http://www.electropedia.org/
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3.1
resistivity
inverse of the conductivity when this inverse exists

[SOURCE: IEC 60050-121:1998, 121-12-04]

3.2
R_S
sheet resistance
resistance of thin films that are nominally uniform in thickness, which is the resistivity divided by the thickness of conducting film

3.3
resistance
for a resistive two-terminal element or two-terminal circuit with terminals A and B, quotient of the voltage (IEC 60050-131:2008, 131-11-56) u_{AB} between the terminals by the electric current i in the element or circuit

$$R = \frac{u_{AB}}{i}$$