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**Semiconductor devices – Flexible and stretchable semiconductor devices –
Part 5: Test method for thermal characteristics of flexible materials**

**Dispositifs à semiconducteurs – Dispositifs à semiconducteurs souples et
extensibles –
Partie 5: Méthode d'essai pour les caractéristiques thermiques des matériaux
souples**



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SEMICONDUCTOR DEVICES –
FLEXIBLE AND STRETCHABLE SEMICONDUCTOR DEVICES –**

Part 5: Test method for thermal characteristics of flexible materials

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

FDIS	Report on voting
47/2534/FDIS	47/2543/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 5: Test method for thermal characteristics of flexible materials

1 Scope

This part of IEC 62951 specifies the test method for thermal characteristics of flexible materials. This document includes terms, definitions, symbols, and test methods that can be used to evaluate and determine thermal characteristics of flexible materials for practical use. The measurement method relies on non-contact optical thermometry that is based on temperature dependent optical reflectance. This document is applicable to both substrate and thin-film flexible semiconductor materials that are subjected to bending and stretching.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes 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 reflectance

ρ

ratio of the reflected optical power to the incident optical power at a given wavelength and temperature for a given surface of materials

Note 1 to entry: Reflectance can be defined as the ratio between reflected and incident radiant or luminous flux.

[SOURCE: IEC 60050-845:1987, 845-04-58, modified – temperature dependence of optical reflectance is added.]

3.2 thermoreflectance

temperature dependent optical reflectance of a given surface of materials

Note 1 to entry: Thermoreflectance has nothing to do with thermal reflectance.

3.3 local temperature

T_{loc}

temperature at a local position in a spatially distributed device or system