IEC 62830-5

Edition 1.0 2021-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Semiconductor devices – Semiconductor devices for energy harvesting and generation –
Part 5: Test method for measuring generated power from flexible thermoelectric devices

Dispositifs à semiconducteurs – Dispositifs à semiconducteurs pour récupération et production d'énergie –
Partie 5: Méthode d'essai pour la mesure de la puissance générée par des dispositifs thermoélectriques souples

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SEMICONDUCTOR DEVICES – SEMICONDUCTOR DEVICES FOR ENERGY HARVESTING AND GENERATION –

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

FDIS	Report on voting
47/2668/FDIS	47/2678/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 62830 series, published under the general title *Semiconductor devices – Semiconductor devices for energy harvesting and generation*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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- withdrawn,
- replaced by a revised edition, or
- amended.

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SEMICONDUCTOR DEVICES – SEMICONDUCTOR DEVICES FOR ENERGY HARVESTING AND GENERATION –

Part 5: Test method for measuring generated power from flexible thermoelectric devices

1 Scope

This part of IEC 62830 specifies the test method for measuring generated electric power from flexible thermoelectric devices under bending conditions. This document provides terms, definitions, symbols, configurations, and test methods that can be used to evaluate and determine the performance of flexible thermoelectric devices. This document also describes the test conditions such as temperature, temperature difference, contact conditions, insulation and bending radius of flexible thermoelectric devices. This document is applicable to flexible energy harvesting devices for flexible semiconductor devices.

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.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
thermoelectric generator
device that converts heat (temperature difference) directly into electrical energy, using a phenomenon called the Seebeck effect

3.2
bending radius
minimum radius, measured to the inside curvature, of a pipe, tube, sheet, cable or hose that can be bent without kinking damaging it or shortening its life

3.3
Seebeck coefficient
S
magnitude of an induced thermoelectric voltage in response to a temperature difference across a material, and the entropy per charge carrier in the material

[SOURCE: IEC 62830-2:2017, 3.1]