IEC 62830-3

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Semiconductor devices – Semiconductor devices for energy harvesting and generation – Part 3: Vibration based electromagnetic energy harvesting

Dispositifs à semiconducteurs – Dispositifs à semiconducteurs pour récupération et génération d'énergie – Partie 3: Récupération d'énergie électromagnétique basée sur des vibrations

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CONTENTS

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SEMICONDUCTOR DEVICES – SEMICONDUCTOR DEVICES FOR ENERGY HARVESTING AND GENERATION –

Part 3: Vibration based electromagnetic energy harvesting

FOREWORD

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International Standard IEC 62830-3 has been prepared by IEC technical committee 47: Semiconductor devices.

The text of this standard is based on the following documents:

FDIS	Report on voting
47/2363/FDIS	47/2380/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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SEMICONDUCTOR DEVICES – SEMICONDUCTOR DEVICES FOR ENERGY HARVESTING AND GENERATION –

Part 3: Vibration based electromagnetic energy harvesting

1 Scope

This part of IEC 62830 describes terms, definitions, symbols, configurations, and test methods that can be used to evaluate and determine the performance characteristics of vibration based electromagnetic energy harvesting devices. This part of IEC 62830 specifies the methods of tests and the characteristic parameters of the vibration based electromagnetic energy harvesting devices for evaluating their performances accurately and practical use. This part of IEC 62830 is applicable to energy harvesting devices for consumer, general industries, military and aerospace applications without any limitations of device technology, shape and size.

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.

IEC 60749-5:2003, *Semiconductor devices – Mechanical and climatic test methods – Part 5: Steady-state temperature humidity bias life test*

IEC 60749-10:2002, *Semiconductor devices – Mechanical and climatic test methods – Part 10: Mechanical shock*

IEC 60749-12:2002, *Semiconductor devices – Mechanical and climatic test methods – Part 12: Vibration, variable frequency*

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

3.1 General terms

3.1.1
vibration
mechanical oscillations occurring about an equilibrium point

[SOURCE: IEC 62830-1:2017, 3.1.1]

3.1.2
vibration based energy harvester
energy transducer that transforms vibration energy into electric energy