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Edition 1.0 2021-10

INTERNATIONAL STANDARD

Semiconductor devices – Semiconductor devices for energy harvesting and generation –
Part 8: Test and evaluation methods of flexible and stretchable supercapacitors for use in low power electronics

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FOREWORD

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IEC 62830-8 has been prepared by IEC technical committee 47: Semiconductor devices. It is an International Standard.

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

FDIS	Report on voting
47/2724/FDIS	47/2733/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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

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- withdrawn,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

SEMICONDUCTOR DEVICES – SEMICONDUCTOR DEVICES FOR ENERGY HARVESTING AND GENERATION –

Part 8: Test and evaluation methods of flexible and stretchable supercapacitors for use in low power electronics

1 Scope

This part of IEC 62830 specifies terms, definitions, symbols, test, and evaluation methods used to determine the performance characteristics of flexible and stretchable supercapacitor for practical use in low power electronics such as energy storage devices for energy harvesting, flexible and stretchable electronics, low-power devices, IoT applications, etc. This document is applicable to all the flexible and stretchable supercapacitor for consumers and manufacturers, without any limitations of device technology 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 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 62391-1, *Fixed electric double-layer capacitors for use in electric and electronic equipment – Part 1: Generic specification*

IEC 62576, *Electric double-layer capacitors for use in hybrid electric vehicles – Test methods for electrical characteristics*

IEC 62813, *Lithium ion capacitors for use in electric and electronic equipment – Test methods for electrical characteristics*

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 General terms

3.1.1
flexible and stretchable supercapacitor
electrochemical capacitor which can be incorporated into clothing or worn on the body as accessories

Note 1 to entry: Figure A.1 in Annex A shows classification of the supercapacitor.