



# INTERNATIONAL STANDARD



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**Test methods for electrical materials, printed board and other interconnection structures and assemblies –  
Part 5-503: General test method for materials and assemblies – Conductive anodic filaments (CAF) testing of circuit boards**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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ICS 31.180

ISBN 978-2-8322-4320-6

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### TEST METHODS FOR ELECTRICAL MATERIALS, PRINTED BOARD AND OTHER INTERCONNECTION STRUCTURES AND ASSEMBLIES –

#### Part 5-503: General test method for materials and assemblies – Conductive anodic filaments (CAF) testing of circuit boards

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International Standard IEC 61189-5-503 been prepared by IEC technical committee 91: Electronics assembly technology.

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

FDIS	Report on voting
91/1433/FDIS	91/1443/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 61189 series, published under the general title *Test methods for electrical materials, printed boards and other interconnection structures and assemblies*, 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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

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## TEST METHODS FOR ELECTRICAL MATERIALS, PRINTED BOARD AND OTHER INTERCONNECTION STRUCTURES AND ASSEMBLIES –

### Part 5-503: General test method for materials and assemblies – Conductive anodic filaments (CAF) testing of circuit boards

#### 1 Scope

This part of IEC 61189 specifies the conductive anodic filament (hereafter referred to as CAF) and specifies not only the steady-state temperature and humidity test, but also a temperature-humidity cyclic test and an unsaturated pressurized vapour test (HAST).

#### 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 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-38, *Environmental testing – Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test*

IEC 60068-2-66, *Environmental testing – Part 2: Test methods – Test Cx: Damp heat, steady state (unsaturated pressurized vapour)*

IEC 60068-2-67, *Environmental testing – Part 2: Tests – Test Cy: Damp heat, steady state, accelerated test primarily intended for components*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60194, *Printed board design, manufacture and assembly – Terms and definitions*

IPC-TM-650 No.2.6.14.1, *Electrochemical Migration Resistance Test [viewed 2017-01-31]. Available at: [https://www.ipc.org/TM/2-6\\_2-6-14-1.pdf](https://www.ipc.org/TM/2-6_2-6-14-1.pdf)*

IPC-TM-650 No.2.6.25, *Conductive Anodic Filament (CAF) Resistance Test: X-Y Axis [viewed 2017-01-31]. Available at: [https://www.ipc.org/4.0\\_Knowledge/4.1\\_Standards/test/2-6-25.pdf](https://www.ipc.org/4.0_Knowledge/4.1_Standards/test/2-6-25.pdf)*