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Test methods for electrical materials, printed boards and other interconnection structures and assemblies

Part 3-914: Test method for thermal conductivity of printed circuit boards for high-brightness LEDs — Guidelines

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 3-914: Test method for thermal conductivity of printed circuit boards for high-brightness LEDs – Guidelines

FOREWORD

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IEC TR 61189-3-914, which is a technical report, has been prepared by IEC technical committee 91: Electronics assembly technology.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
91/1378/DTR	91/1403/RVC

Full information on the voting for the approval of this technical report 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- withdrawn,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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Development of this technical report has been discussed at TC 91 Plenary meeting in Dongguan, China, October 30, 2015 as per 91/1343A/RM dated on January 22, 2016.

This document was developed as a supplementary document to the IEC 61189-3-913. Therefore, this document has been developed as technical report.

This document is given for information only.

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

Part 3-914: Test method for thermal conductivity of printed circuit boards for high-brightness LEDs – Guidelines

1 Scope

This document specifies the detailed procedures and precautions for IEC 61189-3-913.

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

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 61189-3-913, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 3-913: Test method for thermal conductivity of electronic circuit boards for high-brightness LEDs*

EIA/JEDEC STD 51-2, *Integrated circuits thermal test method – Environmental conditions – Natural convection (still air)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60194 apply, unless otherwise specified.

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

4 Test condition

4.1 Standard condition

Unless otherwise specified, tests should all be operated under the following standardized conditions in accordance with the IEC 60068-1:2013, Clause 4:

- temperature: 15 °C to 35 °C;
- relative humidity: 25 % to 75 %;
- atmospheric pressure: 86 kPa to 106 kPa.