IEC 61189-3-913

Edition 1.0 2016-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour
inside

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

Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles –
Partie 3-913: Méthodes d'essai pour la conductivité thermique des circuits imprimés pour les LED à forte luminosité

IEC 61189-3-913:2016-01(en-fr)

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International Standard IEC 61189-3-913 has been prepared by IEC technical committee 91: Electronics assembly technology.

This first edition cancels and replaces the first edition of IEC PAS 61189-3-913 published in 2011. This edition constitutes a technical revision. This edition focused only on the test methods for thermal conductivity specific to printed circuit boards for high-brightness LEDs.

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

FDIS	Report on voting
91/1304A/FDIS	91/1328/RVD

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

A list of all parts in the IEC 61189, 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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

Part 3-913: Test method for thermal conductivity of printed circuit boards for high-brightness LEDs

1 Scope

This part of IEC 61189 specifies the test methods for thermal conductivity specific to printed circuit boards for high-brightness LEDs. The test applies to printed circuit boards for high-brightness LEDs with surface mounted LEDs or with device embedded LEDs in electronic control devices (ECDs).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 62326-20, *Printed boards – Part 20: Printed circuit boards for high-brightness LEDs*

3 Terms and definitions

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

4 Pre–conditioning

Pre-conditioning described in a) or b) below shall be carried out in accordance with the specific standard.

a) Leave a specimen for 24 h in the standard condition.

b) Leave a specimen for 60 min in a thermostat chamber at 85 °C and then leave the specimen for 24 ± 4 h in the standard atmospheric condition.

5 Test methods

5.1 General

In this standard, the following test methods are specified in order to classing the printed circuit board in accordance with Table 1 in IEC 62326-20.

5.2 Thermal conductivity

5.2.1 Measurement of thermal resistance on the plane

In this subclause, the measurement of thermal resistance on the plane (horizontal direction of the specimen) is addressed as follows.