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Introduction

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For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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Submission of Comments

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



91/2080/CD

COMMITTEE DRAFT (CD)

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IEC TC 91 : ELECTRONICS ASSEMBLY TECHNOLOGY	
SECRETARIAT: Japan	SECRETARY: Mr Osamu IKEDA
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 40,TC 47,SC 47A,SC 47D	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED:	

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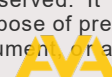
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TITLE:

Thermal design of electronics assemblies with miniaturised surface mounting devices and related measurements - Part 1: Guideline for thermal design of applications where the heat dissipation path to the board is dominant

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**THERMAL DESIGN OF ELECTRONICS ASSEMBLIES WITH MINIATURISED
SURFACE MOUNTING DEVICES AND RELATED MEASUREMENTS -****Part 1: Guideline for thermal design of applications where the heat
dissipation path to the board is dominant****FOREWORD**

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

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

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

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

95 A list of all parts in the IEC 63609 series, published under the general title *Thermal design of*
96 *electronics assemblies with miniaturised surface mounting devices and related measurements*,
97 can be found on the IEC website.

98 The committee has decided that the contents of this document will remain unchanged until the
99 stability date indicated on the IEC website under webstore.iec.ch in the data related to the
100 specific document. At this date, the document will be

- 101 • reconfirmed,
- 102 • withdrawn,
- 103 • replaced by a revised edition, or
- 104 • amended.

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INTRODUCTION

In recent electronic equipment, where each component is further miniaturised and mounting density is increasing, the dominant heat dissipation path is changing from the conventional convection path from the component surface to the ambient to the conduction path from the component to the circuit board.

In response to this situation, it is necessary to change the thermal design concept from "atmospheric heat-dissipation type" to "circuit board heat-dissipation type". In particular, it is necessary to develop an infrastructure including thermal measurement methods to establish a thermal design method that covers miniaturised components that are overlooked in conventional thermal design methods.

The thermal design infrastructure suitable for the through-hole mount leaded components, where heat dissipation to the ambient is dominant, has already been established and has been in use for a long time. However, for the thermal design of miniaturised surface mounting component, where heat dissipation to the circuit board is dominant, the methods for cooling high heat-dissipating components with heat sinks and fans have been established, but no thermal design infrastructure has been established for circuit boards where multiple heat-dissipating components (heat sources) are coupled together.

Under such circumstances, circuit designers and component selectors responsible for the thermal design of the circuit boards often lack thermal design expertise. There is no standard to ensure the quality of the thermal design for the circuit boards in electronic equipment, including measurement methods.

When thermal measurement methods are not appropriate or measurement errors are ignored, thermal risks may be underestimated. In such cases, various safety, environmental and economic impact can be expected. Based on this awareness, standardization of measurements in thermal design is desired.

IEC 63609 series aim to specify measurements in the thermal design of electronic assemblies.

IEC 63609 series consist, at present, of the following parts under the general title " THERMAL DESIGN OF ELECTRONICS ASSEMBLIES WITH MINIATURISED SURFACE MOUNTING DEVICES AND RELATED MEASUREMENTS".

IEC 63609-1, *Part 1: Guideline for thermal design of applications where the heat dissipation path to the board is dominant*

IEC 63609-2, *Part2: Method for evaluating thermal conductivity of circuit boards with polymer composites by using finite element analysis and measurements*

IEC 63609-3, *Part3: Determination for temperature measurement in miniaturised surface mounting devices using thermocouples*