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Interested committees:

Title: BS EN IEC 60747-5-19 Semiconductor devices

Part 5-19: Optoelectronic devices - Light emitting diodes - Test method of the micro photoluminescence for chip wafers of micro light emitting diodes

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

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- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

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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Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

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	Commend (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.	



47E/854/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:

IEC 60747-5-19 ED1

DATE OF CIRCULATION:

2025-01-10

CLOSING DATE FOR COMMENTS:

2025-03-07

SUPERSEDES DOCUMENTS:

47E/834/NP, 47E/845/RVN

IEC SC 47E : DISCRETE SEMICONDUCTOR DEVICES

SECRETARIAT:

Korea, Republic of

SECRETARY:

Mr Hojun Ryu

OF INTEREST TO THE FOLLOWING COMMITTEES:

HORIZONTAL FUNCTION(S):

ASPECTS CONCERNED:

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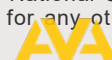
TITLE:

Semiconductor devices - Part 5-19: Optoelectronic devices - Light emitting diodes - Test method of the micro photoluminescence for chip wafers of micro light emitting diodes

NOTE FROM TC/SC OFFICERS:

This CD was prepared based on the result of discussions at the SC 47E/WG 9 meeting held in London, UK on November 27, 2024.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES –

Part 5-19: Optoelectronic devices – Light emitting diodes – Test method of the micro photoluminescence for chip wafers of micro light emitting diodes

FOREWORD

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International Standard IEC 60747-5-18 has been prepared by subcommittee 47E: Discrete semiconductor devices, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47E/XX/FDIS	47E/XX/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.

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,

- 74 • withdrawn,
75 • replaced by a revised edition, or
76 • amended.

77

78 The National Committees are requested to note that for this publication the stability date is 20XX.

79 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE
80 PUBLICATION STAGE.

SEMICONDUCTOR DEVICES –

Part 5-19: Optoelectronic devices – Light emitting diodes – Test method of the micro photoluminescence for chip wafers of micro light emitting diodes

1 Scope

This part of IEC 60747-5 specifies the measuring methods of micro photoluminescence (PL) for red, green, and blue chip wafers of micro light emitting diodes (LEDs) during or after chip fabrication processes. The micro LED chip wafers include the micro LED chips 1) on an epitaxial wafer, 2) on a carrier wafer, or 3) on a backplane. For identifying the micro LED chips on the chip wafer, automated optical inspection (AOI) is also considered. Only a line source and a line-scan camera are considered as the excitation radiation source and the detector for the PL measurement, respectively.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

3.1 Terms and definitions

3.1.1

LED chip

LED device defined by the fabrication processes on the epitaxial wafer, the carrier wafer, or the backplane

3.1.2

LED chip dimension

width and length of the LED chip

3.1.3

LED chip interval

distance between the adjacent LED chips

3.1.4

LED chip area

area obtained by the multiplication of the width and the length of the LED chip

3.1.5

PL intensity

optical radiation emitted from the LED via photoluminescence, detected by a camera, divided by each LED chip area