

## PRE-RELEASE VERSION (FDIS)



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**Semiconductor devices –  
Part 5-14: Optoelectronic devices – Light emitting diodes – Test method of the  
surface temperature based on the thermoreflectance method**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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TITLE:

**Semiconductor devices – Part 5-14: Optoelectronic devices – Light emitting diodes – Test method of the surface temperature based on the thermoreflectance method**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### SEMICONDUCTOR DEVICES –

#### **Part 5-14: Optoelectronic devices – Light emitting diodes – Test method of the surface temperature based on the thermorefectance method**

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

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

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

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## SEMICONDUCTOR DEVICES –

### Part 5-14: Optoelectronic devices – Light emitting diodes – Test method of the surface temperature based on the thermorefectance method

#### 1 Scope

This part of IEC 60747-5 specifies the measuring method of the surface temperature of single LED die or package, based on the thermorefectance (TR) method. TR is the effect that the reflectance of light changes with the temperature of a substance. This part measures relative change in the reflectance of light from a metal film deposited nearby on the metallurgical pn junction as the relative change in the LED junction temperature. The surface temperature can be approximated as the junction temperature when the thermal resistance effect between the metal surface and the pn junction is negligibly small.

#### 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 60747-5-6:2021, *Semiconductor devices – Part 5-6: Optoelectronic devices – Light emitting diodes*