

# INTERNATIONAL STANDARD



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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**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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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 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.

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