

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Semiconductor devices –
Part 5-7: Optoelectronic devices – Photodiodes and phototransistors**

**Dispositifs à semiconducteurs –
Partie 5-7: Dispositifs optoélectroniques – Photodiodes et phototransistors**





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CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references.....	5
3 Terms relating to physical concepts	5
4 Terms relating to types of devices	6
5 General terms.....	6
6 Terms relating to ratings and characteristics	9
6.1 Switching times.....	9
6.2 Photosensitive devices characteristics.....	11
7 Essential ratings and characteristics for photodiodes.....	14
8 Essential ratings and characteristics for phototransistors.....	15
9 Measuring methods for photosensitive devices	17
Annex A (informative) Cross-references index	22
Bibliography	23
Figure 1 – Optical port for devices with pigtail (emitter or detector)	7
Figure 2 – Optical port for packaged devices (emitter or detector), without pigtail.....	8
Figure 3 – Optical port for non-packaged devices (emitter or detector) without pigtail	9
Figure 4 – Switching times	11
Figure 5 – Fibre-input sensitivity S_{FD}	12
Figure 6 – Sensitivity diagram and related characteristics.....	14
Figure 7 – Block diagram for the measurement of the current under optical radiation.....	17
Figure 8 – Phototransistor and photodiode circuit diagrams	18
Figure 9 – Circuit diagrams	19
Figure 10 –Circuit diagram	20
Table 1 – Optical and electrical characteristics of photodiodes.....	15
Table 2 – Optical and electrical characteristics of phototransistors.....	16
Table A.1 – Cross references index.....	22

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES –**Part 5-7: Optoelectronic devices –
Photodiodes and phototransistors**

FOREWORD

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International Standard IEC 60747-5-7 has been prepared by subcommittee 47E: Discrete semiconductor devices, of IEC technical committee 47: Semiconductor devices.

This standard replaces the clauses for photodiodes and phototransistors described in IEC 60747-5-1, IEC 60747-5-2 and IEC 60747-5-3 including their amendments.

IEC 60747-5-1, IEC 60747-5-2 and IEC 60747-5-3, including their amendments, are replaced by the publications of IEC 60747-5-4, IEC 60747-5-5, IEC 60747-5-6¹ and IEC 60747-5-7 as a result of reconstruction.

¹ To be published.

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

CDV	Report on voting
47E/471/CDV	47E/502/RVC

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.

A list of all parts in the IEC 60747 series, published under the general title *Semiconductor devices*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

SEMICONDUCTOR DEVICES –

Part 5-7: Optoelectronic devices – Photodiodes and phototransistors

1 Scope

This part of IEC 60747 specifies the terminology, the essential ratings and characteristics as well as the measuring methods of photodiodes (hereinafter referred to as “PDs”) and phototransistors (hereinafter referred to as “PTs”).

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.

None.

3 Terms relating to physical concepts

3.1

electromagnetic radiation radiation

- 1) emission or transfer of energy in the form of electromagnetic waves with the associated photons
- 2) these electromagnetic waves or these photons

[SOURCE: IEC 60050-845:1987, 845-01-01, modified – The note has been deleted.]

3.2

optical radiation

electromagnetic radiation of wavelengths between the region of transition to X-rays ($\lambda \approx 1$ nm) and the region of transition to radio waves ($\lambda \approx 1$ nm)

[SOURCE: IEC 60050- 845:1987, 845-01-02]

3.3

visible radiation

any optical radiation capable of causing a visual sensation directly

Note 1 to entry: There are no precise limits for the spectral range of visible radiation since they depend upon the amount of radiant power reaching retina and the responsivity of the observer. The lower limit is generally taken between 360 nm and 400 nm and the upper limit between 760 nm and 830 nm.

[SOURCE: IEC 60050-845:1987, 845-01-03]

3.4

infrared radiation

optical radiation for which the wavelengths are longer than those for visible radiation

[SOURCE: IEC 60050-845:1987, 845-01-04, modified – The note has been deleted.]