

# INTERNATIONAL STANDARD

**IEC**  
**60747-12-3**

QC 720103

First edition  
1998-02

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**Semiconductor devices –**

**Part 12-3:**

**Optoelectronic devices –**

**Blank detail specification for light-emitting diodes –  
Display application**

*Dispositifs à semi-conducteurs –*

*Partie 12-3: Dispositifs optoélectroniques –*

*Spécification particulière cadre pour les diodes LED  
destinées à des applications d'affichage*



Reference number  
IEC 60747-12-3:1998 (E)

## Numéros des publications

Depuis le 1er janvier 1997, les publications de la CEI sont numérotées à partir de 60000.

## Publications consolidées

Les versions consolidées de certaines publications de la CEI incorporant les amendements sont disponibles. Par exemple, les numéros d'édition 1.0, 1.1 et 1.2 indiquent respectivement la publication de base, la publication de base incorporant l'amendement 1, et la publication de base incorporant les amendements 1 et 2.

## Validité de la présente publication

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Des renseignements relatifs à la date de reconfirmation de la publication sont disponibles dans le Catalogue de la CEI.

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- **Bulletin de la CEI**
- **Annuaire de la CEI**  
Accès en ligne\*
- **Catalogue des publications de la CEI**  
Publié annuellement et mis à jour régulièrement (Accès en ligne)\*

## Terminologie, symboles graphiques et littéraux

En ce qui concerne la terminologie générale, le lecteur se reportera à la CEI 60050: *Vocabulaire Electrotechnique International* (VEI).

Pour les symboles graphiques, les symboles littéraux et les signes d'usage général approuvés par la CEI, le lecteur consultera la CEI 60027: *Symboles littéraux à utiliser en électrotechnique*, la CEI 60417: *Symboles graphiques utilisables sur le matériel. Index, relevé et compilation des feuilles individuelles*, et la CEI 60617: *Symboles graphiques pour schémas*.

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L'attention du lecteur est attirée sur les listes figurant à la fin de cette publication, qui énumèrent les publications de la CEI préparées par le comité d'études qui a établi la présente publication.

\* Voir adresse «site web» sur la page de titre.

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Consolidated versions of some IEC publications including amendments are available. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

## Validity of this publication

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology.

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Information on the revision work, the issue of revised editions and amendments may be obtained from IEC National Committees and from the following IEC sources:

- **IEC Bulletin**
- **IEC Yearbook**  
On-line access\*
- **Catalogue of IEC publications**  
Published yearly with regular updates (On-line access)\*

## Terminology, graphical and letter symbols

For general terminology, readers are referred to IEC 60050: *International Electrotechnical Vocabulary* (IEV).

For graphical symbols, and letter symbols and signs approved by the IEC for general use, readers are referred to publications IEC 60027: *Letter symbols to be used in electrical technology*, IEC 60417: *Graphical symbols for use on equipment. Index, survey and compilation of the single sheets* and IEC 60617: *Graphical symbols for diagrams*.

## IEC publications prepared by the same technical committee

The attention of readers is drawn to the end pages of this publication which list the IEC publications issued by the technical committee which has prepared the present publication.

\* See web site address on title page.

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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For price, see current catalogue*

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES –

Part 12-3: Optoelectronic devices –

Blank detail specification for light-emitting diodes –  
Display application

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60747-12-3 has been prepared by subcommittee 47C: Optoelectronic display and imaging devices, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47C/190/FDIS	47C/198/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.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

Annex A forms an integral part of this standard.

A bilingual version of this standard may be issued at a later date.

**SEMICONDUCTOR DEVICES –  
Part 12-3: Optoelectronic devices –  
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**INTRODUCTION**

The IEC quality assessment system for electronic components is operated in accordance with the statutes of the IEC and under the authority of the IEC. The object of this system is to define quality assessment procedures in such a manner that electronic components released by one participating country as conforming with the requirements of an applicable specification are equally acceptable in all other participating countries without the need for further testing.

This blank detail specification is one of a series of blank detail specifications for semiconductor devices and should be used with the following IEC publications:

IEC 60747-10/QC 700000:1991, *Semiconductor devices – Part 10: Generic specification for discrete devices and integrated circuits*

IEC 60747-12/QC 720100:1991, *Semiconductor devices – Part 12: Sectional specification for optoelectronic devices*

**Required information**

Numbers shown in brackets on this and the following page correspond to the following items of required information, which should be entered in the spaces provided.

*Identification of the detail specification*

- [1] The name of the national standards organization under whose authority the detail specification is issued.
- [2] The IECQ number of the detail specification.
- [3] The numbers and issue numbers of the generic and sectional specifications.
- [4] The national number of the detail specification, data of issue and any further information, if required by the national system.

*Identification of the component*

- [5] Main function and type number.
- [6] Information on typical construction (materials, the main technology) and the package. If a device has several kinds of derivative products, those differences shall be indicated, for example feature of characteristics in the comparison table.  
If a device is sensitive to electrostatic charges, a caution statement shall be added in the detail specification.
- [7] Outline drawing, terminal identification, marking and/or reference to the relevant document for outlines.
- [8] Category of assessed quality according to 2.6 of the generic specification.
- [9] Reference data.

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[The clauses given in square brackets on the next pages of this standard, which form the front page of the detail specification, are intended for guidance to the specification writer and shall not be included in the detail specification.]

[When confusion may arise as to whether a paragraph is only an instruction to the writer or not, the paragraph shall be indicated between square brackets.]

<p>[Name (address) of responsible NAI (and possibly of body from which specification is available).] [1]</p>	<p>[Number of IECQ detail specification, plus issue number and/or date.] [2]</p>
<p><b>ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH:</b>          Generic specification:              IEC 60747-10/QC700000          Sectional specification:              IEC 60747-12/QC720100          [and national references if different.] [3]</p>	<p>[National number of detail specification. [4]</p> <p>This box need not be used if national number repeats IECQ number.]</p>
<p><b>DETAIL SPECIFICATION FOR: LIGHT EMITTING DIODES – DISPLAY APPLICATION</b> [5]</p> <p>[Type number(s) of the relevant device(s)]</p> <p>Ordering information: see clause 7 of this standard.</p>	
<p><b>1 Mechanical description</b> [7]</p> <p>Outline references:          IEC 60191-2..... [mandatory if available] and/or national [if there is no IEC outline].</p> <p>Outline drawing:          [May be transferred to, or given with more details in clause 10 of this standard.]</p> <p>Terminal identification:          [Drawing showing pin assignments, including graphical symbols.]</p> <p>Marking: [letters and figures]          [The detail specification shall prescribe the information to be marked on the device, if any.]          [See 2.5 of generic specification and/or clause 6 of this standard.]</p>	<p><b>2 Short description</b> [6]</p> <p>Light emitting diode/IR emitting diode:          with/without pigtail          Type: surface/edge emitting semiconductor material;          GaAs/GaAlAs/InP/InGaAsP/.....</p> <p>Encapsulation: metal/glass/plastic/.....</p> <p>[Some important reference data may be added.]</p> <p><b>3 Categories of assessed quality</b> [8]</p> <p>[From 2.6 of the generic specification.]</p> <p><b>Reference data</b> [9]</p>
<p>Information about manufacturers who have components qualified to this detail specification is available in the current qualified products list.</p>	