IEC®

IEC 62007-1

Edition 3.1 2022-09
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Semiconductor optoelectronic devices for fibre optic system applications – Part 1: Specification template for essential ratings and characteristics

Dispositifs optoélectroniques à semiconducteurs pour application dans les systèmes à fibres optiques – Partie 1: Modèle de spécification relatif aux valeurs et caractéristiques essentielles

IEC 62007-1:2015-03+AMD1:2022-09 CSV(en-fr)

urrently in preview, click buy full versi

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2022 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Secretariat
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, …). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou un amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, …). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 300 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 19 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

currently in preview, click buy full version

IEC 62007-1

Edition 3.1 2022-09
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Semiconductor optoelectronic devices for fibre optic system applications – Part 1: Specification template for essential ratings and characteristics

Dispositifs optoélectroniques à semiconducteurs pour application dans les systèmes à fibres optiques – Partie 1: Modèle de spécification relatif aux valeurs et caractéristiques essentielles

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 31.080.01; 31.260; 33.180.01

ISBN 978-2-8322-5764-7

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

currently in preview, click buy full version

urrently in preview, click buy full versi

IEC 62007-1

Edition 3.1 2022-09
CONSOLIDATED VERSION

REDLINE VERSION

VERSION REDLINE

colour inside

Semiconductor optoelectronic devices for fibre optic system applications – Part 1: Specification template for essential ratings and characteristics

Dispositifs optoélectroniques à semiconducteurs pour application dans les systèmes à fibres optiques – Partie 1: Modèle de spécification relatif aux valeurs et caractéristiques essentielles

Currently in preview, click buy full version

IEC 62007-1:2013+AMD1:2022-09 CSV(en-fr)

CONTENTS

currently in preview, click buy full version

currently in preview, click buy full version

currently in preview, click buy full versi

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

_____

SEMICONDUCTOR OPTOELECTRONIC DEVICES FOR FIBRE OPTIC SYSTEM APPLICATIONS –

Part 1: Specification template for essential ratings and characteristics

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62007-1 edition 3.1 contains the third edition (2015-03) [documents 86C/1256/CDV and 86C/1283/RVC] and its amendment 1 (2022-09) [documents 86C/1785/CDV and 86C/1817/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

currently in preview, click buy full version

International Standard IEC 62007-1 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

This third edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

1) The definitions of some symbols and terms are revised in order to harmonize them with those in other SC 86C documents.
2) A clause on APD-TIA has been added.

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

A list of all parts in the IEC 62007 series, published under the general title *Semiconductor optoelectronic devices for fibre optic system applications*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under webstore.iec.ch in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

currently in preview, click buy full version

SEMICONDUCTOR OPTOELECTRONIC DEVICES FOR FIBRE OPTIC SYSTEM APPLICATIONS –

Part 1: Specification template for essential ratings and characteristics

1 Scope

This part of IEC 62007 is a specification template for essential ratings and characteristics of the following categories of semiconductor optoelectronic devices to be used in the field of fibre optic systems and subsystems:

– semiconductor photoemitters;
– semiconductor photoelectric detectors;
– monolithic or hybrid integrated optoelectronic devices and their modules.

This part of IEC 62007 provides a frame for the preparation of detail specifications for the essential ratings and characteristics.

In using this part of IEC 62007, detail specification writers add but do not delete specification parameters and/or groups of specification parameters for particular applications.

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.

IEC 60825 (all parts), *Safety of laser products*

~~IEC 60747-5-1, *Discrete semiconductor devices and integrated circuits – Part 5-1: Optoelectronic devices – General*~~

IEC 60747-5-4, *Semiconductor devices – Part 5-4: Optoelectronic devices – Semiconductor lasers*

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

IEC 60747-5-7, *Semiconductor devices – Part 5-7: Optoelectronic devices – Photodiodes and phototransistors*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions concerning physical concepts, types of devices, general terms, and ratings and characteristics given in ~~IEC 60747-5-1~~ IEC 60747-5-4, IEC 60747-5-6 and IEC 60747-5-7 and the following apply.