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Irish Standard
I.S. EN 62148-15:2014

Fibre optic active components and devices - Package and interface standards - Part 15: Discrete vertical cavity surface emitting laser packages

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I.S. EN 62148-15:2014

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62148-15

August 2014

ICS 33.180.20

Supersedes EN 62148-15:2010

English Version

Fibre optic active components and devices - Package and interface standards - Part 15: Discrete vertical cavity surface emitting laser packages (IEC 62148-15:2014)

Composants et dispositifs actifs à fibres optiques - Normes de boîtier et d'interface - Partie 15: Boîtiers individuels pour laser à cavité verticale émettant par la surface (CEI 62148-15:2014)

Aktive Lichtwellenleiterbauelemente und -geräte - Gehäuse- und Schnittstellennormen - Teil 15: Einzelgehäuse für oberflächenemittierende Laser mit vertikalem Resonator (IEC 62148-15:2014)

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Foreword

The text of document 86C/1131/CDV, future edition 2 of IEC 62148-15, prepared by SC 86C "Fibre optic systems and active devices" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62148-15:2014.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-03-27
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-06-27

This document supersedes EN 62148-15:2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60130	NOTE	Harmonized in EN 60130 Series.
IEC 60191	NOTE	Harmonized in EN 60191 Series.
IEC 60603	NOTE	Harmonized in EN 60603 Series.
IEC 60794	NOTE	Harmonized in EN 60794 Series.
IEC 60825	NOTE	Harmonized in EN 60825 Series.
IEC 61076	NOTE	Harmonized in EN 61076 Series.
IEC 61280	NOTE	Harmonized in EN 61280 Series.
IEC 61281-1	NOTE	Harmonized as EN 61281-1.
IEC 61754	NOTE	Harmonized in EN 61754 Series.
IEC 62007-1	NOTE	Harmonized as EN 62007-1.
IEC 62007-2	NOTE	Harmonized as EN 62007-2.
IEC 62149-2	NOTE	Harmonized as EN 62149-2.
ISO 1101	NOTE	Harmonized as EN ISO 1101.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60793-2	Series	Optical fibres - Part 2: Product specifications - General	EN 60793-2	Series
IEC 60874	Series	Fibre optic interconnecting devices and passive components - Connectors for optical fibres and cables	EN 60874	Series
IEC 61754-4-1	-	Fibre optic connector interfaces - Part 4-1: Type SC connector family - Simplified receptacle SC-PC connector interfaces	EN 61754-4-1	-
IEC 61754-20	-	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 20: Type LC connector family	EN 61754-20	-
IEC 62148-1	-	Fibre optic active components and devices - Package and interface standards - Part 1: General and guidance	EN 62148-1	-
ITU-T Recommendation G.652	-	Characteristics of a single-mode optical fibre and cable	-	-

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IEC 62148-15

Edition 2.0 2014-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic active components and devices – Package and interface standards – Part 15: Discrete vertical cavity surface emitting laser packages

Composants et dispositifs actifs à fibres optiques – Normes de boîtier et d'interface – Partie 15: Boîtiers individuels pour laser à cavité verticale émettant par la surface

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IEC 62148-15

Edition 2.0 2014-05

INTERNATIONAL STANDARD

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Fibre optic active components and devices – Package and interface standards – Part 15: Discrete vertical cavity surface emitting laser packages

Composants et dispositifs actifs à fibres optiques – Normes de boîtier et d'interface – Partie 15: Boîtiers individuels pour laser à cavité verticale émettant par la surface

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PACKAGE AND INTERFACE STANDARDS –

Part 15: Discrete vertical cavity surface emitting laser packages

FOREWORD

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International Standard IEC 62148-15 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2009 and constitutes a technical revision.

The significant technical changes with respect to the previous edition are as follows:

– to include a type-A pin configuration in the 4-pin type VCSEL TO CAN packages;
– to introduce new package standards for high-speed (8 Gbps and 10 Gbps) VCSEL TOSA packages with LC and SC connectors;
– to suggest optional colour codes for various pin configurations; and
– to delete the requirement of the minimum dimension for the outer diameters of the TO CAN packages in order to accommodate recent mini-TO CAN packages.

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

CDV	Report on voting
86C/1131/CDV	86C/1228/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.

A list of all parts of the IEC 62148 series, published under the general title *Fibre optic active components and devices – Package and interface standards,* can be found on the IEC website.

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

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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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INTRODUCTION

Fibre optic laser devices are used to convert electrical signals into optical signals. This standard covers the physical dimension and interface for the discrete vertical cavity surface emitting laser (VCSEL) packages.

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FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PACKAGE AND INTERFACE STANDARDS –

Part 15: Discrete vertical cavity surface emitting laser packages

1 Scope

This part of IEC 62148 covers the physical dimension and interface specifications for the discrete vertical cavity surface emitting laser (VCSEL) devices in optical telecommunication and optical data transmission applications.

The intent of this standard is to adequately specify the physical requirements of VCSEL devices that will enable mechanical interchangeability of laser devices or transmitters complying with this standard both at the printed circuit wiring board and for any panel-mounting requirement.

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 60793-2 (all parts), *Optical fibres – Part 2: Product specifications*

IEC 60874 (all parts), *Fibre optic interconnecting devices and passive components – Connectors for optical fibres and cables*

IEC 61754-4-1, *Fibre optic connector interfaces – Part 4-1: Type SC connector family – Simplified receptacle SC-PC connector interfaces*

IEC 61754-20, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 20: Type LC connector family*

IEC 62148-1, *Fibre optic active components and devices – Package and interface standards – Part 1: General and guidance*

ITU-T Recommendation G.652, *Characteristics of a single-mode optical fibre and cable*

3 Terms, definitions and abbreviations

For the purpose of this document, the following terms, definitions and abbreviations apply.

3.1 Terms and definitions

3.1.1
pigtail package
package type of photonic devices which has a length of fibre attachment for both optical input and output ports

3.2 Abbreviations

VCSEL vertical cavity surface emitting laser

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