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

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/21

Obsahuje: EN IEC 62148-15:2021, IEC 62148-15:2021

Oznámením tejto normy sa od 04.05.2024 ruší  
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NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2021

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Supersedes EN 62148-15:2014 and all of its amendments and corrigenda (if any)

English Version

**Fibre optic active components and devices - Package and interface standards - Part 15: Discrete vertical cavity surface emitting laser packages  
(IEC 62148-15:2021)**

Composants et dispositifs actifs fibroniques - Normes de boîtier et d'interface - Partie 15: Boîtiers individuels pour laser à cavité verticale émettant par la surface  
(IEC 62148-15:2021)

Aktive Lichtwellenleiterbauelemente und -geräte - Gehäuse- und Schnittstellennormen - Teil 15: Einzelgehäuse für oberflächenemittierende Laser mit vertikalem Resonator  
(IEC 62148-15:2021)

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN IEC 62148-15:2021 (E)****European foreword**

The text of document 86C/1709/FDIS, future edition 3 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 IEC 62148-15:2021.

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) 2022-02-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-05-04

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

IEC 60130 (series)	NOTE	Harmonized as EN 60130 (series)
IEC 60191 (series)	NOTE	Harmonized as EN 60191 (series)
IEC 60603 (series)	NOTE	Harmonized as EN 60603 (series)
IEC 60793-2 (series)	NOTE	Harmonized as EN 60793-2 (series)
IEC 60794 (series)	NOTE	Harmonized as EN IEC 60794 (series)
IEC 60825 (series)	NOTE	Harmonized as EN 60825 (series)
IEC 61076 (series)	NOTE	Harmonized as EN IEC 61076 (series)
IEC 61280 (series)	NOTE	Harmonized as EN IEC 61280 (series)
IEC 61281-1	NOTE	Harmonized as EN IEC 61281-1
IEC 62007-1	NOTE	Harmonized as EN 62007-1
IEC 62007-2	NOTE	Harmonized as EN 62007-2
IEC 62148-1	NOTE	Harmonized as EN IEC 62148-1
IEC 62149-2	NOTE	Harmonized as EN 62149-2
ISO 1101	NOTE	Harmonized as EN ISO 1101

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-2-50	-	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN IEC 60793-2-50	-
IEC 60874	series	Fibre optic interconnecting devices and passive components - Connectors for optical fibres and cables	-	-
IEC 61754	series	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces	-	-
IEC 61754-4-100	-	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 4-100: Type SC connector family - Simplified receptacle SC-PC connector interfaces	EN 61754-4-100	-
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 IEC 62148-1	-
ITU-T G.652	-	Characteristics of a single-mode optical fibre and cable	-	-
ASTM B-652.B	-	Standard Specification for Niobium-Hafnium Alloy Ingots	-	-



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# 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 fibroniques – Normes de boîtier et d’interface –  
Partie 15: Boîtiers individuels pour laser à cavité verticale émettant par la  
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IEC Central Office  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
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# 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 fibroniques – Normes de boîtier et d’interface –  
Partie 15: Boîtiers individuels pour laser à cavité verticale émettant par la  
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**FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES –  
PACKAGE AND INTERFACE STANDARDS –****Part 15: Discrete vertical cavity surface emitting laser packages**

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

This third edition cancels and replaces the second edition published in 2014. This edition constitutes a technical revision.

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

- a) the classification of optical/electrical interface types is generalized and referred to IEC 62148-1;
- b) a new pin mode is added to Table 1;
- c) several dimensions of the VCSEL TO CAN package are changed in Table 3 to reflect the current state of technology;
- d) Figure 7 is updated to show the complete details of the VCSEL TOSA package.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
86C/1709/FDIS	86C/1712/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

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 document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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

## INTRODUCTION

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

## **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 discrete vertical cavity surface emitting laser (VCSEL) devices in optical telecommunication and optical data transmission applications.

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

#### **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.

IEC 60793-2-50, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

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

IEC 61754 (all parts), *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces*

IEC 61754-4-100, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 4-100: 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*

ASTM B-652.B, *Standard Specification for Niobium-Hafnium Alloy Ingots*

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