

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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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.

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.

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.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://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- withdrawn,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.

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