

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic active components and devices – Packaging and interface standards – Part 21: Design guide of electrical interface of PIC packages using silicon fine-pitch ball grid array (S-FBGA) and silicon fine-pitch land grid array (S-FLGA)**

**Composants et dispositifs actifs fibroniques – Normes de boîtier et d'interface – Partie 21: Guide de conception de l'interface électrique des boîtiers PIC utilisant des boîtiers matriciels à billes et à pas fins en silicium (S-FBGA) et des boîtiers matriciels à zone de contact plane et à pas fins en silicium (S-FLGA)**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 21: Design guide of electrical interface of PIC  
packages using silicon fine-pitch ball grid array (S-FBGA)  
and silicon fine-pitch land grid array (S-FLGA)**

## FOREWORD

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International Standard IEC 62148-21 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86C/1571/FDIS	86C/1577/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

A list of all parts in 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 document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

### Part 21: Design guide of electrical interface of PIC packages using silicon fine-pitch ball grid array (S-FBGA) and silicon fine-pitch land grid array (S-FLGA)

#### 1 Scope

This part of IEC 62148 covers the design guide of the electrical interface for photonic integrated circuit (PIC) packages using silicon fine-pitch ball grid array (S-FBGA) and silicon fine-pitch land grid array (S-FLGA). In this document, the electrical interface for the S-FBGA package is informative.

The purpose of this document is to specify adequately the electrical interface of PIC packages composed of optical transmitters and receivers that enable mechanical and electrical interchangeability of PIC packages.

#### 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 60050-731, *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC TR 61931, *Fibre optic – Terminology*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-731, IEC TR 61931 and the following apply.

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##### 3.1 Silicon fine-pitch ball grid array

###### S-FBGA

device composed of silicon die, dielectric layer(s) on the die, rerouting wires from the die pads to outer balls on the dielectric layer(s), and outer balls with heights more than 0,1 mm

Note 1 to entry: This note only applies to the French language.