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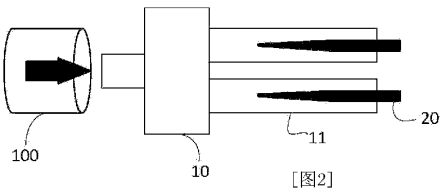
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根据细则4.17的声明:
— 关于发明人身份(细则4.17(i))
— 关于申请人有权申请并被授予专利(细则4.17(ii))
— 发明人资格(细则4.17(iv))

(54) **Title:** OPTICAL COUPLING DEVICE, OPTICAL CHIP AND OPTICAL MODULE

(54) 发明名称: 光耦合器件、光芯片以及光模块



[图2]

(57) **Abstract:** The present application relates to an optical coupling device, an optical chip, and an optical module. The optical coupling device comprises: a middle layer light-splitting structure, which is used for receiving incident light and splitting the incident light into multiple beams of light, and which comprises a plurality of light-emitting coupling units, each light-emitting coupling unit being used for outputting one beam of light; and a plurality of silicon optical coupling devices, the front end of each silicon optical coupling device being covered by one of the light-emitting coupling units, and the silicon optical coupling devices being used for coupling the light outputted by each light-emitting coupling unit. The embodiment of the present application is different from a conventional approach of coupling incident light by means of silicon-based inverted conical coupling. By receiving incident light by means of the middle layer light-splitting structure and splitting the incident light, optical power transmitted to the silicon optical coupling devices can be effectively reduced, and damage to a silicon waveguide can thus be effectively reduced. Therefore, the optical coupling device of the optical chip in the embodiment of the present application can withstand large optical power.

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本国际公布:
— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本申请涉及一种光耦合器件、光芯片以及光模块，包括：中间层分光结构，用于接收入射光，并将所述入射光分为多束光线，且包括多个出光耦合部，每个所述出光耦合部用于输出其中一束光线；多个硅光耦合器件，每个所述硅光耦合器件前端被一个所述出光耦合部覆盖，用于对各出光耦合部输出的光线进行耦合。本申请实施例区别于传统通过硅基倒锥形耦合对入射光进行耦合的方式，通过中间层分光结构接收入射光，并对其进行分光，从而可以有效降低传输至硅光耦合器件上的光功率，从而可以有效降低对硅波导的损伤。因此，本申请实施例光芯片的光耦合器件可以承受较大光功率。