Title (en)

GRATING BASED OPTICAL TRANSMITTER

Title (de)

GITTERBASIERTER OPTISCHER SENDER

Title (fr)

ÉMETTEUR OPTIQUE À RÉSEAU DE DIFFRACTION

Publication

EP 3482469 A4 20190710 (EN)

Application

EP 17824804 A 20170705

Priority

- US 201615201907 A 20160705
- US 2017040712 W 20170705

Abstract (en)

[origin: WO2018009538A1] A grating based optical transmitter includes a light source region coupled to an interference region, two reflective regions on both sides of the interference region, and one or several gratings interacting with the interference light wave in the interference region causing a vertical emission. Two electrodes are used to inject electrical carriers, and a third electrode can be added to modulate the electrical carrier density recombined in the light source region. Compared to conventional edge-emitting laser with two electrodes, the grating-based optical transmitter in this invention largely reduces the packaging cost and complexity due to the vertical emission, and largely enhances the modulation bandwidth due to the three-terminal configuration.

IPC 8 full level

H01S 5/187 (2006.01); **G02B 6/12** (2006.01); **H01S 5/10** (2006.01); H01S 5/042 (2006.01); H01S 5/062 (2006.01); H01S 5/12 (2006.01); H01S 5/125 (2006.01); H01S 5/14 (2006.01)

CPC (source: EP US)

H01S 5/1032 (2013.01 - EP US); **H01S 5/187** (2013.01 - EP); H01S 5/0424 (2013.01 - EP); H01S 5/04256 (2019.08 - EP US); H01S 5/04257 (2019.08 - EP US); H01S 5/06203 (2013.01 - EP); H01S 5/1014 (2013.01 - EP); H01S 5/1082 (2013.01 - EP); H01S 5/124 (2013.01 - EP); H01S 5/125 (2013.01 - EP); H01S 5/141 (2013.01 - EP)

Citation (search report)

- [Y] EP 2913902 A1 20150902 - FORELUX INC [TW]
- [XYI] DAN BOTEZ ET AL: "Analysis of surface-emitting second-order distributed feedback lasers with central grating phaseshift", IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 9, no. 5, 1 September 2003 (2003-09-01), pages 1153 - 1165, XP011106603, ISSN: 1077-260X, DOI: 10.1109/JSTQE.2003.819467
- See also references of WO 2018009538A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

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DOCDB simple family (application)

US 2017040712 W 20170705; CN 201780050212 A 20170705; EP 17824804 A 20170705