

Title (en)

MICROSTRUCTURE ENHANCED ABSORPTION PHOTOSENSITIVE DEVICES

Title (de)

MIKROSTRUKTURVERBESSERTE LICHTEMPFLINDLICHE ADSORPTIONSVORRICHTUNGEN

Title (fr)

DISPOSITIFS PHOTOSENSIBLES À ABSORPTION AMÉLIORÉS PAR DES MICROSTRUCTURES

Publication

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Application

**EP 18835833 A 20180723**

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- US 201762547728 P 20170818
- US 201762553844 P 20170902
- US 201762556426 P 20170910
- US 201762561869 P 20170922
- US 201762591072 P 20171127
- US 201762599246 P 20171215
- US 201762607860 P 20171219
- US 201862615314 P 20180109
- US 201862623971 P 20180130
- US 201862628764 P 20180209
- US 201862631630 P 20180217
- US 201862633514 P 20180221
- US 201862634692 P 20180223
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- US 201862639356 P 20180306
- US 201862639920 P 20180307
- US 201862640522 P 20180308
- US 201862643010 P 20180314
- US 201862645810 P 20180321
- US 201862646871 P 20180322
- US 201862651053 P 20180330
- US 201862651087 P 20180331
- US 201862652830 P 20180404
- US 201862659072 P 20180417
- US 201862659067 P 20180417
- US 201862662217 P 20180424
- US 201862666005 P 20180502
- US 201862669194 P 20180509
- US 201862675130 P 20180522
- US 201862677609 P 20180529
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- US 2018043289 W 20180723

Abstract (en)

[origin: WO2019018846A2] Lateral and vertical micro structure enhanced photodetectors and avalanche photodetectors are monolithically integrated with CMOS/BiCMOS ASICs and can also be integrated with laser devices using fluidic assembly techniques. Photodetectors can be configured in a vertical PIN arrangement or lateral metal- semiconductor-metal arrangement where electrodes are in an inter-digitated pattern. Microstructures, such as holes and protrusions, can improve quantum efficiency in silicon, germanium and III-V materials and can also reduce avalanche voltages for avalanche photodiodes. Applications include optical communications within and between datacenters, telecommunications, LIDAR, and free space data communication.

IPC 8 full level

**H01L 31/0236** (2006.01); **H01L 27/144** (2006.01); **H01L 31/0216** (2014.01); **H01L 31/0224** (2006.01); **H01L 31/0232** (2014.01); **H01L 31/028** (2006.01); **H01L 31/0304** (2006.01); **H01L 31/0352** (2006.01); **H01L 31/105** (2006.01); **H01L 31/107** (2006.01); **H01L 31/108** (2006.01); **H01L 31/12** (2006.01); **H01L 31/18** (2006.01); **H01S 5/0234** (2021.01); **H01S 5/0237** (2021.01); **H01S 5/183** (2006.01)

CPC (source: EP)

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Citation (search report)

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- See references of WO 2019018846A2

Designated contracting state (EPC)

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DOCDB simple family (application)

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