

Title (en)

VERTICAL RESONATOR LASER DIODE WITH A SMALL APERTURE OPENING

Title (de)

VERTIKALRESONATOR-LASERDIODE MIT KLEINER APERTURÖFFNUNG

Title (fr)

DIODE LASER A RESONATEUR VERTICAL DOTEE D'UNE PETITE OUVERTURE

Publication

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Application

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Abstract (en)

[origin: DE19908425A1] The invention relates to a vertical resonator laser diode. An active series of layers (3) is arranged between a first Bragg reflector layer series (2) and a second Bragg reflector layer series (4) in order to produce laser irradiation. Each Bragg reflector layer series is provided with a plurality of mirror pairs (22, 44). The two Bragg reflector layer series (2, 4) form a laser resonator. The two Bragg reflector layer series (2, 4) and the active series of layers (3) are arranged between a first (7) and a second electric contact layer (8). One (4) of the two Bragg reflector layer series (2, 4) is partially permeable for the laser irradiation produced in the active series of layers (3). A light emitting opening or aperture opening (7a) is provided in the first electric contact layer (7). Said opening is significantly smaller than a pumped active area of the active series of layers (3). A current aperture screen (41) is provided in at least one mirror pair of one of the two Bragg reflector layer series. According to the invention, only the fundamental mode of the laser diode is essentially emitted in operation.

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IPC 8 full level

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