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(54) Title: QUANTUM WELL ACTIVE REGION WITH THREE DIMENSIONAL BARRIERS AND FABRICATION

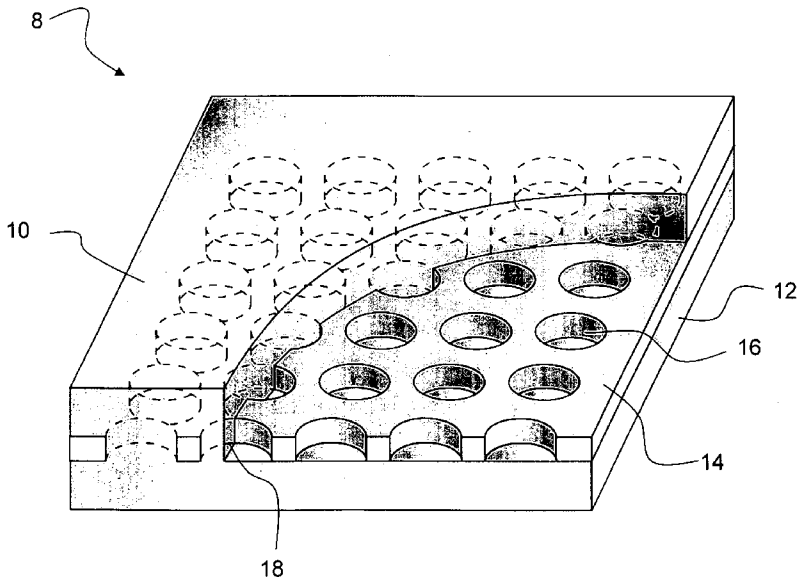


FIG. 1

(57) Abstract: The invention provides a quantum well active region for an optoelectronic device. The quantum well active region includes barrier layers of high bandgap material. A quantum well of low bandgap material is between the barrier layers. Three-dimensional high bandgap barriers are in the quantum well. A preferred semiconductor laser of the invention includes a quantum well active region of the invention. Cladding layers are around the quantum well active region, as well as a waveguide structure.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/005508

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H01L 33/00 (2009.01)
USPC - 257/14
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H01L 33/00 (2009.01)
USPC - 257/13, 14, 15, 17, 79, 86, 94, 103; 438/22, 46, 47; 372/43.01, 45.01

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
USPTO EAST System (US, USPG-PUB, EPO, DERWENT)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2006/0083278 A1 (TAN et al) 20 April 2006 (20.04.2006) entire document	1, 2, 10, 12
Y		3-9, 11, 13-15
Y	US 2006/0081832 A1 (CHEN) 20 April 2006 (20.04.2006) entire document	3-6, 9, 11, 13-15
Y	US 2007/0057270 A1 (BOUR et al) 15 March 2007 (15.03.2007) entire document	7-9
Y	US 2006/0134931 A1 (LIN) 22 June 2006 (22.06.2006) entire document	14, 15

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Date of the actual completion of the international search	Date of mailing of the international search report
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