Optically pumped 1550nm wavelength tunable MEMS VCSEL

The paper presents the design and fabrication of an optically pumped 1550nm tunable MEMS VCSEL with an enclosed MEMS. The MEMS is defined in SOI and the active material, an InP wafer with quantum wells are bonded to the SOI and the last mirror is made from the deposition of dielectric materials. The design brings in flexibility to fabricate MEMS VCSELs over a wider range of wavelengths. The paper discusses results from the simulations and bonding results from fabrication. The device will push the boundaries for wavelength sweep speed and bandwidth.

General information
State: Published
Organisations: Department of Photonics Engineering, Nanophotonic Devices, Centre of Excellence for Silicon Photonics for Optical Communications, Experimental Surface and Nanomaterials Physics, Department of Micro- and Nanotechnology, Silicon Microtechnology, OCTLIGHT ApS
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Number of pages: 10
Publication date: 2016

Host publication information
Title of host publication: Proceedings of SPIE
Volume: 9760
Publisher: SPIE - International Society for Optical Engineering
Article number: 97600X-1
ISBN (Electronic): 9781628419955
DOIs: 10.1117/12.2209563
Source: PublicationPreSubmission
Source-ID: 125389770
Research output: Research - peer-review Article in proceedings – Annual report year: 2016