Title (en)

REFLECTIVE LAYER BURIED IN SILICON AND METHOD OF FABRICATION

Title (de)

IM SIZILIUM VERGRABENE, REFLEKTIERENDE SCHICHT UND VERFAHREN ZU DERENHERSTELLUNG

Title (fr)

COUCHE DE REFLEXION ENTERREE DANS LE SILICIUM ET PROCEDE DE FABRICATION

Publication

EP 1226612 A2 20020731 (EN)

Application

EP 00946759 A 20000505

Priority

- US 0012287 W 20000505
- US 13285499 P 19990506

Abstract (en)

[origin: WO0067891A2] A silicon wafer having a distributed Bragg reflector buried within it. The buried reflector provides a high efficiency, readily and accurately manufactured reflector with a body of silicon. A photodetector using the buried layer to form a resonant cavity enhancement of the silicon's basic quantum efficiencies and selectivity is provided. The DBR is created by bonding of two or more substrates together at a silicon oxide interface or an oxide-oxide interface. In the former, a hydrogen implant is used to cleave silicon just above the bond line. In the latter, the bonding is at the oxide layers.

[origin: WO0067891A2] A silicon wafer (12) having a distributed Bragg reflector (14) buried within it. The buried reflector provides a high efficiency, readily and accurately manufactured reflector with a body of silicon. A photodetector using the buried layer to form a resonant cavity enhancement of the silicon's basic quantum efficiencies and selectivity is provided. The DBR (14) is created by bonding of two or more substrates (20, 26) together at a silicon oxide interface (22) or an oxide-oxide interface. In the former, a hydrogen implant is used to cleave silicon just above the bond line. In the latter, the bonding is at the oxide layers.

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H01L 33/00

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