



162162



G00002

ABSTRACT**A DEVICE AND METHOD FOR FORMING AN OPTICAL SWITCH DEVICE**

A device and method for forming an optical switch device comprises forming a waveguide core having a longitudinally extending axis, and forming a cladding layer surrounding the waveguide core. A liquid crystal cell is mounted in the waveguide core, the liquid crystal cell being positioned across the waveguide core and extending in a plane at a predetermined angle to the longitudinal axis of the waveguide core. A pair of electrodes is then formed in the cladding layer, one electrode being located above the liquid crystal cell and the other electrode in the pair being located below the liquid crystal cell. The liquid crystal cell is utilized as a modulator of refractive index. An applied electric field to the liquid crystal cell changes the refractive index of the cell. The change of refractive index causes a total reflection at the boundary surface between the waveguide core and the liquid crystal cell. The liquid crystal cell thereby acts as a switching element.

[Fig. 3]