

ABSTRACT
OPTICAL MODULATOR

The present invention provides an optical modulator including a substrate and a phase modulation portion on the substrate. The phase modulation portion includes an optical waveguide comprised of a first clad layer, a semiconductor layer that is laminated on the first clad layer and has a refraction index higher than the first clad layer and a second clad layer that is laminated on the semiconductor layer and has a refraction index lower than the semiconductor layer, a first traveling wave electrode, and a second traveling wave electrode. The semiconductor layer includes a rib that is formed in the optical waveguide in an optical axis direction and is a core of the optical waveguide, a first slab that is formed in the optical axis direction in one side of the rib, a second slab that is formed in the optical axis direction in the other side of the rib, a third slab that is formed in the first slab in the optical axis direction at the opposite side to the rib, and a fourth slab that is formed in the second slab in the optical axis direction at the opposite side to the rib. The first slab is formed to be thinner than the rib and the third slab, and the second slab is formed to be thinner than the rib and the fourth slab.

[Figure 4]