

SILICON-BASED ELECTRO-OPTIC DEVICE**ABSTRACT**

In an electro-optic device, a stack structure including a first silicon layer of a first conductivity type and a second silicon layer of a second conductivity type has a rib waveguide shape so as to form an optical confinement area, and a slab portion of a rib waveguide includes an area to which a metal electrode is connected. The slab portion in the area to which the metal electrode is connected is thicker than a surrounding slab portion. The area to which the metal electrode is connected is set so that a range of a distance from the rib waveguide to the area to which the metal electrode is connected is such that when the distance is changed, an effective refractive index of the rib waveguide in a zeroth-order mode does not change.

FIG. 5