

OPTICAL COUPLING STRUCTURE

ABSTRACT

An optoelectronic coupling structure, a method of manufacture, and a method of operation are described. The optical coupling structure includes a waveguide that is formed within a device layer of an SOI substrate. A prism is located on a bottom side of the SOI substrate. A BOX layer of the SOI substrate, which is interposed between the prism and the waveguide, serves as a spacer region, which promotes an optical coupling of the prism to the waveguide. By positioning the prism below the waveguide, an optoelectronic IC may more readily accommodate a prism. The prism may be directly fabricated in a bulk layer of the SOI substrate or directly bonded to a bottom side surface of the BOX layer.

Figure 2