

ABSTRACT

An optical waveguide is provided. The optical waveguide includes a plurality of core portions and a plurality of clad portions in which each core portion being provided between a pair of clad portions. Each of the plurality of clad portions comprises: a low refractive-index area being in contact with the core portion, wherein a refractive index of the low refractive-index area is lower than that of the plurality of core portions; and a plurality of high refractive-index areas separated from the core portion through the low refractive-index area, wherein a refractive index of the plurality of high refractive-index areas is higher than the refractive index of the low refractive-index area. The plurality of high refractive-index areas are provided in the clad portion in an aligned manner or in a scattered manner. The plurality of high refractive-index areas are constituted of the same kind of material as a constituent material of the plurality of core portions. The plurality of high refractive-index areas make light scattered. Such light does not enter the plurality of core portions and involuntarily enters the plurality of clad portions. By doing so, it is possible to prevent the light from reaching light receiving elements, so that it is possible to improve quality of optical communications.



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