

Polarization- insensitivity for polymer-silica based Multimode Interference (MMI) cross coupler

Abstract

A polarization-insensitive cross coupler, which consists of hybrid polymer-silica-based multimode waveguide on Si substrate, is presented. At operation wavelength of 1.55 μm , the simulation was done for both TE and TM modes and it was found that there is a slight polarization difference between these modes. In order to compromise the needs of low coupling loss and polarization insensitivity, an MMI width of 50 μm has been chosen and simulated. The crosstalk value of the less polarization-sensitive cross coupler is -35 dB.