

Polymer based arrayed waveguide grating (AWG)

Abstract

A conventional AWG structure based on Benzo Cyclobutene (BCB 4024-40) polymer for DWDM/CWDM application is presented. AWGs are designed on silica substrate with the polymer waveguide refractive index of 1.5556 and layer refractive index of 1.537. Two types of four channels AWG have been successfully designed and operate well in 1550 nm communication window at their desired frequency spacing. Although numbers of AWG structure have been designed and implemented, the presented work is considered to be the first that based on BCB polymer.