

ABSTRACT

ELECTRO-ABSORPTION MODULATOR WITH IMPROVED PHOTOCURRENT UNIFORMITY

Disclosed are integrated electro-absorption modulators (EAM) that are structured and/or operated to improve uniformity of the photocurrent density along the active region. In various embodiments, this improvement results from increased optical absorption at the rear of the EAM, e.g., as achieved by heating a region at the rear, increasing a bias voltage applied across the EAM towards the rear, or changing a material composition of an intrinsic layer towards the rear. In another embodiment, the improvement is achieved by coupling light from a waveguide into the EAM active region continuously along a length of the EAM, using overlap between a tapered section of the waveguide and the EAM.

(fig. 4A)