

ABSTRACT

INTEGRATED OPTOELECTRONIC DEVICE WITH HEATER

Disclosed are structures as well as methods of manufacture and operation of integrated optoelectronic devices that facilitate directly heating the diode or waveguide structures to regulate a temperature of the device while allowing electrical contacts to be placed close to the device to reduce the electrical resistance. Embodiments include, in particular, heterogeneous electro-absorption modulators that include a compound-semiconductor diode structure placed above a waveguide formed in the device layer of an SOI substrate.

(FIG. 2A)