

The invention relates to optoelectronics, in particular to design of semiconductor devices converting electric energy to coherent radiation. A semiconductor radiation source for a gas-analyzer comprises radiating elements located on one semiconductor base and radiate in maximum at different wavelength, comprises $n \geq 2$ active elements with p-n-junctions, which radiate in maximums $m \geq 2$ of given wavelength, matched for every of $m \geq 2$ temperature intervals of operating range, active elements with p-n-junctions are activated with different time interval and length depending on environment temperature change. The technical result consists in obtaining the semiconductor radiation source which effectively matches its spectral characteristics and spectral sensitivity of photoreceiver and/or absorbance spectrum of studied gas under action of environment temperature over wide range of temperature without construction complication, and the significant extension of application range.