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Semiconductor Laser Device



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ABSTRACT OF DISCLOSURE

On an n-GaAs substrate are sequentially formed an n-GaAs buffer layer, an n-AlGaAs cladding layer, a non-doped InGaAs active layer, a p-Al_xGa_{1-x}As cladding layer, a p-GaAs contact layer, and further an n-AlGaAs current blocking layer having a stripe-like window is embedded in the cladding layer. At the active layer side interface of the current blocking layer, a diffraction grating of cyclic bumps and dips shape is formed, but the diffraction grating is not formed in a region of the stripe-like window where the current blocking layer is not present, i.e., a current injection region. In this way, a semiconductor laser device of low oscillation threshold, high oscillation efficiency, high reliability, long life time, and stabilized oscillation wavelength can be realized.

Figure 1A & 1B