ABSTRACT OF THE DISCLOSURE

(1) A III-V group compound semiconductor comprising, at least, a substrate, a buffer layer of the general formula $In_uGa_vAl_wN$ (wherein, $0 \leqq u \leqq 1$, $0 \leqq v \leqq 1$, $0 \leqq w \leqq 1$, $u+v+w=1$) and a III-V group compound semiconductor crystal layer of the general formula $In_xGa_yAl_zN$ (wherein, $0 \leqq x \leqq 1$, $0 \leqq y \leqq 1$, $0 \leqq z \leqq 1$, $x+y+z=1$) in this order wherein the buffer layer has a thickness of 5 Å or more and 90 Å or less, and

(2) a method for producing a III-V group compound semiconductor wherein, in growing a III-V group compound semiconductor crystal layer of the general formula $In_xGa_yAl_zN$ on a substrate, a buffer layer of the general formula $In_uGa_vAl_wN$ is formed to give a thickness of 5 Å or more and 90 Å or less at temperatures lower than the growing temperature of the compound semiconductor crystal layer before growing the compound semiconductor crystal layer, then, the compound semiconductor crystal layer is grown.