ABSTRACT

LIGHT-EMITTING DEVICE, METHOD FOR MAKING THE SAME, AND NITRIDE SEMICONDUCTOR SUBSTRATE

A light-emitting device according to the present invention includes: a GaN substrate 1; a n-type $Al_xGa_{1-x}N$ layer 3 on a first main surface side of the GaN substrate 1; a p-type $Al_xGa_{1-x}N$ layer 5 positioned further away from the GaN substrate 1 compared to the n-type $Al_xGa_{1-x}N$ layer 3; a multi-quantum well (MQW) 4 positioned between the n-type $Al_xGa_{1-x}N$ layer 3 and the p-type $Al_xGa_{1-x}N$ layer 5. In this light-emitting device, the p-type $Al_xGa_{1-x}N$ layer 5 side is down-mounted and light is emitted from the second main surface 1a, which is the main surface of the GaN substrate 1 opposite from the first main surface. Hemispherical projections 82 are formed on the second main surface 1a of the GaN substrate 1.