



162162

ABSTRACT



G00002

An ultraviolet-light-emitting semiconductor diode comprising an n-type ZnO layer
5 with luminous characteristics formed on a transparent substrate, and a p-type
semiconductor layer selected from the group consisting of SrCu_2O_2 , CuAlO_2 and
 CuGaO_2 , which is formed on the n-type ZnO layer to provide a p-n junction
therebetween. The transparent substrate is preferably a single crystal substrate
having atomically flat yttria-stabilized zirconia (YSZ) (III) surface. The n-type ZnO
10 layer is formed on the transparent substrate having a temperature of 200 to 1200°C,
and the p-type semiconductor layer selected from the group of SrCu_2O_2 , CuAlO_2 and
 CuGaO_2 is formed on the n-type ZnO layer. The n-type ZnO layer may be formed
without heating the substrate, and then the surface of the ZnO layer may be irradiated
with ultraviolet light to promote crystallization therein.

15