

Diode Characteristics of n -ZnO/ p -Si Heterojunction fabricated by Atomic Layer Deposition Using Diethylzinc and 1,5-Pentanediol

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ZnO thin film is grown on p -Si substrate by atomic layer deposition to form an n -ZnO/ p -Si heterojunction. In our ALD process, we utilize diethylzinc and 1,5-Pentanediol (PD) as precursors of zinc and oxygen precursors, respectively. Here we compare the diode characteristics prepared by using PD with those prepared by using water. Even though the PD precursor is one of alcohols, the grown film shows excellent diode performance comparable to the ZnO grown by using water.