

**ALUMINUM-DOPED ZINC OXIDE FILM AND METHOD OF FORMING THE SAME****Abstract**

Various embodiments may provide a method of forming an aluminum-doped zinc oxide film. The method may include forming a seed layer on a substrate by a solution deposition process. The method may also include depositing a precursor solution including zinc nitrate and ammonium hydroxide on the seed layer. The method may further include contacting the precursor solution with aluminum metal at a temperature equal to or less than 85 °C. The aluminum-doped zinc oxide film may be formed from the precursor solution and the aluminum metal.

FIG. 2