Abstract
This paper reports the I-V curves and optical characteristics of solar cell using Si₃ N₄, TiO₂, and MgF₂ as Anti reflecting coating (ARC) in front of c-Si solar cell. It is found that the current produced by using Si₃ N₄ as an anti-reflective coating is more than TiO₂ by order 10 and is comparable to the current produced by MgF₂. According to the results, Si₃ N₄ is proven to be suitable as anti reflective coating material with a Maximum Power Point (MPP) value of 3.8×10⁻⁸ W/m² where current is 6×10⁻⁸ A/m².

References


Index Terms

Computer Science, Computing, Communication, And Sensor Network

Keywords

Anti Reflecting Coating (arc), Si₃ N₄, TiO₂, MgF₂, Reflectance Spectra, Transmittance Spectra, Transfer Matrix, Generation Rate, Solar Cell