

단결정 실리콘 태양전지를 위한 screen printing 전극과 photo lithography
다층전극의 적용에 대한 연구

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**Application of Screen Printing and Photo Lithography Multi-layer Metal Contact for Single
Crystalline Silicon Solar Cells**

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Abstract : Screen printing (SP) metal contact is typically applied to the solar cells for mass production. However, SP metal contact has low aspect ratio, low accuracy, hard control of the substrate penetration and unclean process. On the other hand, photo lithography (PL) metal contact can reduce defects by metal contact. In this investigation, PL metal contact was obtained the multi-layer structure of Ti/Pd/Ag by e-beam process. We applied SP metal contact and PL metal contact to single crystalline silicon solar cells, and demonstrated the difference of conversion efficiency. Because PL metal contact silicon solar cell has J_{sc} (short circuit current density) better than silicon solar cell applied SP metal contact.

Key Words : solar cell, screen printing, photo lithography, metal contact