

CIGS 태양전지 투명전극용 ZnO:Al 박막의 두께에 따른 효율

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Dependence of Efficiency of CIGS solar cells on thickness of transparent conducting Al-doped ZnO

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Abstract : Al-doped ZnO has been investigated as a transparent conducting oxide (TCO) for optoelectronic devices for decades. In solar cells, especially Cu(In,Ga)Se₂ (CIGS), Al-doped ZnO film was used as a top or bottom transparent conducting window layer. In this paper, we have studied the comparison of the efficiencies of CIGS solar cells using different thickness of Al-doped ZnO thin films. Table 1 shows that ZnO:Al thin films deposited by RF magnetron sputtering. The CIGS solar cells with an Al/ZnO:Al/CdS/CIGS/Mo and an Al/ZnO:Al/i-ZnO/CdS/CIGS/Mo structure were fabricated. The 50nm-thick-intrinsic ZnO thin films were deposited by RF magnetron sputtering and by atomic layer deposition, respectively.

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