

Highly Efficient Top-Illuminated Flexible Polymer Solar Cells with a Nanopatterned 3-Dimensional Microresonant Cavity

AN CHENGJIN, 최종길¹, 박종민¹, 김명량, 정희태^{1,*}

KAIST; ¹KAIST 생명화학공학과

(heetae@kaist.ac.kr*)

Top-illuminated flexible polymer solar cells with 3D microresonant cavity provide not only powerful light-trapping but also electrical enhancement, resulting in significant enhancement of power efficiency (26.4 %). Capping layer (CL) enhanced the transmittance of the transparent electrodes, increasing electric field intensity in the photoactive layer by forming microresonant cavity, and the nano-pattern on the rear electrodes caused significant enhancement to the Jsc by improving light absorption and charge collection