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The Effect of the Reflectance as a Si-Based Solar Cell Using the Nano-Imprint Lithography Processing¹ KYU-HA BAEK, JONG-CHANG WOO, DONG-PYO KIM, KUN-SIK PARK, LEE-MI DO, JOO-YEON KIM, Electronics and Telecommunications Research Institute, KIJUN LEE, Chung-Nam National University — In this paper, the results of the fabrication of nano-structured Si molds by stepper lithography and dry etching are presented. A nano-imprint system was used to reflectance the mold patterns to a PDMS layer on a Si template using the hot-plate technique. Since this polymeric nano-pattern is smaller than the wavelength of light, the effective refractive index near the surface changes gradually, and reduces the amount of reflection. As a result, the spectra of molds showed significantly reduced reflectance ($< 5\%$) through the entire wavelength range at normal incidence.

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