

## Monocrystalline Silicon Surface Passivation by Porous Silicon

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**Abstract :** In this paper, we report on the effect of porous silicon (PS) treatment on the surface passivation of monocrystalline silicon (c-Si). PS film with a thickness of 80 nm was deposited by stain etching. It was demonstrated that PS coating is a very interesting solution for surface passivation. The level of surface passivation is determined by techniques based on photoconductance and FTIR. As a results, the effective minority carrier lifetime increase from 2  $\mu$ s to 7  $\mu$ s at  $\Delta n=10^{15}$  cm<sup>-3</sup> and the reflectivity reduce from 28 % to about 7 % after PS coating.

**Keywords :** porous silicon, effective minority carrier lifetime, reflectivity

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