



Carrier Selective Contacts based on Low Pressure Chemical Vapor Deposition on Planar and Black Silicon

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Hajjafarassar, A., Shearer, D., Schmidt Davidsen, R., Schou, J., Pedersen, T., Hansen, O., landolo, B.

We fabricated and investigated the passivation quality of tunnel oxide passivated contacts (TOPCon) fabricated by low pressure chemical vapour deposition (LPCVD) of polycrystalline silicon (poly-Si) on ultrathin silicon oxide layers. We obtained promising implied open circuit voltage (iVoc) values of up to 720 mV on device precursor wafers with no surface texturing, and of 707 mV on a wafer textured by reactive ion etch (RIE) to give black silicon. Further improvement can be achieved by improving the quality of the p-type selective contact, as preliminary results indicate.