Development of n-type, passivating nanocrystalline silicon oxide (nc-SiOx:H) films via PECVD

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**Supplementary section**

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Fig. S1. Variation in minority carrier lifetime (τeff) w.r.t. minority carrier density of nc-SiOx:H films deposited with changing CO2 gas flow ratio.



Fig. S2. Variation in minority carrier lifetime (τeff) w.r.t. minority carrier density of nc-SiOx:H films deposited with changing PH3 gas flow ratio.



Fig. S3. (a) Effective minority carrier lifetime (τeff) and (b) implied Voc (iVoc) of nanocrystalline silicon oxide (nc-SiOx:H) films deposited at various powers (20-80 W).