

Despite this impressive progress, the processing of PV still is far from having reached its limits, and new challenges have to be addressed. Emerging developments, such as black silicon, provide a huge potential to make PV even more competitive in the field of energy conversion.

For a state-of-the-art PERC system, the uniformity of the alkaline texturing process during a 35-day period on a full production line is reported. To increase the viability of SHJ cells for mass production, the decrease of complexity and costs per wafer is a key step for tool manufacturers.

Compared with the acid polishing sample, the efficiency of the micro-alkali texturing sample is increased by 0.12%. The deterioration of ohmic contact caused by alkali polishing has not been eliminated by optimizing the reaction process of alkali polishing. The study of different surface morphologies-modified samples under different tunnel ...

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In this work, we report a solid strategy to realize heteroface monocrystalline silicon (mono-Si) wafers for PERC-SE solar cells by employing alkaline polishing to form a polished surface...

Experimental matrix and basic solar cell process flow used in this study. Pseudo-square CZ-Si wafers of 125 mm x 125 mm size and 1-3  $\Omega\cdot\text{cm}$  resistivity have been homogeneously distributed over the ...

The process chain is inspired by the IMEC clean but varies in process order and process step details, as shown in Fig. 16. Fig. 16 Cleaning sequences for silicon wafers used in microelectronic and photovoltaic industries (Buchholz 2015 ; Kern and Puotinen 1970 ; Meuris et al. 1999 ; Ohmi 1996 ).

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