Cost-effective Production of IBC Solar Cells

PARC has created a simplified method for manufacturing interdigitated back contact (IBC) solar cells. Compatible with conventional production processes, PARC’s method enables solar cell manufacturers to deliver the performance improvement of IBC while maintaining affordable production costs.

IBC technology increases the efficiency of silicon solar cells, but currently available production methods render the IBC manufacturing process more complex and costly. PARC has developed a simpler process utilizing inkjet printing and laser patterning, making production of IBC solar cells more cost effective.

PARC’s innovation
PARC’s manufacturing method for IBC solar cells requires only 12 major steps (see above diagram), five fewer than the 17 steps in common processes, and replaces costly photolithography with inkjet printing. Inkjet printing offers sufficient positioning precision for the cells to achieve high efficiency. The resulting process is compatible with conventional solar cell manufacturing processes, making conversion easy for manufacturers. PARC estimates production costs using the new process to be approximately $0.481/W at 500 MW scale at 20% module efficiency. Since PARC’s process employs a non-contact approach, it can also be applied to thin wafer processing.

Engage with PARC on cost-effective IBC manufacturing
PARC assists solar cell manufacturers in implementing this novel technique for manufacturing IBC solar cells, helping manufacturers of conventional cells improve cell efficiency or reduce costs for those who have already transitioned to IBC production. Contact PARC Business Development to learn more.

engage@parc.com