

What is bifacial Topcon?

The selectivity is defined as membranes that block minority carriers and provide a high conductivity for transporting majority carriers. In Brendel's prediction, calculated by selectivity, the bifacial TOPCon is considered to be the potential structure with the highest theoretical efficiency [31, 32] for single-junction silicon solar cell.

Does bifacial Topcon solar cell lose optical efficiency?

As we predicted, the optical loss of full-area bifacial TOPCon solar cell severely limits device performance, with a theoretical efficiency of only 26.12%. The device with local front poly passivation is demonstrated to get comprehensive advantage in potential and shows a simulated result of 26.42% efficiency.

How bifacial N-Topcon devices improve solar cell efficiency?

241.3 cm² -large bifacial n-TOPCon devices with 23.01% certified efficiency demonstrated. Using ≥ 150 nm of poly-Si and polished rear side improves the solar cell efficiency. 1-cell glass-glass laminates of the devices pass damp heat and thermal cycling tests. Roadmap to 25.5% efficiency presented.

How efficient are Topcon bifacial cells?

After optimizing the passivation process, the industrial-grade TOPCon bifacial cells reached an efficiency (Eff), Voc, Jsc, and FF values as high as 25.4%, 721 mV, 42.2 mA/cm², and 83.5%, respectively.

What are bifacial n-type Topcon panels?

Our Bifacial N-Type TOPCon panels, renowned for their unmatched reliability and enhanced crack tolerance. These panels boast very low or negligible Light Induced Degradation (LID) loss and exceptional UV resistance, ensuring long-term durability and consistent performance.

How bifacial and traditional Topcon solar cells improve Fela performance?

The FELA of bifacial and traditional TOPCon solar cells is analyzed by simulation. The optimization strategy of front poly-finger is explored to improve performance. Contact mapping of device is investigated with bulk dopant and band bending. The outlook and upgrade strategy of poly-Si (p) finger, ALD and LECO technology.



TOPCon Series NSEZC Ultra-Efficient Bifacial

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