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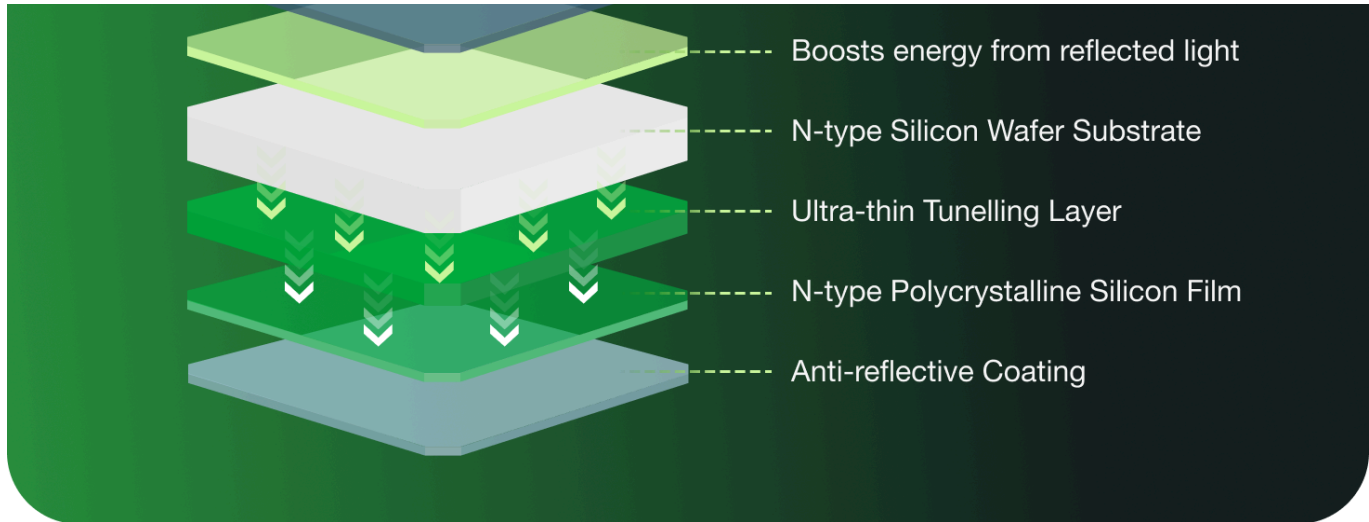
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TOPCon Technology

Innovation Selective Passivation Contact — the key technology determines the maximum efficiency

About TOPCon Technology

TOPCon (Tunnel Oxide Passivated Contact) is an advanced PV cell technology. Its core lies in the formation of an ultra-thin silicon oxide layer (approximately 1-2 nm thick) combined with a doped polycrystalline silicon layer on the silicon wafer surface, enabling selective carrier transport and surface passivation. This structure allows majority charge carriers to pass through the oxide layer via the quantum tunneling effect while restraining minority charge carriers, thereby significantly reducing surface recombination rates and improving open-circuit voltage and PV conversion efficiency.

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TOPCon solar cells feature an ultra thin silicon oxide tunnel layer in between N-type silicon layers: monocrystalline wafer and polycrystalline film. This setup reduces recombination and enhances carrier selectivity, enabling high open-circuit voltages (~740mV) and efficiencies, which exceed 26%.

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Why TOPCon Delivers High Efficiency and Power Output?



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TOPCon FAQ

What is the TOPCon Technology?

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Is TOPCon technology compatible with current PERC production lines?

How technically mature is TOPCon?

What are the performance benefits of TOPCon modules?



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