

3. From a technical attribution perspective, the Tiger Neo 3.0 module leverages the low leakage current characteristics of its TOPCon cell structure, maintaining higher current collection efficiency in low-light conditions. N-type BC modules, due to their complex interdigitated back contact structure and dense leakage pathways, exhibit significant leakage current losses under low irradiance conditions, resulting in persistently constrained power generation capacity throughout the day.

Cumulative power generation per watt (Wh/W), hourly power generation per watt (Wh/W), and Relative Power Gain (%). Data collection was conducted without interruption throughout the process to ensure the integrity and credibility of empirical conclusions.

This test project featured unique installation conditions:

This conclusion precisely attributes the performance difference between Tiger Neo 3.0 and BC modules precisely to low-light response capability itself, eliminating interference from other variables.

From a technical perspective, the TOPCon cell structure used in Tiger 3 modules features positive and negative electrodes distributed on both sides, confining leakage pathways to a minimal area at the cell edges. This design significantly enhances leakage current control compared to N-type BC modules. In contrast, the complex interdigitated electrode structure and multiple patterning steps in BC modules result in densely distributed leakage points. Under low-irradiance conditions, resulting in persistent power generation losses throughout the day. The Tiger Neo 3.0 module with its optimized interconnection resistance design and ultra-thin tunnel oxide layer structure, maintain higher current collection efficiency and fill factor in low-light environments, achieving all-weather performance that "keeps pace in strong light and excels in weak light."

In summary, Tiger Neo 3.0 modules demonstrate all-weather performance characterized by "strong light without lag, weak light with greater lead" in rooftop scenarios, thanks to their superior low-light response advantages. For distributed PV projects with high cloud coverage, significant early morning/late afternoon low-light periods, and flat mounting configurations where bifacial effects are limited, The Tiger Neo 3.0 module effectively harnesses non-peak sunlight resources and extends effective power generation duration, delivering quantifiable long-term performance gains. (b) 0.6 (c) 0.001 Tc 0 - 0.6 (clo) 8.0 (torp) 0.1mhseidei.6 (fo) 0.2.6 (dequate, freq) 0.6 (c)

