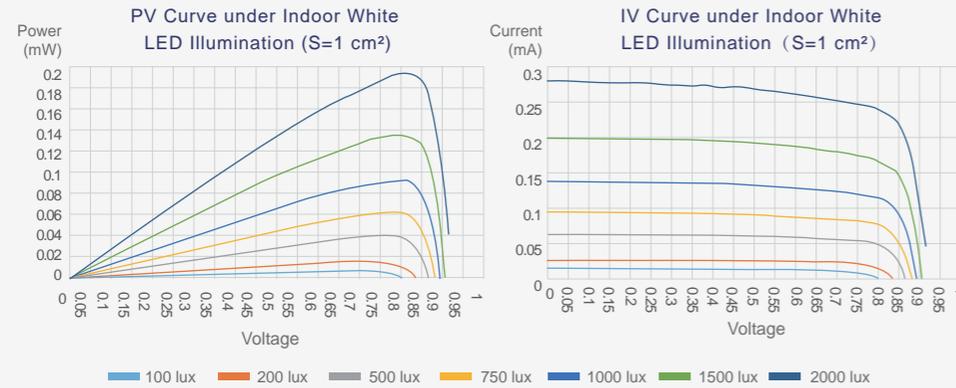


Storage & Operating Conditions

		Unit	Min	Max
Operating Conditions	Temp.	°C	-20	60
	Humidity	%RH	0	75
Storage Conditions	Temp.	°C	-20	60
	Humidity	%RH	0	75

Performance Calculation Reference



⚠ Benchmarked under LED illumination. Output power doubles when using incandescent lighting.

Light Intensity(lux)	Open-circuit Voltage(V)	Short-circuit Current(mA)	Maximum Power Pmax(μW)
100	0.80	0.0146	7.5
200	0.83	0.0265	15.8
500	0.86	0.0634	40.6
750	0.88	0.0950	62.6
1000	0.89	0.1393	92.0
1500	0.91	0.2011	135.1
2000	0.92	0.2821	193.9
10000	1.04	2.21	1820
20000	1.07	4.61	3750
50000	1.10	11.25	9160
100000	1.12	22.76	20150

⚠ All measurements conducted under white LED illumination (1cm² active area). Higher power output achievable with alternative light sources. For scaled applications, multiply data by target area. Featuring bifacial power generation – actual output exceeds stated values. Contact our engineering team for project-specific calculations.



Yanhe Technology Perovskite Solar Cell Series

Powering the Era of Ultra-Long Endurance for Consumer Electronics

☎ 010-61660911

✉ sales@yanhesolar.tech

🌐 www.yanhesolar.com

📍 Changde City, Hunan Province

Beijing

Shenzhen





01 Company Profile

Founded in February 2024, Yanhe Technology is an innovation-driven enterprise specializing in the R&D and manufacturing of perovskite solar cell modules. The company has secured investments from prominent institutions including Sparkedge Capital, Hunan Caixin Group, and China Glory Capital.

Focused on new energy solutions for the AI and IoT era, Yanhe leverages breakthroughs in materials science and engineering technology to develop perovskite solar cells and flexible solar modules that deliver industry-leading device stability, photoelectric conversion efficiency, and cost-effectiveness. The company operates a 100-megawatt fully automated perovskite production line in Changde, Hunan, a 10-megawatt pilot production and R&D facility in Beijing, and a sales center in Shenzhen.

Yanhe's products provide revolutionary energy solutions for consumer electronics, AIoT, and portable power applications, significantly extending operational endurance while advancing the development of greener, more intelligent global energy networks.

02 Advantages of Solar Cells

Higher Efficiency

Reduces battery replacement costs and operational hassles

Enhanced Eco-Friendliness

Powers products through clean energy with zero environmental pollution

Superior Durability

Prevents device damage from electrolyte leakage while prolonging the service life of rechargeable products



03 Product Features

Power Generation in Any Light

- Compatible with diverse indoor/outdoor environments
- Meets low-power requirements for all-scenario applications
- Activation illuminance <20 lux



Outstanding Performance



- >10-year lifespan in low-light indoor environments
- International certifications: ROHS, REACH, IEC compliance
- Output power: 9-180 $\mu\text{W}/\text{cm}^2$ at 100-1000 lux illumination
- Full-spectrum efficiency: Delivers 20 mW/cm^2 at 100,000 lux

Ultra-Thin & Light-Weight

- Thickness<0.5mm achievable
- Areal density<0.15g/cm²



Customization Capabilities

- High customizability
- Minimum size achievable: 1cm²

Hardness & Softness

- Qiguang Series • Rigid product Thickness <1.1mm
- Qiongyin Series • Flexible product Thickness <0.2mm Bending radius<2cm

Eco-Efficient & Cost-Saving

- Lifecycle equivalence: 10cm² solar cell \approx 20 AA batteries \approx 50 standard button cells



Plug-and-Play Ready

- Qiguang/Qiongyin Plus versions
- Integrated with premium power management ICs & capacitors/batteries



04 Product Performance

High Reliability

	Parameters	Results
Light Soaking	20,000 hours continuous operation under standard illumination	0% efficiency degradation
Light-Heat Aging	100°C, 2xAM1.5 (200,000lux) illumination for 200 hours	<10% electrical performance degradation
Extreme Environmental Aging	Boiling water immersion at 100°C for 10 hours	<5% degradation
Thermal Cycling	-20°C to 70°C, 10 cycles	<5% degradation
Damp Heat Test	60°C, 90% RH for 1000 hours	<5% degradation
Chemical Resistance	Immersion in 99.5% ethanol for 2 mins	<5% degradation