

GEM M10/108D 425-450W



Supreme Quality



High Efficiency

Module efficiency up to 23.0% based on N-Type wafer and TOPCon technology



Excellent Energy Yield

More power output in field operation due to better thermal behaviors, weak-light performance and bifaciality



Anti-degradation

Unsusceptible to LID, LeTID and less annual degradation due to special characteristics of N-Type



Quality Guarantee

High module quality ensures long-term reliability

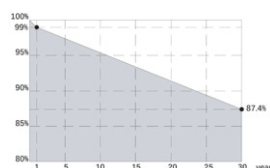
Module Characteristics

15-Year
Product Warranty

30-Year
Linear Power Warranty

1%
First Year Degradation

0.4%
Annual Power Degradation



At least 87.4% of nominal power up to 30 years



IEC 61215(2021) / IEC 61730(2023)

ISO 9001: 2015: ISO Quality Management System

Anti-PID / Ammonia / Salt-mist / Dust and sand

Made in China

450W

Maximum Power

23.0%

Highest Conversion Efficiency

1%

First Year Degradation

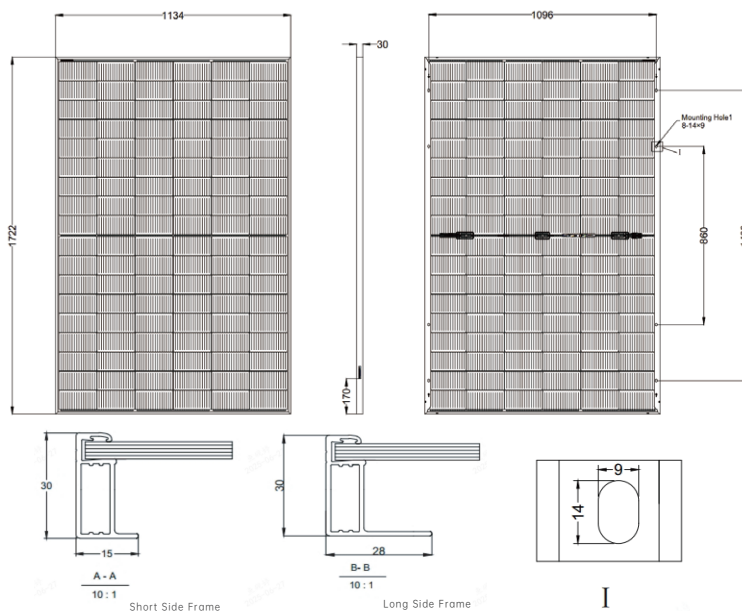
0.4%

2-30 Years Annual Power Attenuation

Mechanical Parameters

Cell Type	N-Type TOPCon
No. of cells	108 (2×54)
Output Cables	TüV 1×4mm ² (+)300mm,(-)200mm in length or customized length
Glass	Front: 2.0mm, AR-coating, semi-tempered Rear: 2.0mm, semi-tempered
Frame	Anodized aluminum alloy frame
Weight	23.5 kg (51.81 lbs)
Dimension	1722×1134×30mm
Packaging	37 pcs per pallet 222 pcs per 20' HC, 962 pcs per 40' HC
Protection Class	Class II
Fire Rating	IEC Class A

Engineering Drawings



* Length:±2mm Width:±2mm Height:±1mm Row Pitch:±2mm

Electrical Characteristics (STC Test)

Module Type	GK-1-54HTBD-425M		GK-1-54HTBD-430M		GK-1-54HTBD-435M		GK-1-54HTBD-440M		GK-1-54HTBD-445M		GK-1-54HTBD-450M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	425	321	430	325	435	328	440	332	445	336	450	340
Open-circuit Voltage (Voc/V)	38.30	36.27	38.49	36.46	38.68	36.65	38.87	36.81	39.06	36.98	39.25	37.16
Short-circuit Current (Isc/A)	14.15	11.41	14.23	11.48	14.30	11.53	14.37	11.59	14.44	11.65	14.51	11.69
Maximum Power Voltage (Vmp/V)	31.70	29.98	31.88	30.15	32.07	30.35	32.26	30.52	32.45	30.69	32.59	30.85
Maximum Power Current (Imp/A)	13.41	10.71	13.49	10.78	13.57	10.81	13.65	10.88	13.73	10.95	13.81	11.01
Module Efficiency (%)	21.8		22.0		22.3		22.5		22.8		23.0	

Note: 1. STC: Irradiance 1000W/M², Cell Temperature 25°C, AM=1.52. NOCT: Irradiance 800W/M², Ambient Temperature 20°C, AM=1.5, Wind Speed 1M/S

Different Rearside Power Gain (Reference to 435W)

Rearside Power Gain	5%	10%	20%
Maximum Power at STC (Pmax)	456.8	478.5	522.0
Open-circuit Voltage (Voc/V)	38.7	38.7	38.7
Short-circuit Current (Isc/A)	15.0	15.7	17.2
Maximum Power Voltage (Vmp/V)	32.1	32.1	32.1
Maximum Power Current (Imp/A)	14.2	15.0	16.3
Module Efficiency (%)	23.4	24.5	26.7

*The above data is for reference only. When signing a contract, the latest version of the product specification shall prevail.

Working Parameters

Operating Temperature	-40°C~ +85°C
Power Tolerance	0~ +5W
Maximum System Voltage	1500V(IEC)
NOCT	45±2°C
Maximum Series Fuse Rating	30A
Bifacial Factor	80±5%
Junction Box	IP68

Temperature Ratings (STC)

Temperature coefficient of Isc	+ 0.045%/°C
Temperature coefficient of Voc	- 0.25%/°C
Temperature coefficient of Pmax	- 0.29%/°C

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm hailstone at 23m/s

Gokin



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Product data is updated as of May 2024. Gokin Solar Co., Ltd. reserves the right to change specifications.