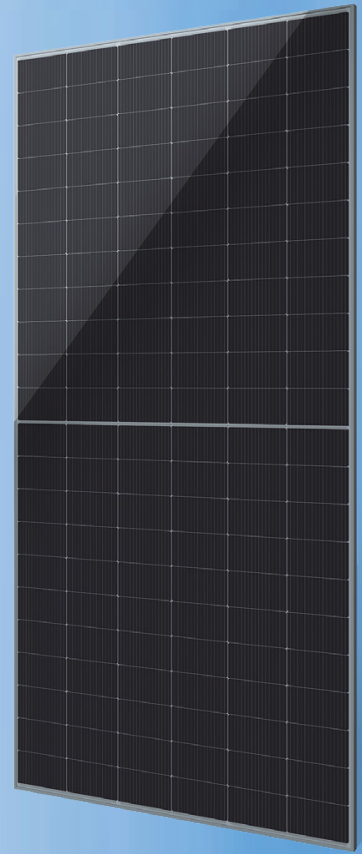


LEOPARD G12R/132D

590-620W



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

12-Year

Product Warranty

30-Year

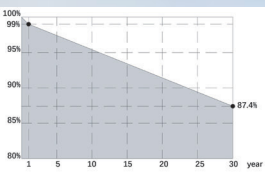
Linear Power Warranty

1%

First Year Degradation

0.4%

Annual Power Degradation



At least 87.4% of nominal power up to 30 years



620W

Maximum Power

23.0%

Highest Conversion Efficiency

1%

First Year Degradation

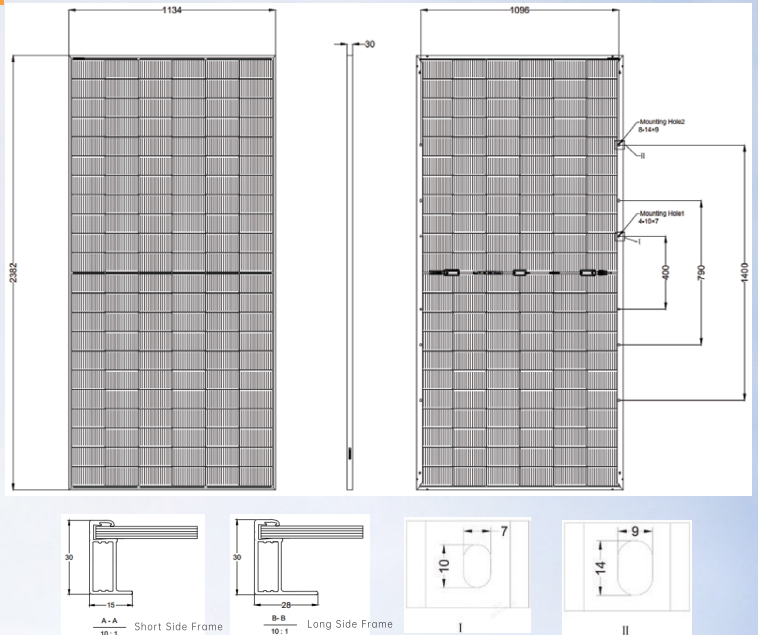
0.4%

2-30 Years Annual Power Attenuation

Mechanical Parameters

Cell Type	N-Type TOPCon
No. of cells	132 (2×66)
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	32.4 kg (71.43 lbs)
Dimension	2382×1134×30mm
Packaging	37 pcs per pallet Package size(mm): 2396×1130×1259 148 pcs per 20' HC, 740 pcs per 40' HC
Protection Class	Class II

Engineering Drawings



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

Electrical Characteristics (STC Test)

Module Type	GK-4-66HTBD-590M		GK-4-66HTBD-595M		GK-4-66HTBD-600M		GK-4-66HTBD-605M		GK-4-66HTBD-610M		GK-4-66HTBD-615M		GK-4-66HTBD-620M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	590	447	595	450	600	454	605	458	610	462	615	466	620	469
Open-circuit Voltage (Voc/V)	47.32	44.81	47.49	44.96	47.66	45.16	47.83	45.28	48.00	45.49	48.17	45.65	48.34	45.81
Short-circuit Current (Isc/A)	15.79	12.73	15.86	12.80	15.93	12.86	16.00	12.92	16.07	12.96	16.14	13.02	16.21	13.16
Maximum Power Voltage (Vmp/V)	39.67	37.55	39.81	37.65	39.95	37.78	40.09	37.91	40.22	38.06	40.35	38.16	40.48	38.31
Maximum Power Current (Imp/A)	14.88	11.90	14.96	11.97	15.03	12.03	15.10	12.08	15.18	12.16	15.25	12.20	15.33	12.27
Module Efficiency (%)	21.8		22.0		22.2		22.4		22.6		22.8		23.0	

Note: 1. STC: Irradiance 1000W/M², Cell Temperature 25°C, AM=1.5 2. NOCT: Irradiance 800W/M², Ambient Temperature 20°C, AM=1.5, Wind Speed 1M/S

Different Rearside Power Gain (Reference to 605W)

Rearside Power Gain	5%	10%	20%
Maximum Power at STC (Pmax)	635.3	665.5	726.0
Open-circuit Voltage (Voc/V)	47.8	47.8	47.8
Short-circuit Current (Isc/A)	16.8	17.6	19.2
Maximum Power Voltage (Vmp/V)	40.1	40.1	40.1
Maximum Power Current (Imp/A)	15.9	16.6	18.1
Module Efficiency (%)	23.5	24.6	26.9

*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)
NMOT	45±2°C
Maximum Series Fuse Rating	35A
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



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