



GES 72HLM-(V)

435-455 Watt

MONO-FACIAL MODULE

P-Type

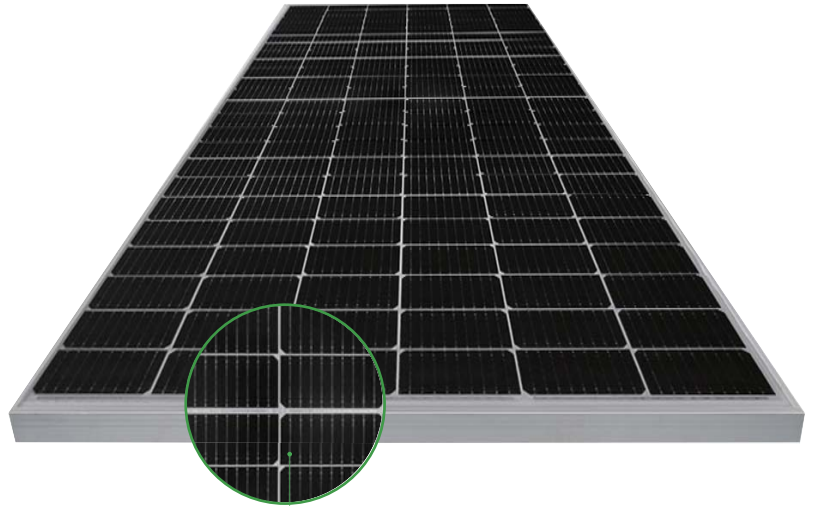
Positive power tolerance of 0~+3%

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018

Occupational health and safety management systems



MBB HC Technology

Key Features



Multi Busbar Technology

Better light trapping and current collection to improve module power output and reliability.



Reduced Hot Spot Loss

Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Enhanced Mechanical Load

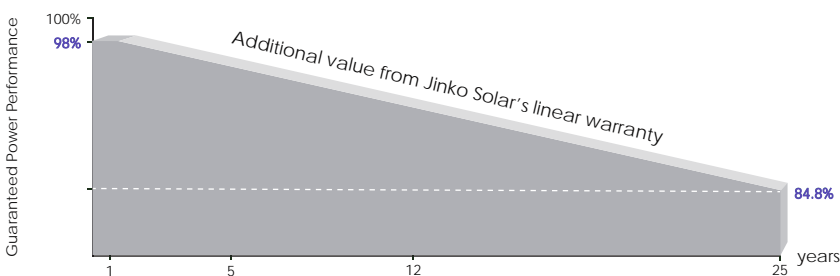
Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.

LINEAR PERFORMANCE WARRANTY

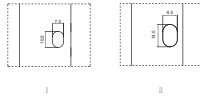
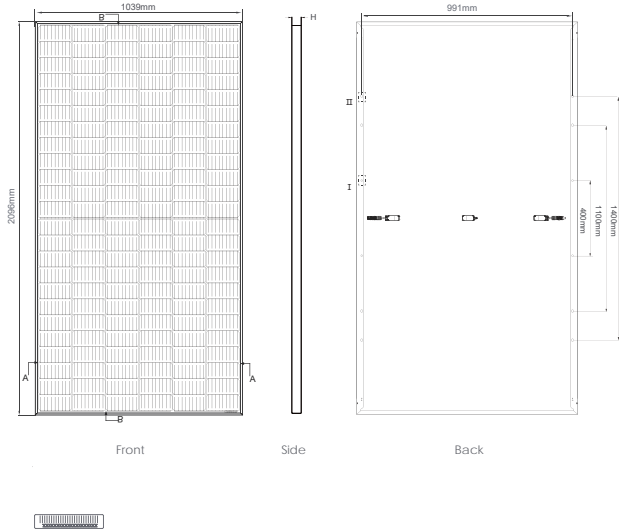


12 Year Product Warranty

25 Year Linear Power Warranty

0.55% Annual Degradation Over 25 years

Engineering Drawings

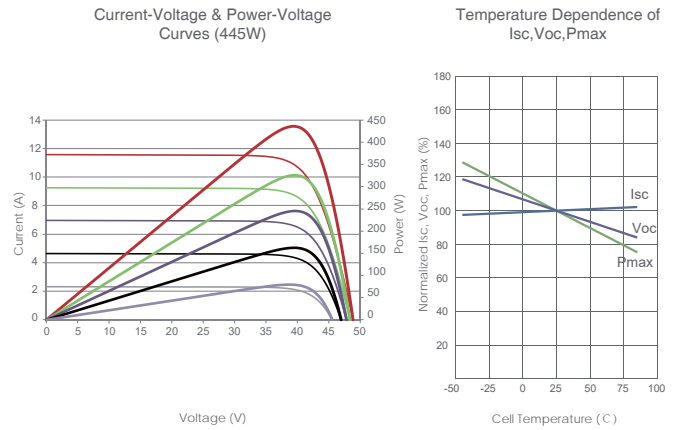


Packaging Configuration

(Two pallets = One stack)

31pcs/pallets, 62pcs/stack, 682pcs/40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	Mono PERC 166×166mm
No. of cells	144 (6×24)
Dimensions	2096×1039×35mm (82.52×40.91×1.38 inch)
Weight	25.1kg (55.34 lbs)
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm ² (+): 290mm, (-): 145mm or Customized Length

SPECIFICATIONS

Module Type	GES435M-72HLM		GES440M-72HLM		GES445M-72HLM		GES450M-72HLM		GES455M-72HLM	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	435Wp	324Wp	440Wp	327Wp	445Wp	331Wp	450Wp	335Wp	455Wp	339Wp
Maximum Power Voltage (Vmp)	40.77V	37.76V	40.97V	37.89V	41.17V	38.10V	41.37V	38.31V	41.56V	38.47V
Maximum Power Current (Imp)	10.67A	8.57A	10.74A	8.64A	10.81A	8.69A	10.88A	8.74A	10.95A	8.80A
Open-circuit Voltage (Voc)	48.67V	45.84V	48.87V	46.03V	49.07V	46.22V	49.27V	46.41V	49.46V	46.59V
Short-circuit Current (Isc)	11.32A	9.14A	11.39A	9.20A	11.46A	9.26A	11.53A	9.31A	11.60A	9.37A
Module Efficiency STC (%)	19.97%		20.20%		20.43%		20.66%		20.89%	
Operating Temperature(°C)	-40 C ~ +85 C									
Maximum System Voltage	1000/1500VDC (IEC)									
Maximum Series Fuse Rating	20A									
Power Tolerance	0~+3%									
Temperature Coefficients of Pmax	-0.35%/C									
Temperature Coefficients of Voc	-0.29%/C									
Temperature Coefficients of Isc	0.048%/C									
Nominal Operating Cell Temperature (NOCT)	45±2 C									

*STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5
 NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s

LOT D1-1, Dai Dong-Hoan Son Industrial zone, Hoan Son Commune, Tien Du District, Bac Ninh Province, Viet Nam.

Specifications included in this datasheet are subject to change without notice.

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