



# GPNE-S72/FNH 410-390W

144-CELL HALF CUT MONOCRYSTALLINE SOLAR MOUDLE



## Product Advantages



**High Efficiency**  
Module efficiency leading in industry, up to 20.4%



**High Reliability**  
Passed 3\*IEC standard test



**Low Hot-spot Risk**  
1/2 current, reducing the hot spot temperature



**Excellent loading capability**  
2400Pa wind loads, 5400Pa snow loads, 8000Pa extra support



**Low NMOT**  
As low as 43°C, improving the power generation efficiency



**Half Cell, MBB Technology**  
Series-then-parallel cell connection design, more reliable soldering technology

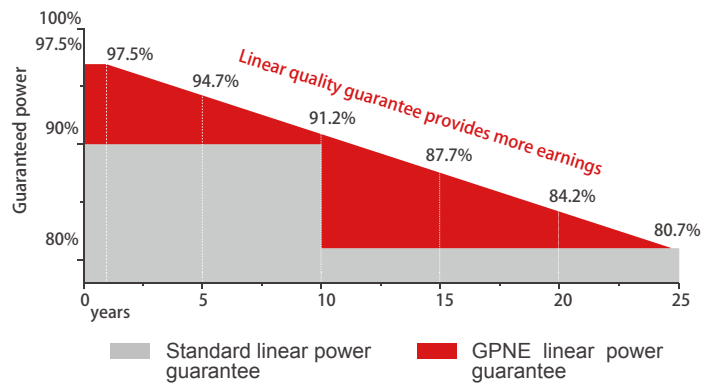
20.4%

Module efficiency

410W

Highest power output

## Product Guarantee



-2.50%

First year power degradation

-0.50%

Annual degradation

12  
Years

Materials and workmanship warranty

25  
Years

Linear power warranty

## Product Certification



# GPNE-S72/FNH

## Electrical Characteristics

STC	410	405	400	395	390
Maximum Power at STC (Pmax)	410 W	405 W	400 W	395 W	390 W
Optimum Operating Voltage (Vmp)	42.2 V	42.0 V	41.8 V	41.6 V	41.4 V
Optimum Operating Current (Imp)	9.72 A	9.65 A	9.57 A	9.50 A	9.43 A
Open Circuit Voltage (Voc)	49.4 V	49.2 V	49.0 V	48.8 V	48.6 V
Short Circuit Current (Isc)	10.31 A	10.24 A	10.17 A	10.10 A	10.03 A
Module Efficiency	20.4%	20.1%	19.9%	19.6%	19.4%
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	1000/1500 V DC (IEC)				
Maximum Series Fuse Rating	20 A				
Power Tolerance	0/+5W				

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; Tolerances of Pmax, Voc and Isc are all within +/- 5%.

NMOT	410	405	400	395	390
Maximum Power at NMOT (Pmax)	308.1 W	304.6 W	300.8 W	297.3 W	293.8 W
Optimum Operating Voltage (Vmp)	38.8 V	38.7 V	38.5 V	38.3 V	38.1 V
Optimum Operating Current (Imp)	7.93 A	7.88 A	7.82 A	7.76 A	7.71 A
Open Circuit Voltage (Voc)	46.3 V	46.1 V	45.9 V	45.7 V	45.5 V
Short Circuit Current (Isc)	8.33 A	8.27 A	8.21 A	8.16 A	8.10 A

NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;

## Temperature Characteristics

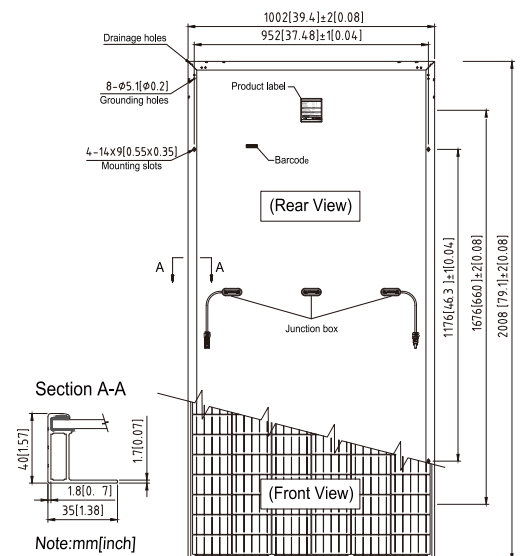
Nominal Module Operating Temperature(NMOT)	42±2°C
Temperature Coefficient of Pmax	-0.37 %/°C
Temperature Coefficient of Voc	-0.304%/°C
Temperature Coefficient of Isc	0.050 %/°C

## Mechanical Characteristics

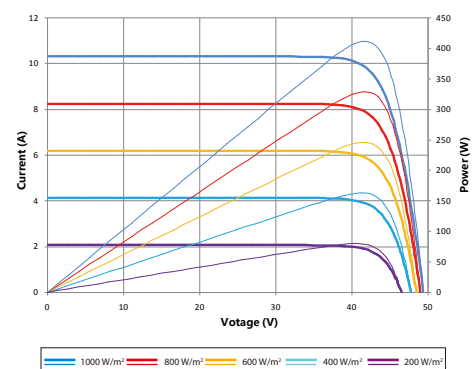
Solar Cell	Monocrystalline 158.75mm
No. of Cells	144 (6 × 24)
Dimensions	2008 × 1002 × 40mm
Weight	23 kgs
Front Glass	3.2 mm tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm <sup>2</sup> , symmetrical lengths (-) 1400mm and (+) 1400 mm
Connectors	MC4 compatible

## Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	26	28
Pallets per container	10	22
Pieces per container	260	616



Current-Voltage & Power-Voltage Curve (410S)





# GPNE-S60/FNH

# 345-325w

120-CELL HALF CUT MONOCRYSTALLINE SOLAR MOUDLE



## Product Advantages



**High Efficiency**  
Module efficiency leading in industry, up to 20.4%



**High Reliability**  
Passed 3\*IEC standard test



**Low Hot-spot Risk**  
1/2 current, reducing the hot spot temperature



**Excellent loading capability**  
2400Pa wind loads, 5400Pa snow loads, 8000Pa extra support



**Low NMOT**  
As low as 43°C, improving the power generation efficiency



**Half Cell, MBB Technology**  
Series-then-parallel cell connection design, more reliable soldering technology

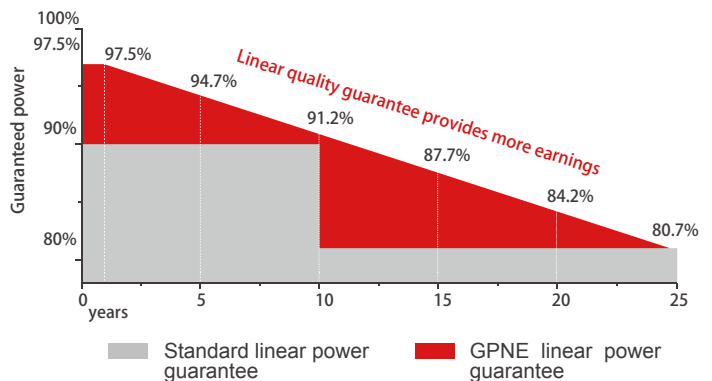
**20.4%**

Module efficiency

**345W**

Highest power output

## Product Guarantee



**-2.50%**

First year power degradation

**-0.50%**

Annual degradation

**12**  
Years

Materials and workmanship warranty

**25**  
Years

Linear power warranty

## Product Certification



# GPNE-S60/FNH

## Electrical Characteristics

STC	345	340	335	330	325
Maximum Power at STC (Pmax)	345 W	340 W	335 W	330 W	325 W
Optimum Operating Voltage (Vmp)	35.3 V	35.1 V	34.9 V	34.7 V	34.5 V
Optimum Operating Current (Imp)	9.78 A	9.68 A	9.60 A	9.52 A	9.43 A
Open Circuit Voltage (Voc)	41.3 V	41.1 V	40.9 V	40.7 V	40.5 V
Short Circuit Current (Isc)	10.37 A	10.29 A	10.21 A	10.13 A	10.04 A
Module Efficiency	20.4%	20.1%	19.8%	19.5%	19.2%
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	1000/1500 V DC (IEC)				
Maximum Series Fuse Rating	20 A				
Power Tolerance	0/+5W				

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; Tolerances of Pmax, Voc and Isc are all within +/- 5%.

NMOT	345	340	335	330	325
Maximum Power at NMOT (Pmax)	259.3 W	255.5 W	252.1 W	248.6 W	244.9 W
Optimum Operating Voltage (Vmp)	32.5 V	32.3 V	32.1 V	31.9 V	31.7 V
Optimum Operating Current (Imp)	7.98 A	7.92 A	7.85 A	7.79 A	7.72 A
Open Circuit Voltage (Voc)	38.7 V	38.5 V	38.3 V	38.1 V	37.9 V
Short Circuit Current (Isc)	8.37 A	8.31 A	8.24 A	8.18 A	8.11 A

NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;

## Temperature Characteristics

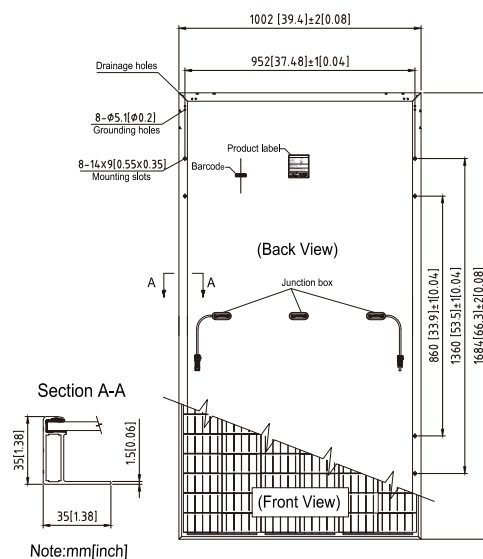
Nominal Module Operating Temperature(NMOT)	42±2°C
Temperature Coefficient of Pmax	-0.37 %/°C
Temperature Coefficient of Voc	-0.304 %/°C
Temperature Coefficient of Isc	0.050 %/°C

## Mechanical Characteristics

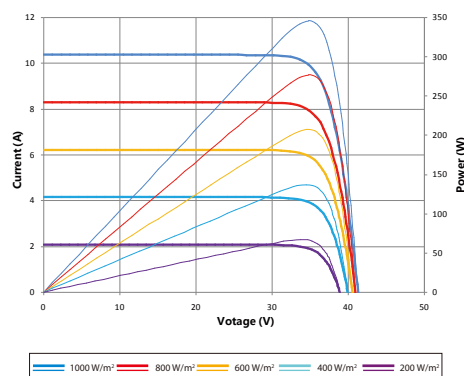
Solar Cell	Monocrystalline 158.75mm
No. of Cells	120 (6 × 20)
Dimensions	1684 × 1002 × 35mm
Weight	19.0 kgs
Front Glass	3.2 mm tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm <sup>2</sup> , symmetrical lengths (-) 1200mm and (+) 1200 mm
Connectors	MC4 compatible

## Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	30	32
Pallets per container	12	26
Pieces per container	360	832



Current-Voltage & Power-Voltage Curve (345S)





# Full Black Series GPNE-S72/FNHB

# 405-385w

144-CELL HALF CUT MONOCRYSTALLINE SOLAR MODULE



## Product Advantages



**High Efficiency**  
Module efficiency leading in industry, up to 20.4%



**High Reliability**  
Passed 3\*IEC standard test



**Low Hot-spot Risk**  
1/2 current, reducing the hot spot temperature



**Excellent loading capability**  
2400Pa wind loads, 5400Pa snow loads, 8000Pa extra support



**Low NMOT**  
As low as 43°C, improving the power generation efficiency

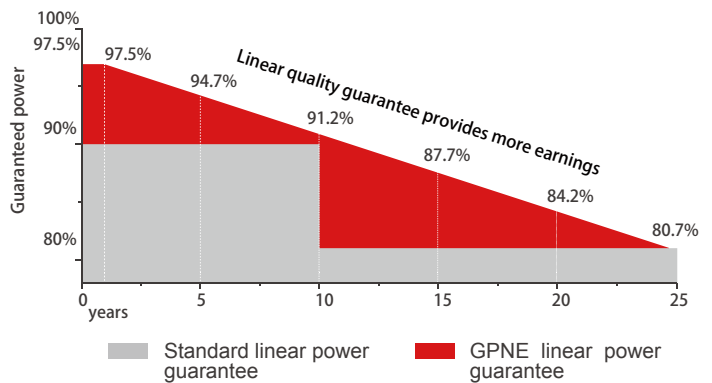


**Half Cell, MBB Technology**  
Series-then-parallel cell connection design, more reliable soldering technology

**20.1%**  
Module efficiency

**405W**  
Highest power output

## Product Guarantee



**-2.50%**  
First year power degradation

**-0.50%**  
Annual degradation

**12**  
Years  
Materials and workmanship warranty

**25**  
Years  
Linear power warranty

## Product Certification



# GPNE-S72/FNHB

## Electrical Characteristics

STC	405	400	395	390	385
Maximum Power at STC (Pmax)	405 W	400 W	395 W	390 W	385 W
Optimum Operating Voltage (Vmp)	42.0 V	41.8 V	41.6 V	41.4 V	41.2 V
Optimum Operating Current (Imp)	9.65 A	9.57 A	9.50 A	9.43 A	9.35 A
Open Circuit Voltage (Voc)	49.2 V	49.0 V	48.8 V	48.6 V	48.4 V
Short Circuit Current (Isc)	10.24 A	10.17 A	10.10 A	10.03 A	9.96 A
Module Efficiency	20.1%	19.9%	19.6%	19.4%	19.1%
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	1000V DC (IEC)				
Maximum Series Fuse Rating	20 A				
Power Tolerance	0/+5W				

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; Tolerances of Pmax, Voc and Isc are all within +/- 5%.

NMOT	405	400	395	390	385
Maximum Power at NMOT (Pmax)	304.6 W	300.8 W	297.3 W	293.8 W	290.1 W
Optimum Operating Voltage (Vmp)	38.7 V	38.5 V	38.3 V	38.1 V	37.9 V
Optimum Operating Current (Imp)	7.88 A	7.82 A	7.76 A	7.71 A	7.66 A
Open Circuit Voltage (Voc)	46.1 V	45.9 V	45.7 V	45.5 V	45.3 V
Short Circuit Current (Isc)	8.27 A	8.21 A	8.16 A	8.10 A	8.05 A

NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;

## Temperature Characteristics

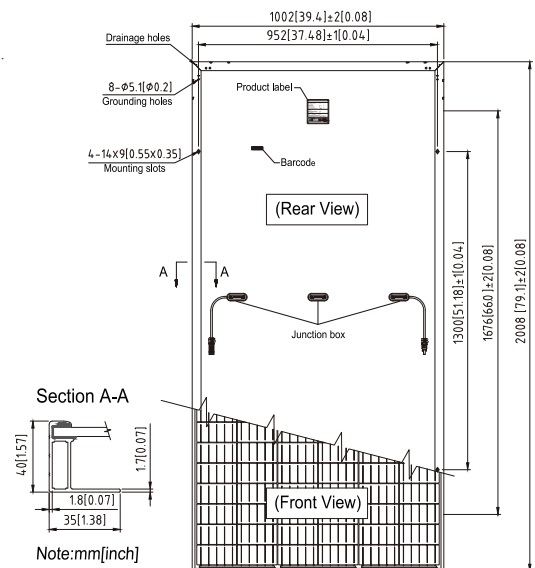
Nominal Module Operating Temperature(NMOT)	42±2°C
Temperature Coefficient of Pmax	-0.37 %/°C
Temperature Coefficient of Voc	-0.304%/°C
Temperature Coefficient of Isc	0.050 %/°C

## Mechanical Characteristics

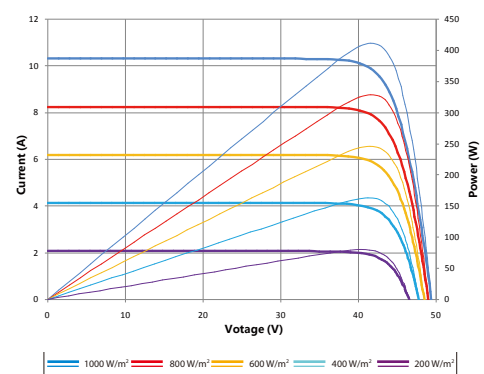
Solar Cell	Monocrystalline 158.75mm
No. of Cells	144 (6 × 24)
Dimensions	2008 × 1002 × 40mm
Weight	23kgs
Front Glass	3.2 mm tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm <sup>2</sup> , symmetrical lengths (-) 1400mm and (+) 1400 mm
Connectors	MC4 compatible

## Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	26	28
Pallets per container	10	22
Pieces per container	260	616



Current-Voltage & Power-Voltage Curve (405S)





# Full Black Series GPNE-S60/FNHB

# 340-320w

120-CELL HALF CUT MONOCRYSTALLINE SOLAR MODULE



## Product Advantages



**High Efficiency**  
Module efficiency leading in industry, up to 20.4%



**High Reliability**  
Passed 3\*IEC standard test



**Low Hot-spot Risk**  
1/2 current, reducing the hot spot temperature



**Excellent loading capability**  
2400Pa wind loads, 5400Pa snow loads, 8000Pa extra support



**Low NMOT**  
As low as 43°C, improving the power generation efficiency

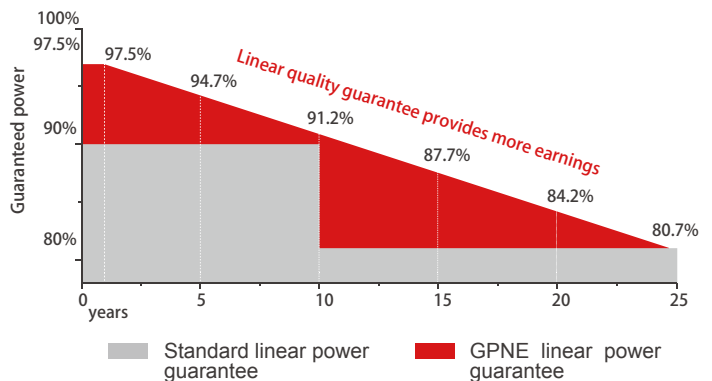


**Half Cell, MBB Technology**  
Series-then-parallel cell connection design, more reliable soldering technology

**20.1%**  
Module efficiency

**340W**  
Highest power output

## Product Guarantee



**-2.50%**  
First year power degradation

**-0.50%**  
Annual degradation

**12**  
Years

Materials and workmanship warranty

**25**  
Years

Linear power warranty

## Product Certification



# GPNE-S60/FNHB

## Electrical Characteristics

STC	340	335	330	325	320
Maximum Power at STC (Pmax)	340 W	335 W	330 W	325 W	320 W
Optimum Operating Voltage (Vmp)	35.1 V	34.9 V	34.7 V	34.5 V	34.3 V
Optimum Operating Current (Imp)	9.68 A	9.60 A	9.52 A	9.43 A	9.33 A
Open Circuit Voltage (Voc)	41.1 V	40.9 V	40.7 V	40.5 V	40.3 V
Short Circuit Current (Isc)	10.29 A	10.21 A	10.13 A	10.04 A	9.93 A
Module Efficiency	20.1%	19.8%	19.5%	19.2%	19.0%
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	1000V DC (IEC)				
Maximum Series Fuse Rating	20 A				
Power Tolerance	0/+5W				

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; Tolerances of Pmax, Voc and Isc are all within +/- 5%.

NMOT	340	335	330	325	320
Maximum Power at NMOT (Pmax)	255.5 W	252.1 W	248.6 W	244.9 W	240.9 W
Optimum Operating Voltage (Vmp)	32.3 V	32.1 V	31.9 V	31.7 V	31.5 V
Optimum Operating Current (Imp)	7.92 A	7.85 A	7.79 A	7.72 A	7.64 A
Open Circuit Voltage (Voc)	38.5 V	38.3 V	38.1 V	37.9 V	37.8 V
Short Circuit Current (Isc)	8.31 A	8.24 A	8.18 A	8.11 A	8.02 A

NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;

## Temperature Characteristics

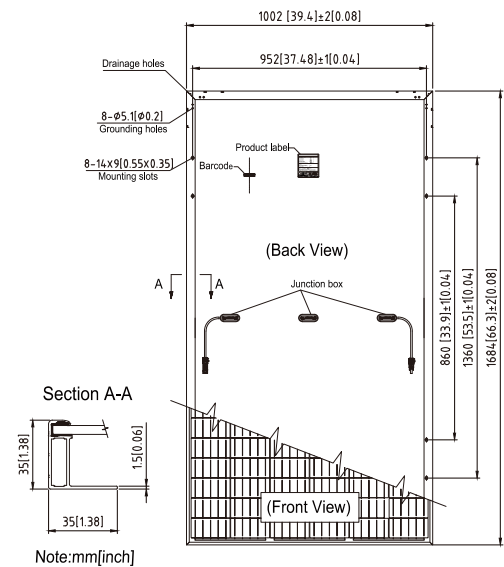
Nominal Module Operating Temperature(NMOT)	42±2°C
Temperature Coefficient of Pmax	-0.37 %/°C
Temperature Coefficient of Voc	-0.304 %/°C
Temperature Coefficient of Isc	0.050 %/°C

## Mechanical Characteristics

Solar Cell	Monocrystalline 158.75mm
No. of Cells	120 (6 × 20)
Dimensions	1684 × 1002 × 35mm
Weight	19.0 kgs
Front Glass	3.2 mm tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm <sup>2</sup> , symmetrical lengths (-) 1200mm and (+) 1200 mm
Connectors	MC4 compatible

## Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	30	32
Pallets per container	12	26
Pieces per container	360	832



## Current-Voltage & Power-Voltage Curve (340S)

