



# HW-M12/132H(650-670)

## High Efficiency Mono Solar Module

### Introduction

MBB and high-density interconnect technology improves power output and module efficiency.

Deploying advanced non-destructive cutting and half-cut technology, the Module features excellent Mechanical performance.



### Excellent power generation performance

0/+5W positive power tolerance  
Improved low light irradiance performance and low degradation



### Advanced production process

Optimized MBB design  
Cell efficiency >23.0%

### Certificate

TUV: EN IEC 61215, EN IEC 61730  
GB/T 19001-2016/ISO 9001:2015  
GB/T 24001-2016/ISO 14001:2015  
GB/T 45001-2020/ISO 45001:2018



### Stable mechanical performance

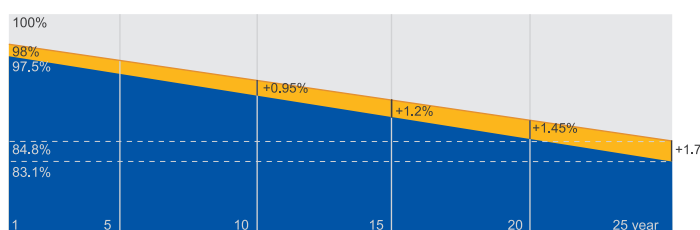
Passed rigorous hail test  
Withstands 5400Pa snow and 2400Pa wind loads



### Superior quality control

Full automatic production line  
100% three times EL and appearance inspection

### Warranty



■ New linear power warranty ■ Standard module linear power warranty

## Hiwatt Solar Limited

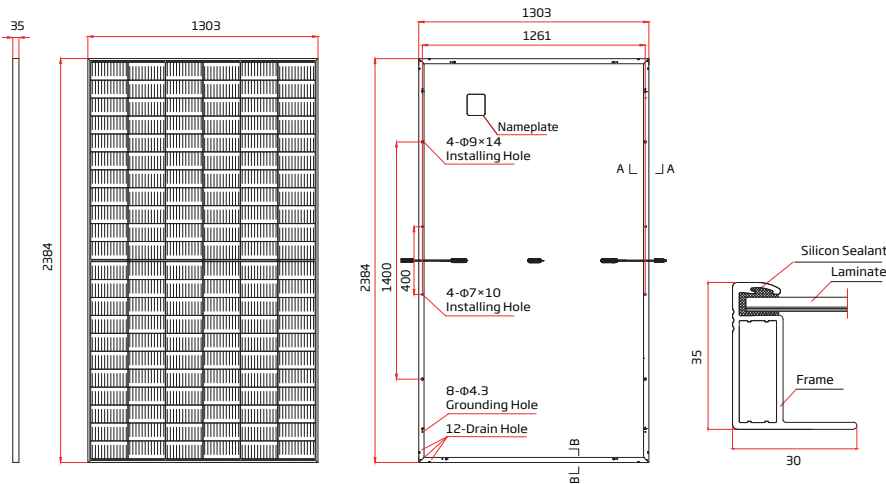
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## MECHANICAL DIAGRAMS



## SPECIFICATIONS

Solar Cells	Monocrystalline
No. Of Cells	132(6x22)
Dimensions	2384x1303x35mm
Weight	35.7kgs
Junction Box	IP 68, 3 Diodes
Cables	4.0mm <sup>2</sup>
Connectors	QC 4.10-35(1500V)

## ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)	650	655	660	665	670
Power Tolerance-PMAX (W)			0 ~ +5		
Maximum Power Voltage -VMPP (V)	37.4	37.6	37.8	38.0	38.2
Maximum Power Current -IMPP (A)	17.39	17.43	17.47	17.51	17.55
Open Circuit Voltage -VOC (V)	45.3	45.5	45.7	45.9	46.1
Short Circuit Current -ISC (A)	18.44	18.48	18.53	18.57	18.62
Module Efficiency (%)	20.9	21.1	21.2	21.4	21.6

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

## ELECTRICAL DATA (NOCT)

Maximum Power-PMAX (Wp)	492	496	500	504	508
Maximum Power Voltage -VMPP (V)	34.9	35.1	35.3	35.4	35.6
Maximum Power Current -IMPP (A)	14.09	14.13	14.17	14.22	14.26
Open Circuit Voltage -VOC (V)	42.7	42.9	43.0	43.2	43.4
Short Circuit Current -ISC (A)	14.86	14.89	14.93	14.96	15.01

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

## TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coe-cient of PMAX	- 0.34%/°C
Temperature Coe-cient of VOC	- 0.25%/°C
Temperature Coe-cient of ISC	0.04%/°C

## MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	30A

## PACKAGING

Modules per box:	31 pieces
Modules per 40' container:	558 pieces

## WARRANTY

- 12 year Product Workmanship Warranty
- 25 year Power Warranty
- 0.55% Annual Power Attenuation
- 2% first year degradation

## CHARACTERISTICS

