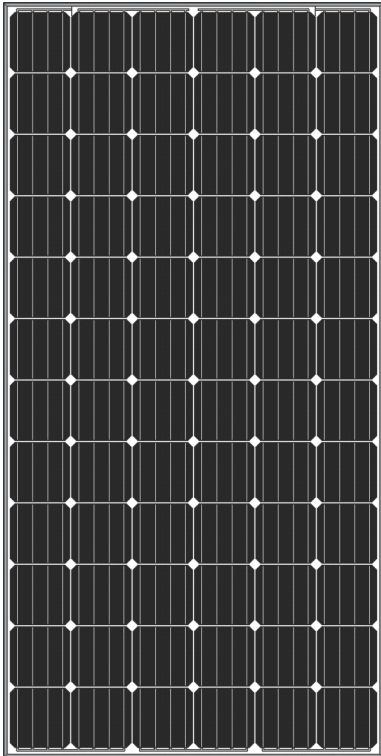


# HAS-6M

## MONOCRYSTALLINE MODULE



### ADVANCED PERFORMANCE & PROVEN ADVANTAGES

- High module conversion efficiency up to 18.04% by using high efficient solar cells and advanced manufacturing technology.
- Low degradation and excellent performance under high temperature and low light conditions.
- Robust aluminum frame ensures the modules to withstand wind loads up to 2400Pa and snow loads up to 5400Pa.
- High reliability against extreme environmental conditions (passing salt mist, ammonia and hail tests).
- Potential induced degradation (PID) resistance.
- Positive power tolerance of 0 ~ +3 %.

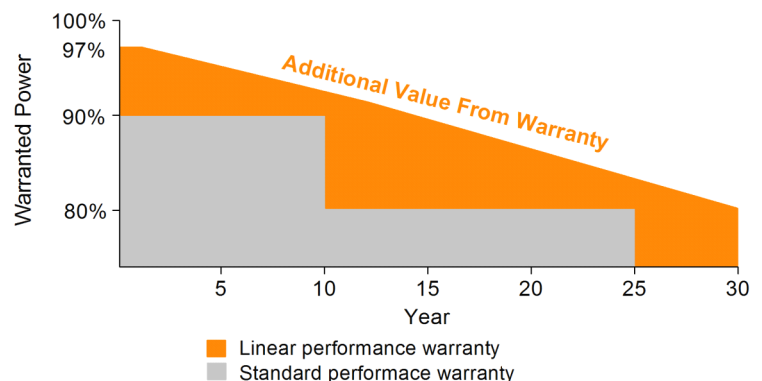
### CERTIFICATIONS

- IEC61215, IEC61730, IEC62716, IEC61701, CE, CQC, CGC, ETL(USA), JET(Japan), J-PEC(Japan), Kemco(South Korea), KS(South Korea), MCS(UK), CEC(Australia), FSEC(FL-USA), CSI Eligible(CA-USA), Israel Electric(Israel), InMetro(Brazil), TSE(Turkey)
- ISO9001:2008: Quality management system
- ISO14001:2004: Environmental management system
- OHSAS18001:2007: Occupational health and safety management system

**Passionately  
committed to  
delivering innovative  
energy solution**

### SPECIAL WARRANTY

- 12 years limited product warranty.
- Limited linear power warranty: 12 years 91.2% of the nominal power output, 30 years 80.6% of the nominal power output.



## ELECTRICAL CHARACTERISTICS AT STC

Nominal Power ( $P_{max}$ )	310W	315W	320W	325W	330W	335W	340W	345W	350W
Open Circuit Voltage ( $V_{oc}$ )	45.7V	45.8V	45.9V	46.0V	46.1V	46.2V	46.3V	46.4V	46.5V
Short Circuit Current ( $I_{sc}$ )	8.83A	8.92A	9.02A	9.12A	9.21A	9.33A	9.45A	9.57A	9.68A
Voltage at Nominal Power ( $V_{mp}$ )	37.1V	37.2V	37.3V	37.4V	37.5V	37.6V	37.7V	37.8V	37.9V
Current at Nominal Power ( $I_{mp}$ )	8.36A	8.47A	8.58A	8.69A	8.80A	8.91A	9.02A	9.13A	9.24A
Module Efficiency (%)	15.98	16.23	16.49	16.75	17.01	17.26	17.52	17.78	18.04
Operating Temperature	-40°C to +85°C								
Maximum System Voltage	1000V DC								
Fire Resistance Rating	Type 1(in accordance with UL1703)/Class C(IEC61730)								
Maximum Series Fuse Rating	15A								

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

## ELECTRICAL CHARACTERISTICS AT NOCT

Nominal Power ( $P_{max}$ )	228W	232W	236W	239W	243W	247W	250W	254W	258W
Open Circuit Voltage ( $V_{oc}$ )	42.1V	42.2V	42.3V	42.4V	42.5V	42.6V	42.7V	42.8V	42.9V
Short Circuit Current ( $I_{sc}$ )	7.15A	7.23A	7.31A	7.39A	7.46A	7.56A	7.65A	7.75A	7.84A
Voltage at Nominal Power ( $V_{mp}$ )	33.8V	33.9V	34.0V	34.1V	34.2V	34.3V	34.4V	34.5V	34.6V
Current at Nominal Power ( $I_{mp}$ )	6.75A	6.85A	6.94A	7.01A	7.11A	7.20A	7.27A	7.37A	7.46A

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

## MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline 156x156mm (6x6inches)
Number of cells	72 (6x12)
Module dimensions	1956x992x50mm (77.01x39.06x1.97inches)
Weight	23kg (50.7lbs)
Front cover	3.2mm (0.13inches) tempered glass with AR coating
Frame	Anodized aluminum alloy
Junction box	IP67, 3 diodes
Cable	4mm <sup>2</sup> (0.006inches <sup>2</sup> ), 1000mm (39.37inches)
Connector	MC4 or MC4 compatible

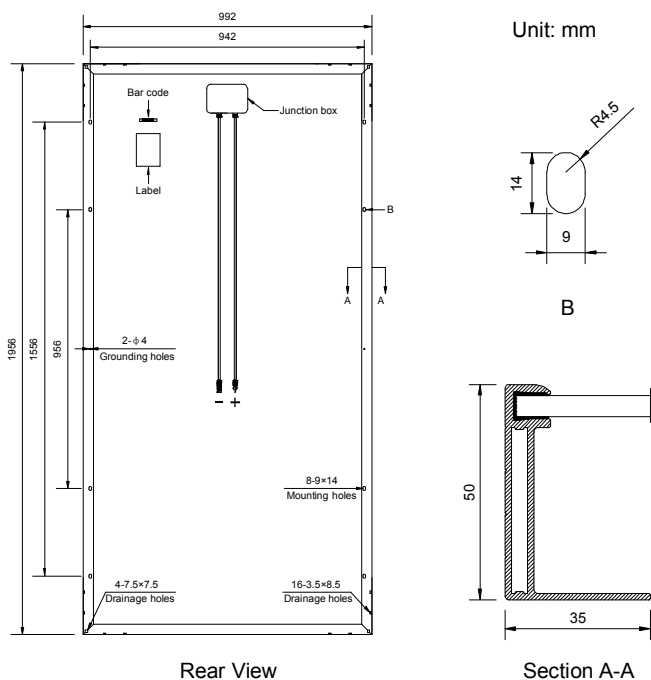
## TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	45°C±2°C
Temperature Coefficients of $P_{max}$	-0.41%/°C
Temperature Coefficients of $V_{oc}$	-0.31%/°C
Temperature Coefficients of $I_{sc}$	0.05%/°C

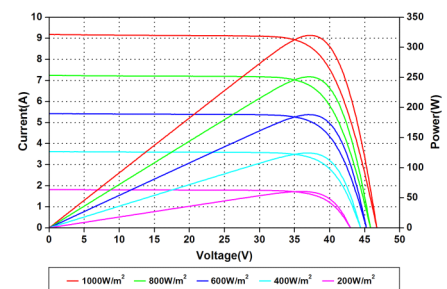
## PACKAGING

Standard packaging	21pcs/pallet
Module quantity per 20' container	210pcs
Module quantity per 40' container	462pcs(GP)/506pcs(HQ)

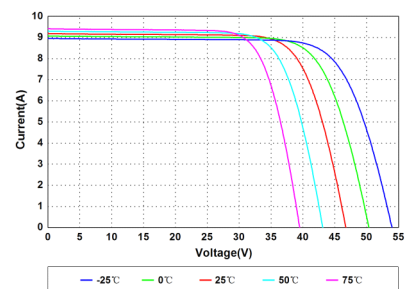
## ENGINEERING DRAWINGS



## IV CURVES



Current-Voltage and Power-Voltage Curves at Different Irradiances



Current-Voltage Curves at Different Temperatures

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