



Reliable State-owned Enterprise Deliver Solar Power since 1960s

**HIGHWAY**

# HT60-156M

# HT60-156M(V)

\* V means 1500V module

## Black Module Technology

### 300W-320W



#### Comprehensive and first-rate certification system

UL 1703 Latest Standard

IEC61215:2016, IEC61730:2016 Latest Standard

ISO9001, ISO14001 and OHSAS18001, meeting the highest international standards

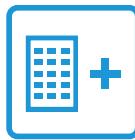
Strict quality control



IEC 61215:2016  
IEC 61730:2016



Advanced surface treatment, less surface reflection and 5BB cell design can reduce the series resistance and improve the module



19.7%  
Module Efficiency



Designed for high voltage systems of up to 1500 VDC, increasing the string length of solar systems and saving on BoS costs



Certified to withstand dynamic mechanical load 1000 Pascal



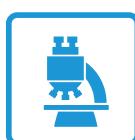
Higher module's output power



PID resistant



Ammonia corrosion resistant  
Salt Mist corrosion resistant



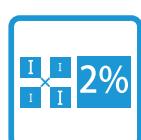
Microcrack resistant  
Triple EL tested of high quality control



Entire module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

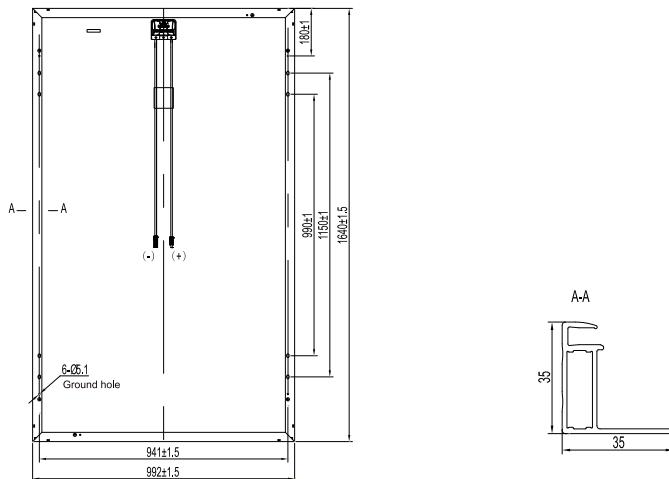


Strict quality control, meeting the highest international standards: ISO 9001, ISO14001

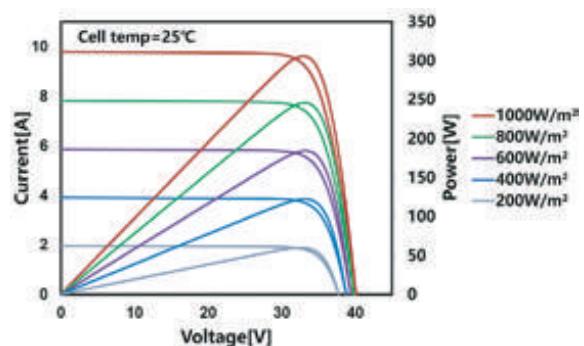


All the modules are sorted and packaged by amperage, reducing mismatch losses and maximizing system output.

## Engineering Drawing



Current-Voltage & Power-Voltage Curve



I-V Curves

## Electrical Characteristics

Module	HT60-156M / HT60-156M(V)				
Maximum Power at STC(Pmax)	300W	305W	310W	315W	320W
Open-Circuit Voltage(Voc)	39.9V	40.1V	40.3V	40.5V	40.7V
Short-Circuit Current(Isc)	9.71A	9.78A	9.85A	9.92A	9.99A
Optimum Operating Voltage (Vmp)	32.8V	33.2V	33.6V	34.0V	34.4V
Optimum Operating Current(Imp)	9.16A	9.21A	9.25A	9.29A	9.33A
Module Efficiency	18.4%	18.8%	19.1%	19.4%	19.7%
Power Tolerance	0 ~ +5W				
Maximum System Voltage	1000V/1500V DC (UL/IEC)				
Maximum Series Fuse Rating	15A/20A				
Operating Temperature	-40 °C to +85 °C				

STC:Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM=1.5

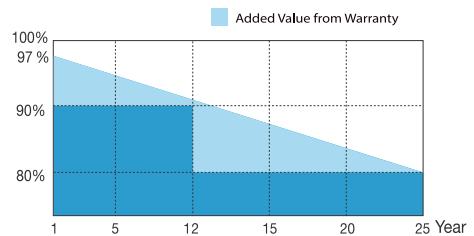
Optional black frame or white frame module according to customer requirements

## Temperature Characteristics

Temperature Coefficient of Pmax	$\gamma$ (Pm)	-0.365%/
Temperature Coefficient of Voc	$\beta$ (Voc)	-0.275%/
Temperature Coefficient of Isc	$\alpha$ (Isc)	+0.063%/

## Warranty

15-year product warranty  
25-year warranty on power output



## NOCT

Module	HT60-156M / HT60-156M(V)				
Maximum Power	221W	225W	229W	232W	236W
Open Circuit Voltage (Voc)	37.2V	37.4V	37.6V	37.8V	38.0V
Short Circuit Current (Isc)	7.84A	7.90A	7.96A	8.01A	8.07A
Maximum Power Voltage (Vmp)	30.5V	30.9V	31.3V	31.7V	32.1V
Maximum Circuit Current (Imp)	7.24A	7.27A	7.31A	7.33A	7.36A
NOCT	45 °C ± 2 °C				

NOCT: Irradiance 800W/m<sup>2</sup>, ambient temperature 20°C, wind speed 1 m/s

## Mechanical Characteristics

Solar Cells	Monocrystalline 156.75 x 156.75mm
No.of Cells	60 (6 x 10)
Dimensions	1640 x 992 x 35mm (64.6 x 39.1 x 1.4in)
Weight	18.5kg (40.8lbs)
Front Glass	High transmission tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP67
Cable	4mm <sup>2</sup> (UL/IEC)
Connectors	MC4/MC4 Compatible
Packaging Configuration	30pcs/box, 910pcs/40'HQ Container