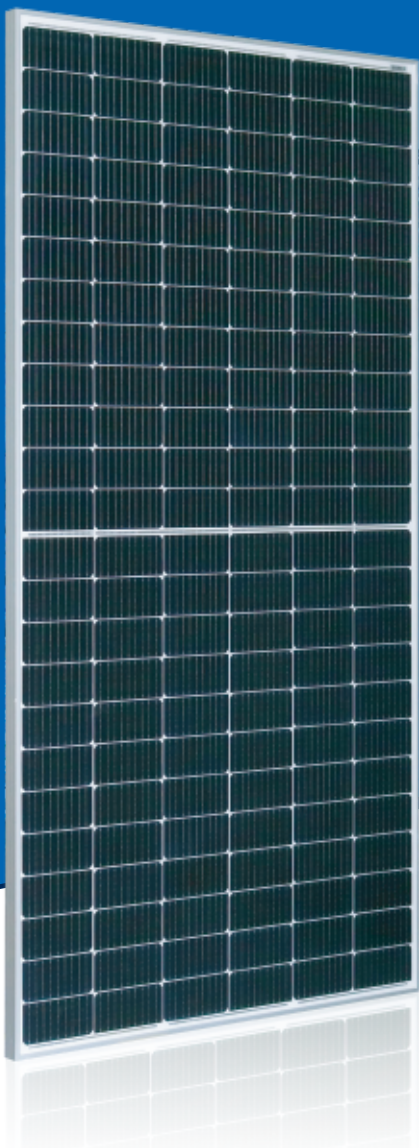


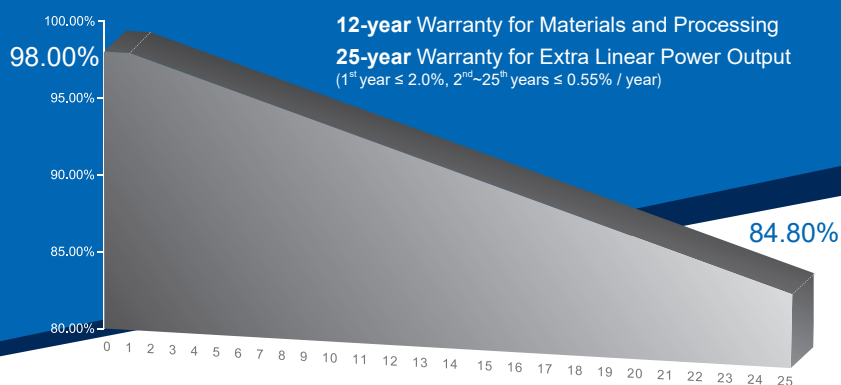
AstroSemi™

Incredible Power for Small Body



440W~455W

Monocrystalline PV Module
CHSM72M-HC Series (166)



KEY FEATURES



OUTPUT POSITIVE TOLERANCE
Guaranteed 0~+5W positive tolerance ensures power output reliability.



INNOVATIONAL HALF-CELL TECHNOLOGY
Improves the module output, decreases the risk of micro-crack, enhances the module reliability.



INNOVATIVE PERC CELL TECHNOLOGY
Excellent cell efficiency and output.



REDUCE SHADOW LOSS
Effectively reduces the effect of shadow on the module surface.



REDUCE INTERNAL MISMATCH LOSS
Reduces mismatch loss and improves output.



PASSED HAIL TEST
Certified to hail resistance: ice ball size (d=25mm) and ice ball velocity (v=23m/s).



PID RESISTANCE
Excellent PID resistance at 96 hours (@85°C /85%) test, and also can be improved to meet higher standards for the particularly harsh environment.

COMPREHENSIVE CERTIFICATES



First solar company which passed the TUV Nord IEC/TS 62941 certification audit.

For Global Market



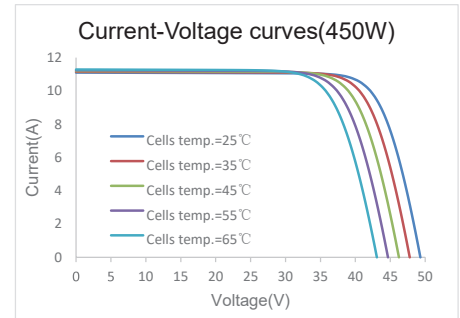
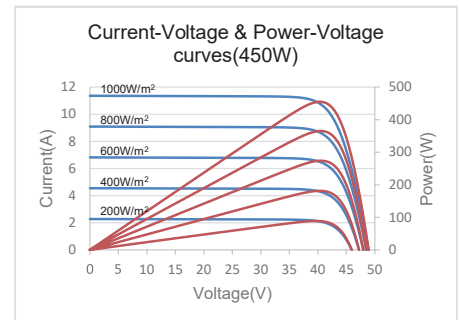
ASTROENERGY
A CHNT COMPANY

ELECTRICAL SPECIFICATIONS

STC rated output (P_{mpp})*	440 Wp	445 Wp	450 Wp	455 Wp
Rated voltage (V_{mpp}) at STC	40.85 V	41.05 V	41.32 V	41.51 V
Rated current (I_{mpp}) at STC	10.77 A	10.84 A	10.89 A	10.96 A
Open circuit voltage (V_{oc}) at STC	48.50 V	48.80 V	49.05 V	49.35 V
Short circuit current (I_{sc}) at STC	11.24 A	11.30 A	11.37 A	11.44 A
Module efficiency	20.2%	20.5%	20.7%	20.9%
Rated output (P_{mpp}) at NMOT	327.1 Wp	330.8 Wp	334.5 Wp	338.2 Wp
Rated voltage (V_{mpp}) at NMOT	37.93 V	38.12 V	38.37 V	38.55 V
Rated current (I_{mpp}) at NMOT	8.62 A	8.68 A	8.72 A	8.78 A
Open circuit voltage (V_{oc}) at NMOT	45.42 V	45.70 V	45.94 V	46.22 V
Short circuit current (I_{sc}) at NMOT	9.06 A	9.10 A	9.16 A	9.22 A
Temperature coefficient (P_{mpp})	- 0.35%/°C			
Temperature coefficient (I_{sc})	+0.04%/°C			
Temperature coefficient (V_{oc})	- 0.28%/°C			
Nominal module operating temperature (NMOT)	44±2°C			
Maximum system voltage (IEC/UL)	1500V _{DC}			
Number of diodes	3			
Junction box IP rating	IP 68			
Maximum series fuse rating	20 A			

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

CURVE



MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H)	2094 x 1038 x 35 mm
Frame technology	Aluminum, silver anodized
Module composition	Glass / EVA / Backsheet (white)
Front glass thickness	3.2 mm
Cable length (IEC/UL)	Portrait: 300 mm Landscape: 1300 mm
Cable diameter (IEC/UL)	4 mm ² / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Fire performance (IEC/UL)	Class C (IEC) or Type 4 (UL)
Connector type (IEC/UL)	MC4 compatible

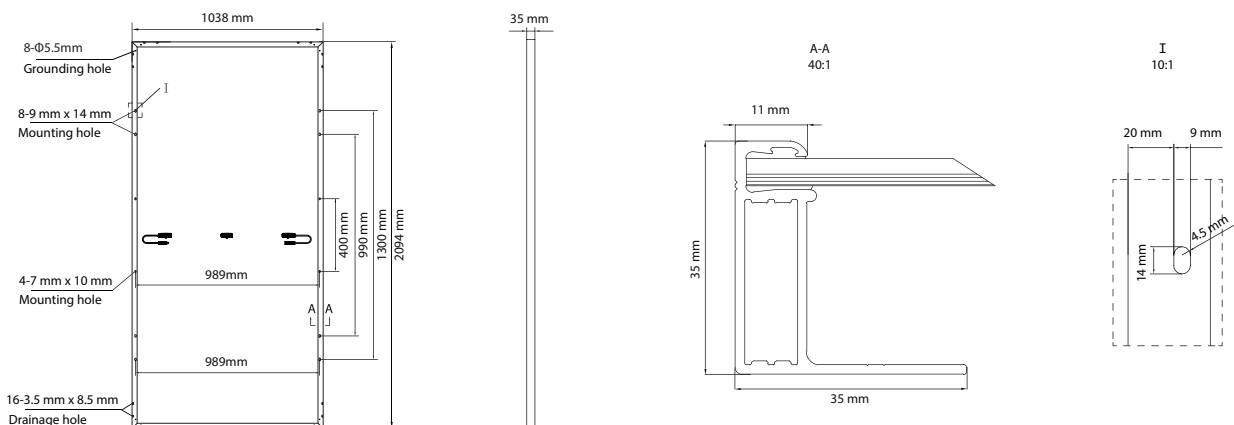
① Refer to Astronergy crystalline installation manual or contact technical department.
 Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

PACKING SPECIFICATIONS

① Weight (module only)	23.5 kg
② Packing unit	31 pcs / box
Weight of packing unit (for 40'HQ container)	770 kg
Number of modules per 40'HQ container	682 pcs

① Tolerance +/- 1.0kg
 ② Subject to sales contract

MODULE DIMENSION DETAILS



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