

# ASTRO 5s

Create Sustainable and Efficient Green Energy



**ASTRONERGY**  
A CHINT COMPANY

## 395W~410W

Monocrystalline PV Module  
CHSM54M-HC Series (182)



### KEY FEATURES

**+5W**

**OUTPUT POSITIVE TOLERANCE**  
Guaranteed 0~+5W positive tolerance to ensure power output.



**NON-DESTRUCTIVE CUTTING**  
Higher bending strength of cells and mechanical properties of modules.



**INNOVATIONAL MULTI-BUSBAR TECHNOLOGY**  
Higher light absorption, lower risk of microcrack.



**INNOVATIONAL HALF-CUT TECHNOLOGY**  
Better shading tolerance, higher reliability.

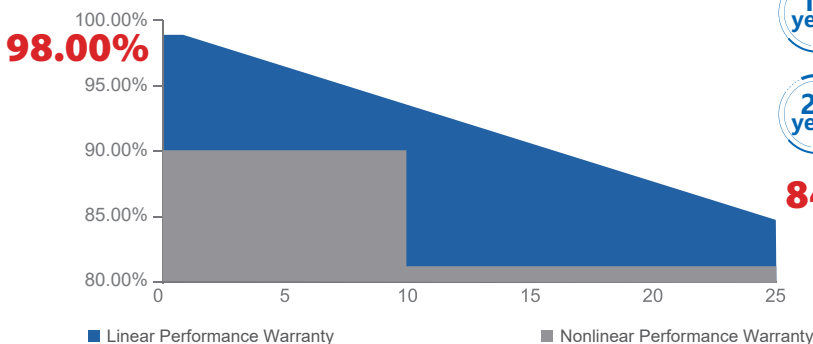


**SUPER PERC+ CELL TECHNOLOGY**  
Higher module power and module efficiency, lower power degradation.



**Anti PID**  
**PID RESISTANCE**  
Excellent PID resistance.

### WARRANTY



**12 years**

Warranty for Materials and Processing (Standard)

**15 years**

Warranty for Materials and Processing (Optional, special for rooftop market)

**25 years**

Warranty for Extra Linear Power Output (1<sup>st</sup> year ≤ 2.0%, 2<sup>nd</sup>~25<sup>th</sup> years ≤ 0.55% / year)

**84.80%**

For Global Market



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

## ELECTRICAL SPECIFICATIONS

STC rated output ( $P_{mpp}$ )	395 Wp	400 Wp	405 Wp	410 Wp
Rated voltage ( $V_{mpp}$ ) at STC	30.92 V	31.09 V	31.26 V	31.43 V
Rated current ( $I_{mpp}$ ) at STC	12.77 A	12.86 A	12.96 A	13.05 A
Open circuit voltage ( $V_{oc}$ ) at STC	36.80 V	37.00 V	37.20 V	37.40 V
Short circuit current ( $I_{sc}$ ) at STC	13.52 A	13.65 A	13.76 A	13.88 A
Module efficiency	20.4%	20.7%	20.9%	21.2%
Rated output ( $P_{mpp}$ ) at NMOT	295.2 Wp	298.9 Wp	302.7 Wp	306.4 Wp
Rated voltage ( $V_{mpp}$ ) at NMOT	28.82 V	28.98 V	29.13 V	29.29 V
Rated current ( $I_{mpp}$ ) at NMOT	10.24 A	10.32 A	10.39 A	10.46 A
Open circuit voltage ( $V_{oc}$ ) at NMOT	34.78 V	34.97 V	35.15 V	35.34 V
Short circuit current ( $I_{sc}$ ) at NMOT	10.97 A	11.07 A	11.17 A	11.26 A
Temperature coefficient ( $P_{mpp}$ )	- 0.35%/°C			
Temperature coefficient ( $I_{sc}$ )	+ 0.045%/°C			
Temperature coefficient ( $V_{oc}$ )	- 0.27%/°C			
Nominal module operating temperature (NMOT)	41±2°C			
Maximum system voltage (IEC/UL)	1500V <sub>DC</sub>			
Number of diodes	3			
Junction box IP rating	IP 68			
Maximum series fuse rating	25 A			

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

NMOT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

## MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H)	1708 x 1133 x 30 mm
Frame technology	Aluminum, black anodized
Front glass thickness	3.2 mm
Cable length (IEC/UL)	Portrait: 300 mm Landscape: 1200 mm
Cable diameter (IEC/UL)	4 mm <sup>2</sup> / 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)	HCB40 / MC4-EVO2 (optional)

① Refer to Astronergy crystalline installation manual or contact technical department.

Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

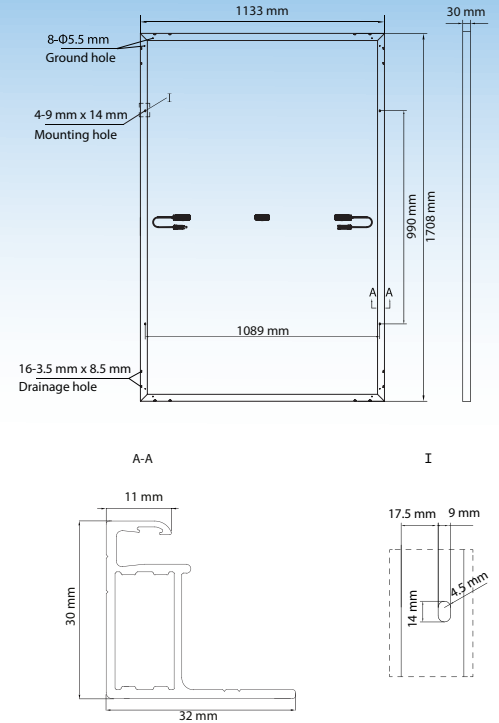
## PACKING SPECIFICATIONS

① Module Weight	21.5 kg
② Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	813 kg
Number of modules per 40'HQ container	936 pcs

① Tolerance +/- 1.0kg

② Subject to sales contract

## MODULE DIMENSION DETAILS



## CURVE

