



ASTRONERGY

preliminary

# ASTRO N5s

Create Sustainable and Efficient Green Energy

CHSM54N-HC  
Monofacial Series (182)

## 415~430W

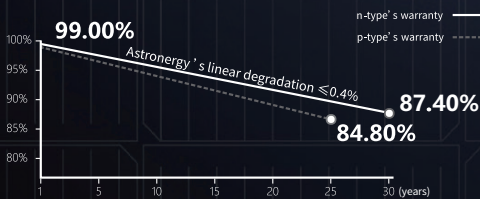
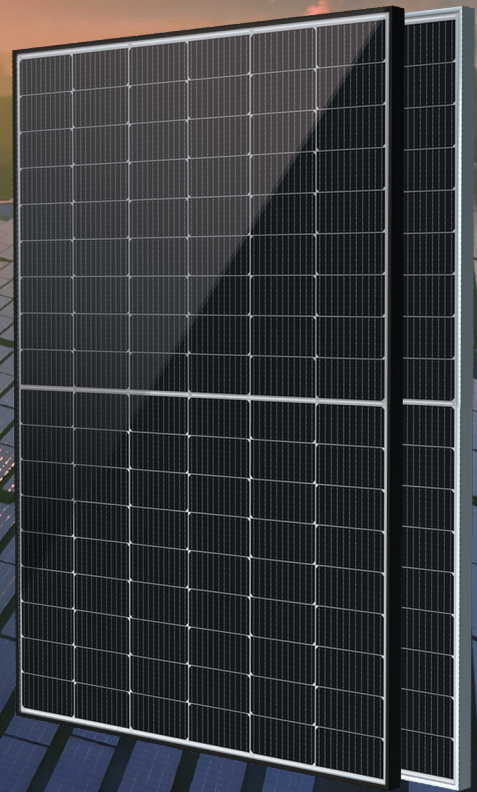
TOPCon / Half-cut

Low temperature coefficient (Pmpp)

Non-destructive cutting

PID resistance

Low BOS cost & LCOE



12-year Product Warranty (Standard)

15-year Product Warranty (Optional, special for rooftop market)

30-year Linear Power Warranty



ISO 9001:2015:ISO Quality Management System  
ISO 14001:2015:ISO Environment Management System  
ISO 45001:Occupational Health and Safety  
The first solar company which passed the Nord IEC/TS 62941 certification audit.



Tier 1  
BloombergNEF



**415~430W**

POWER RANGE

**0~+5W**

POWER SORTING

**22.0%**MAX MODULE  
EFFICIENCY**≤ 1.0%**FIRST YEAR  
POWER DEGRADATION**≤ 0.4%**YEAR 2-30  
POWER DEGRADATION

## Electrical Specifications

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

Rated output (Pmpp / Wp)	415	420	425	430
Rated voltage (Vmpp / V)	31.76	31.93	32.10	32.27
Rated current (Impp / A)	13.06	13.15	13.24	13.33
Open circuit voltage (Voc / V)	37.80	38.00	38.20	38.40
Short circuit current (Isc / A)	13.76	13.87	13.98	14.09
Module efficiency	21.3%	21.5%	21.8%	22.0%

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

Rated output (Pmpp / Wp)	312.1	315.8	319.6	323.4
Rated voltage (Vmpp / V)	29.90	30.06	30.21	30.37
Rated current (Impp / A)	10.44	10.51	10.58	10.65
Open circuit voltage (Voc / V)	35.91	36.10	36.29	36.48
Short circuit current (Isc / A)	11.11	11.20	11.28	11.37

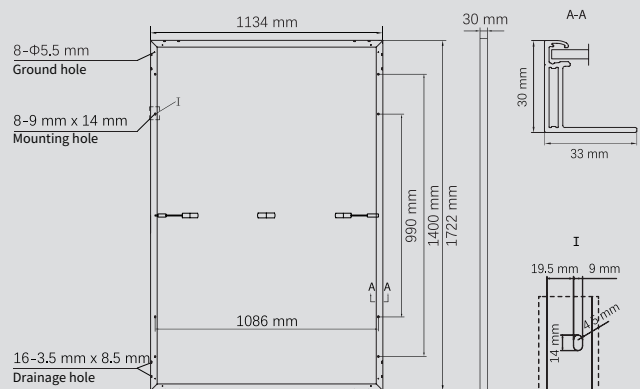
## Temperature Ratings (STC)

Temperature coefficient (Pmpp)	-0.30%/°C	No. of diodes	3
Temperature coefficient (Isc)	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (Voc)	-0.24%/°C	Max. series fuse rating	25 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V <sub>DC</sub>

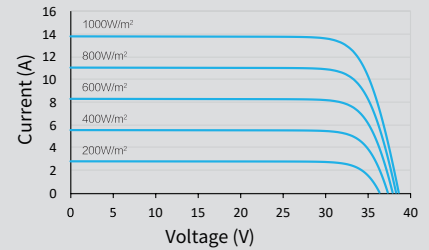
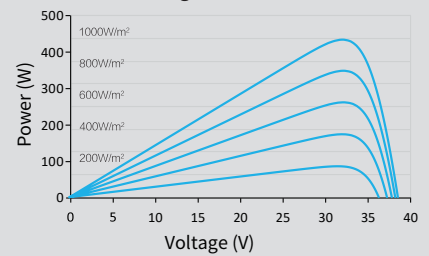
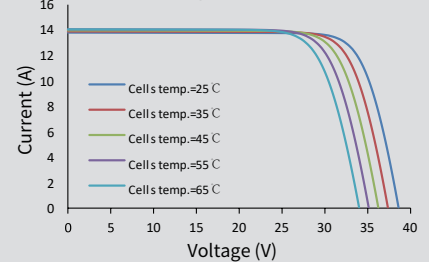
## Operating Parameters

## Mechanical Specifications

Outer dimensions (L x W x H)	1722 x 1134 x 30 mm
Cell type	n-type mono-crystalline
No. of cells	108 (6*18)
Frame technology	Aluminum, black or silver anodized
Front glass thickness	3.2 mm
Cable length (Including connector)	Portrait: (+)350 mm, (-)250 mm; Customized length
Cable diameter (IEC/UL)	4 mm <sup>2</sup> / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	21.3 kg
Packing unit	36 pcs / box (Subject to sales contract)
Weight of packing unit (for 40' HQ container)	811 kg
Modules per 40' HQ container	936 pcs



## Curve

**Current-Voltage (425W)****Power-Voltage (425W)****Current-Voltage (425W)**

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