



ASTRONERGY

# ASTRO N5s

Create Sustainable and Efficient Green Energy

CHSM54N(DG)/F-HC  
Monofacial Series (182)

## 415~435W

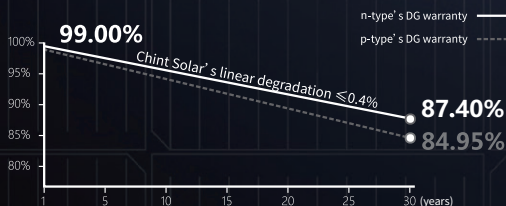
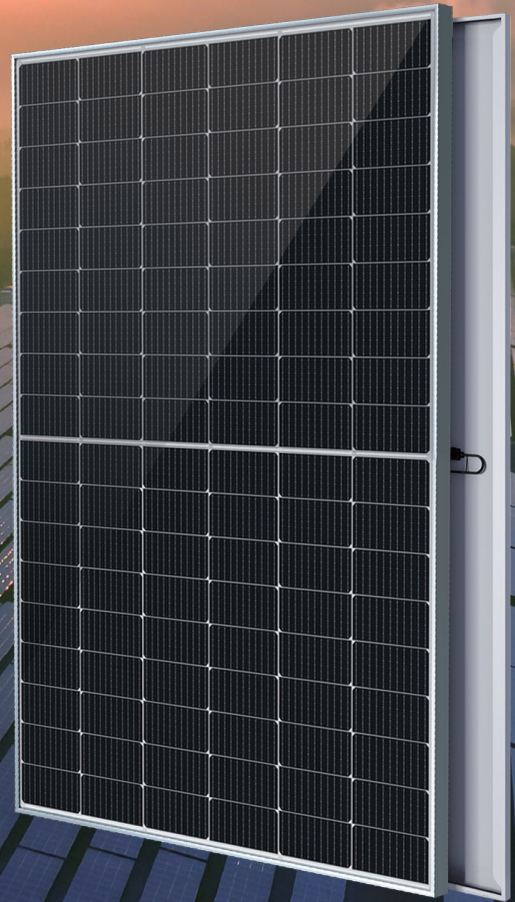
TOPCon / Half-cut

Low temperature coefficient (Pmpp)

Non-destructive cutting

PID resistance

Low BOS cost & LCOE



12-year Product Warranty

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



# 415~435W

POWER RANGE

# 0~+5W

POWER SORTING

# 22.3%

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 (P <sub>mpp</sub> / Wp)	415	420	425	430	435
Rated voltage (V <sub>mpp</sub> / V)	32.49	32.62	32.74	32.87	32.99
Rated current (I <sub>mpp</sub> / A)	12.77	12.88	12.98	13.08	13.18
Open circuit voltage (V <sub>oc</sub> / V)	38.66	38.81	38.96	39.11	39.26
Short circuit current (I <sub>sc</sub> / A)	13.47	13.59	13.72	13.85	13.97
Module efficiency	21.3%	21.5%	21.8%	22.0%	22.3%

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

Rated output (P <sub>mpp</sub> / Wp)	312.1	315.8	319.6	323.4	327.1
Rated voltage (V <sub>mpp</sub> / V)	30.58	30.70	30.82	30.94	31.06
Rated current (I <sub>mpp</sub> / A)	10.21	10.29	10.37	10.45	10.53
Open circuit voltage (V <sub>oc</sub> / V)	36.72	36.87	37.01	37.15	37.29
Short circuit current (I <sub>sc</sub> / A)	10.87	10.97	11.08	11.18	11.28

## Temperature Ratings (STC)

Temperature coefficient (P <sub>mpp</sub> )	-0.30%/°C	No. of diodes	3
Temperature coefficient (I <sub>sc</sub> )	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (V <sub>oc</sub> )	-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

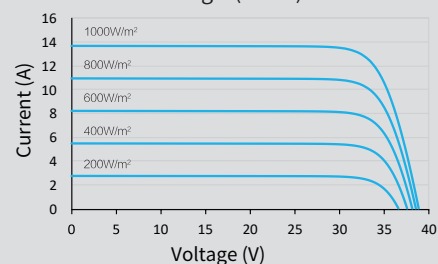
## Mechanical Specifications

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, silver anodized
Front / Back glass	1.6+1.6 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	20.8 kg
Packing unit	36 pcs / box (Subject to sales contract)
Weight of packing unit (for 40' HQ container)	793 kg
Modules per 40' HQ container	936 pcs

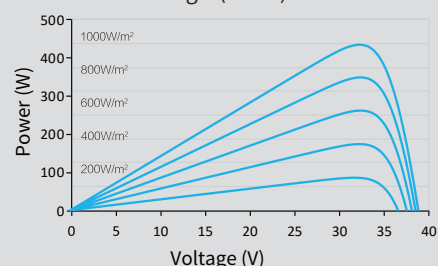
① Refer to Astronergy crystalline installation manual or contact technical department.  
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

## Curve

Current-Voltage (425W)



Power-Voltage (425W)



Current-Voltage (425W)

