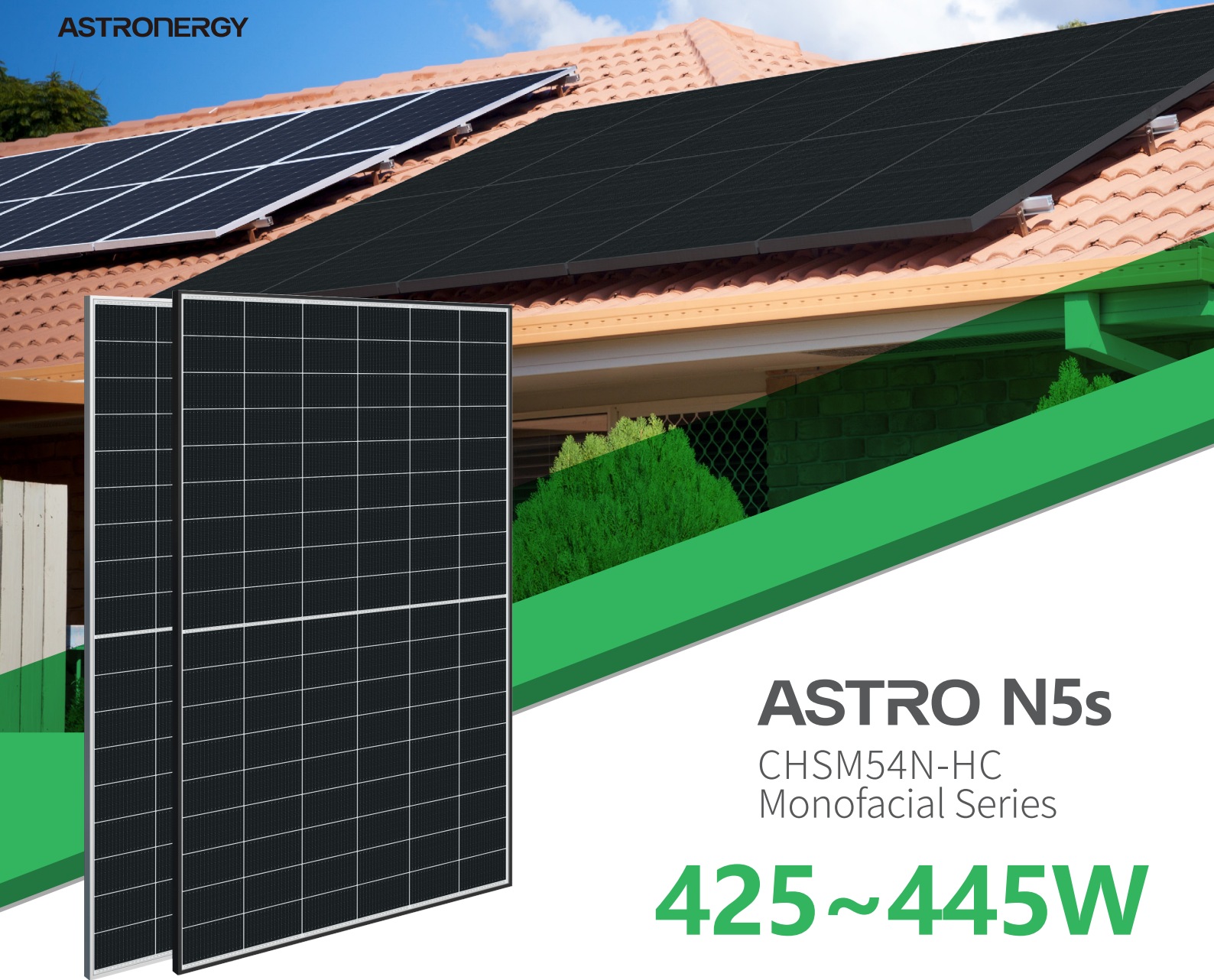




ASTRONERGY



# ASTRO N5s

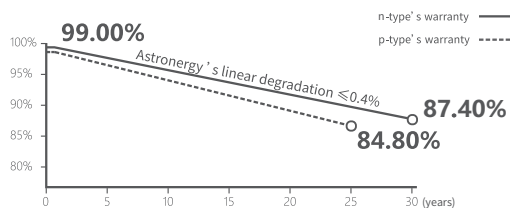
CHSM54N-HC  
Monofacial Series

# 425~445W

## Warranty

**15** 15-year Product Warranty

**30** 30-year Linear Power Warranty



## Key Features

- Suitable for distributed projects
- High power
- High reliability
- Easy to install and transport



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

TOP PERFORMER  
**PVEL** member of group **kiwa**

Tier 1  
BloombergNEF

Underwritten by  
International Insurer



425~445W

POWER RANGE

0~+3%

POWER SORTING

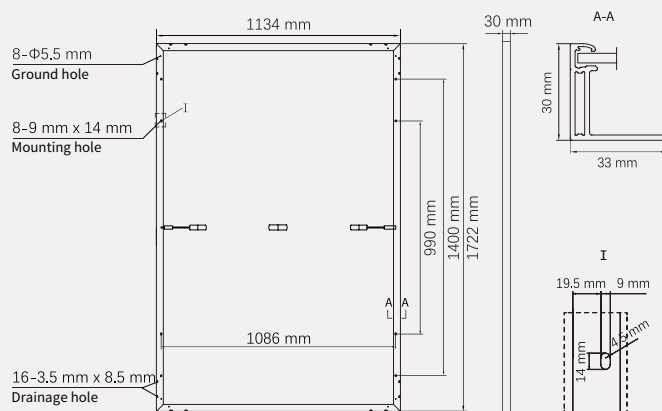
22.8%

MAX MODULE  
EFFICIENCY $\leq 1.0\%$ FIRST YEAR  
POWER DEGRADATION $\leq 0.4\%$ YEAR 2-30  
POWER DEGRADATION

## 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;<br>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                                         |
| Weight of packing unit (for 40'HQ container) | 811 kg                                               |
| Modules per 40' HQ container                 | 936 pcs (Subject to sales contract)                  |

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



## Electrical Specifications

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

|                                                   |       |       |       |       |       |
|---------------------------------------------------|-------|-------|-------|-------|-------|
| Rated output (P <sub>mpp</sub> / W <sub>p</sub> ) | 425   | 430   | 435   | 440   | 445   |
| Rated voltage (V <sub>mpp</sub> / V)              | 32.10 | 32.27 | 32.44 | 32.61 | 32.77 |
| Rated current (I <sub>mp</sub> / A)               | 13.24 | 13.33 | 13.41 | 13.49 | 13.58 |
| Open circuit voltage (V <sub>oc</sub> / V)        | 38.20 | 38.40 | 38.60 | 38.80 | 39.00 |
| Short circuit current (I <sub>sc</sub> / A)       | 13.98 | 14.09 | 14.19 | 14.30 | 14.41 |
| Module efficiency                                 | 21.8% | 22.0% | 22.3% | 22.5% | 22.8% |

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

|                                                   |       |       |       |       |       |
|---------------------------------------------------|-------|-------|-------|-------|-------|
| Rated output (P <sub>mpp</sub> / W <sub>p</sub> ) | 319.6 | 323.4 | 327.1 | 330.9 | 334.6 |
| Rated voltage (V <sub>mpp</sub> / V)              | 30.21 | 30.37 | 30.53 | 30.70 | 30.84 |
| Rated current (I <sub>mp</sub> / A)               | 10.58 | 10.65 | 10.71 | 10.78 | 10.85 |
| Open circuit voltage (V <sub>oc</sub> / V)        | 36.29 | 36.48 | 36.67 | 36.85 | 37.04 |
| Short circuit current (I <sub>sc</sub> / A)       | 11.28 | 11.37 | 11.46 | 11.54 | 11.63 |

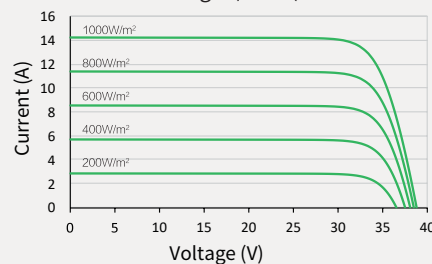
## Temperature Ratings (STC)

|                                             |            |                              |                     |
|---------------------------------------------|------------|------------------------------|---------------------|
| Temperature coefficient (P <sub>mpp</sub> ) | -0.29%/°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> )  | -0.25%/°C  | Max. series fuse rating      | 25 A                |
| Nominal module operating temperature (NMOT) | 41±2°C     | Max. system voltage (IEC/UL) | 1500V <sub>DC</sub> |

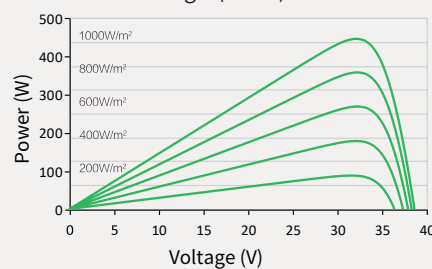
## Operating Parameters

## Curve

Current-Voltage (435W)



Power-Voltage (435W)



Current-Voltage (435W)

