



ASTRONERGY
A CHNT COMPANY

ASTRO N5s

Create Sustainable and Efficient Green Energy

CHSM54N-HC
Monofacial Series (182)

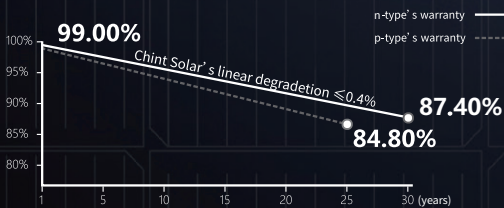
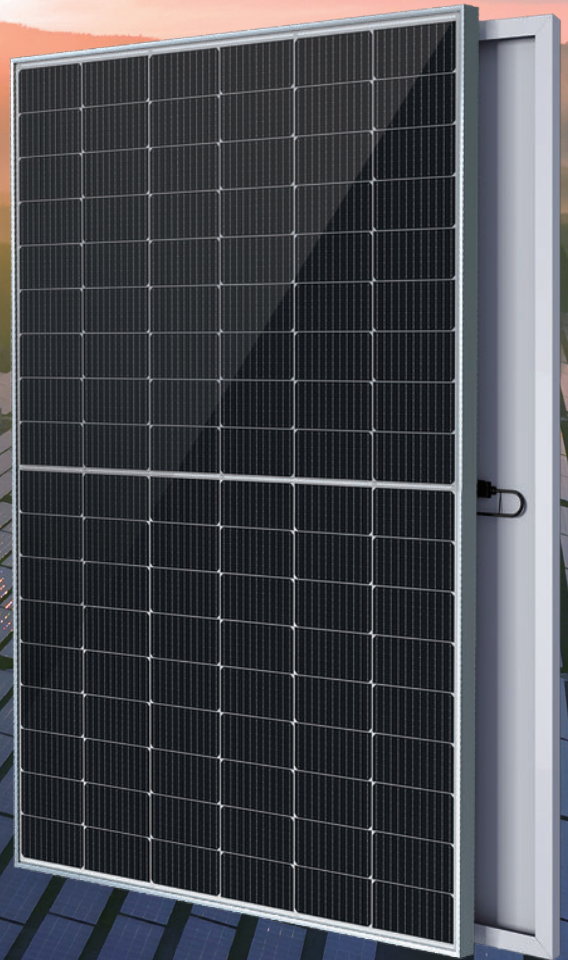
415~430W

TOPCon / Multi-busbar / Half-cut

Non-destructive cutting

PID resistance

Lower 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



415~430W

POWER RANGE

0~+5W

POWER TOLERANCE

22.0%

MAX MODULE EFFICIENCY

≤ 1.0%

FIRST YEAR POWER DEGRADATION

≤ 0.4%

YEAR 2-30 POWER DEGRADATION

Electrical Specifications

STC: Irradiance 1000W/m², Cell Temperature 25° C, AM=1.5

| | | | | |
|---|-------|-------|-------|-------|
| Rated output (P _{mpp} / W _p) | 415 | 420 | 425 | 430 |
| Rated voltage (V _{mpp} / V) | 31.76 | 31.93 | 32.10 | 32.27 |
| Rated current (I _{mpp} / A) | 13.06 | 13.15 | 13.24 | 13.33 |
| Open circuit voltage (V _{oc} / V) | 37.80 | 38.00 | 38.20 | 38.40 |
| Short circuit current (I _{sc} / A) | 13.76 | 13.87 | 13.98 | 14.09 |
| Module efficiency | 21.3% | 21.5% | 21.8% | 22.0% |

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

| | | | | |
|---|-------|-------|-------|-------|
| Rated output (P _{mpp} / W _p) | 312.1 | 315.8 | 319.6 | 323.4 |
| Rated voltage (V _{mpp} / V) | 29.90 | 30.06 | 30.21 | 30.37 |
| Rated current (I _{mpp} / A) | 10.44 | 10.51 | 10.58 | 10.65 |
| Open circuit voltage (V _{oc} / V) | 35.91 | 36.10 | 36.29 | 36.48 |
| Short circuit current (I _{sc} / A) | 11.11 | 11.20 | 11.28 | 11.37 |

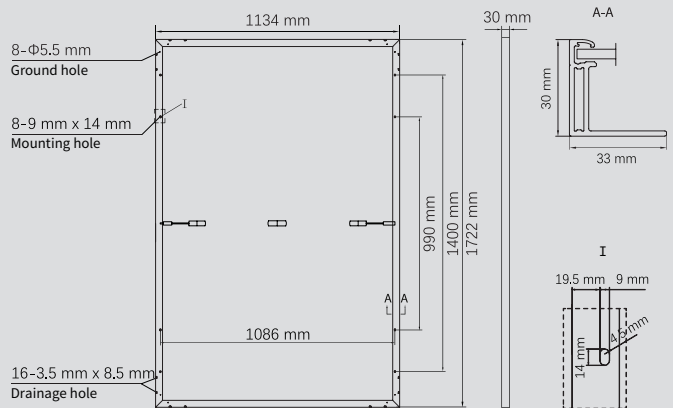
Temperature Ratings (STC)

| | | | |
|---|------------|------------------------------|---------------------|
| Temperature coefficient (P _{mpp}) | -0.30%/°C | No. of diodes | 3 |
| Temperature coefficient (I _{sc}) | +0.043%/°C | Junction box IP rating | IP 68 |
| Temperature coefficient (V _{oc}) | -0.24%/°C | Max. series fuse rating | 25 A |
| Nominal module operating temperature (NMOT) | 41±2°C | Max. system voltage (IEC/UL) | 1500V _{DC} |

Operating Parameters

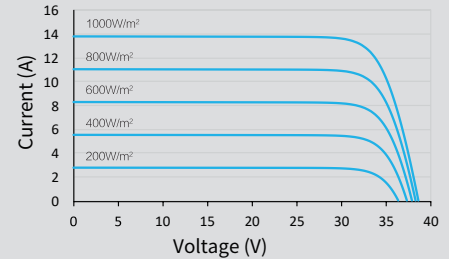
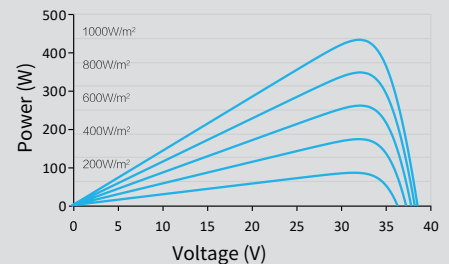
Mechanical Specifications

| | |
|---|--|
| 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 glass thickness | 3.2 mm |
| Cable length (IEC/UL) | Portrait: 300 mm; Landscape: 1200 mm |
| Cable diameter (IEC/UL) | 4 mm ² / 12 AWG |
| ① Maximum mechanical test load | 5400 Pa (front) / 2400 Pa (back) |
| Connector type (IEC/UL) | HCB40 / MC4-EVO2 (optional) |
| Module weight | 21.6 kg |
| Packing unit | 36 pcs / box (Subject to sales contract) |
| Weight of packing unit (for 40' HQ container) | 821 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)**