



ASTRONERGY
A CHNT COMPANY

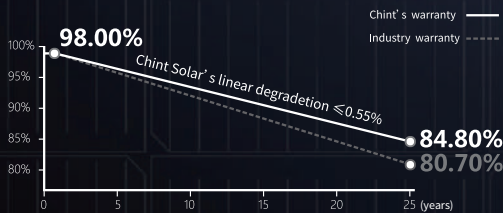
ASTRO 5s

Create Sustainable and Efficient Green Energy

CHSM54M-HC
Monofacial Series (182)

400~415W

PERC+ / Multi-busbar / Half-cut
Non-destructive cutting
PID resistance



12-year Product Warranty (Standard)
15-year Product Warranty (Optional, special for rooftop market)
25-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



400~415W

POWER RANGE

0~+5W

POWER TOLERANCE

21.3%

MAX MODULE EFFICIENCY

≤ 2.0%

FIRST YEAR POWER DEGRADATION

≤ 0.55%

YEAR 2-25 POWER DEGRADATION

Electrical Specifications

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

| | | | | |
|---|-------|-------|-------|-------|
| Rated output (P _{mpp} / W _p) | 400 | 405 | 410 | 415 |
| Rated voltage (V _{mpp} / V) | 31.09 | 31.26 | 31.43 | 31.60 |
| Rated current (I _{mpp} / A) | 12.86 | 12.96 | 13.05 | 13.13 |
| Open circuit voltage (V _{oc} / V) | 37.00 | 37.20 | 37.40 | 37.60 |
| Short circuit current (I _{sc} / A) | 13.65 | 13.76 | 13.88 | 13.99 |
| Module efficiency | 20.5% | 20.7% | 21.0% | 21.3% |

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

| | | | | |
|---|-------|-------|-------|-------|
| Rated output (P _{mpp} / W _p) | 298.9 | 302.7 | 306.4 | 310.1 |
| Rated voltage (V _{mpp} / V) | 28.98 | 29.13 | 29.29 | 29.45 |
| Rated current (I _{mpp} / A) | 10.32 | 10.39 | 10.46 | 10.53 |
| Open circuit voltage (V _{oc} / V) | 34.97 | 35.15 | 35.34 | 35.53 |
| Short circuit current (I _{sc} / A) | 11.07 | 11.17 | 11.26 | 11.35 |

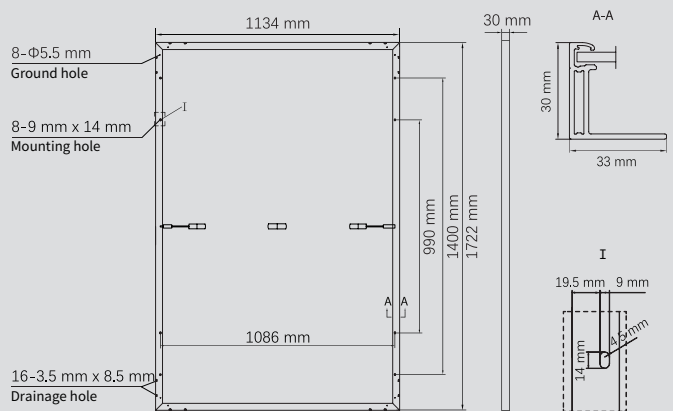
Temperature Ratings (STC)

| | | | |
|---|------------|------------------------------|---------------------|
| Temperature coefficient (P _{mpp}) | -0.35%/°C | No. of diodes | 3 |
| Temperature coefficient (I _{sc}) | +0.045%/°C | Junction box IP rating | IP 68 |
| Temperature coefficient (V _{oc}) | -0.27%/°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 | P 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

