


ASTRONERGY


ASTRO N7s

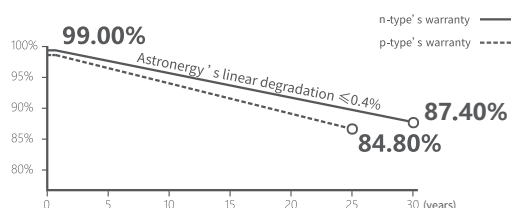
CHSM54RNs-HC
Monofacial Series

435~450W

Warranty

15 15-year Product Warranty

30 30-year Linear Power Warranty



Key Features

- ZBB / Elegant appearance
- 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



Tier 1
BloombergNEF



435~450W

POWER RANGE

0~+3%

POWER SORTING

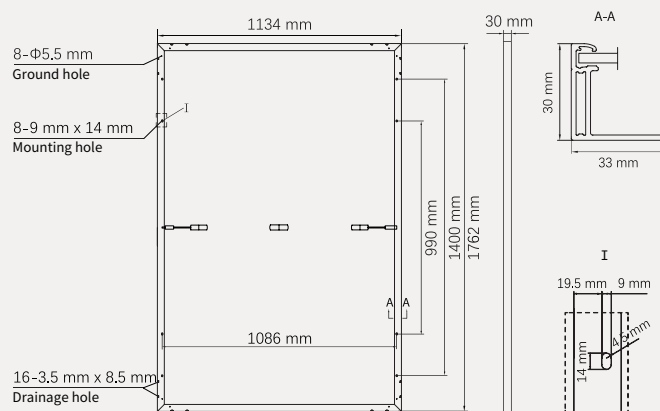
22.5%

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)	1762 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 ² / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	21.1 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	806 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/m², Cell Temperature 25° C, AM=1.5

Rated output (P _{mpp} / W _p)	435	440	445	450
Rated voltage (V _{mpp} / V)	32.33	32.50	32.66	32.83
Rated current (I _{mpp} / A)	13.46	13.54	13.62	13.71
Open circuit voltage (V _{oc} / V)	38.47	38.67	38.87	39.07
Short circuit current (I _{sc} / A)	14.12	14.21	14.30	14.39
Module efficiency	21.8%	22.0%	22.3%	22.5%

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

Rated output (P _{mpp} / W _p)	327.1	330.9	334.6	338.4
Rated voltage (V _{mpp} / V)	30.43	30.59	30.74	30.90
Rated current (I _{mpp} / A)	10.75	10.82	10.88	10.95
Open circuit voltage (V _{oc} / V)	36.54	36.73	36.92	37.11
Short circuit current (I _{sc} / A)	11.40	11.47	11.55	11.62

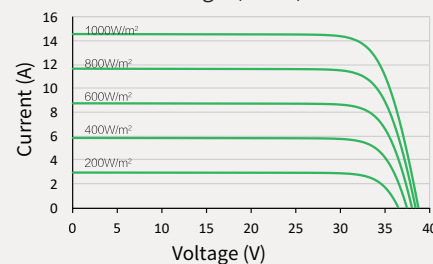
Temperature Ratings (STC)

Temperature coefficient (P _{mpp})	-0.29%/°C	No. of diodes	3
Temperature coefficient (I _{sc})	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (V _{oc})	-0.25%/°C	Max. series fuse rating	25 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V _{DC}

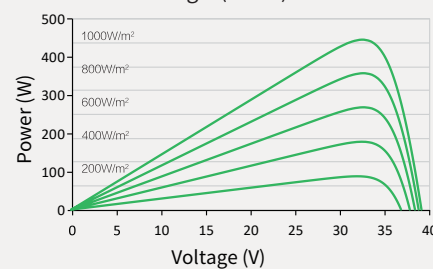
Operating Parameters

Curve

Current-Voltage (440W)



Power-Voltage (440W)



Current-Voltage (440W)

