



ASTRONERGY

Special for Australian Market
(preliminary)

ASTRO N5

Create Sustainable and Efficient Green Energy

CHSM60N(DG)/F-HC
Monofacial Series (182)

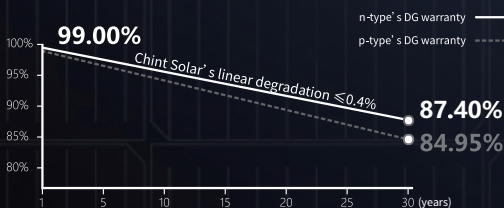
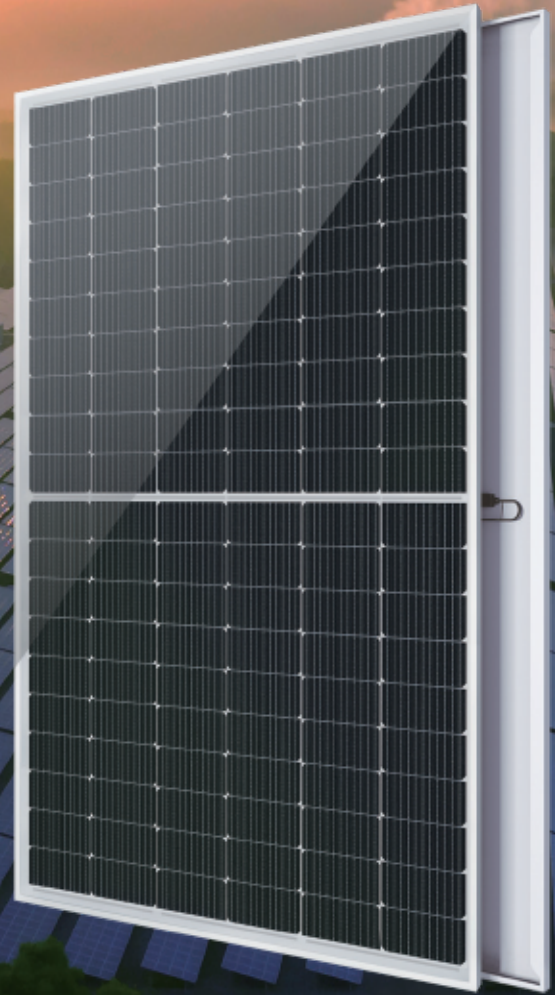
460~475W

TOPCon / Multi-busbar / Half-cut

Non-destructive cutting

PID resistance

Lower BOS cost & LCOE



30-year Product Warranty (special for rooftop market)

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



460~475W

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)	460	465	470	475
Rated voltage (V _{mpp} / V)	36.02	36.14	36.27	36.39
Rated current (I _{mpp} / A)	12.77	12.87	12.96	13.05
Open circuit voltage (V _{oc} / V)	42.86	43.01	43.16	43.31
Short circuit current (I _{sc} / A)	13.45	13.57	13.68	13.80
Module efficiency	21.3%	21.5%	21.7%	22.0%

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

Rated output (P _{mpp} / W _p)	345.9	349.7	353.4	357.2
Rated voltage (V _{mpp} / V)	33.90	34.02	34.14	34.26
Rated current (I _{mpp} / A)	10.20	10.28	10.35	10.43
Open circuit voltage (V _{oc} / V)	40.71	40.85	40.99	41.14
Short circuit current (I _{sc} / A)	10.86	10.95	11.04	11.14

Power Sorting: 0~+5W

Measurement tolerance: +/- 3.5%

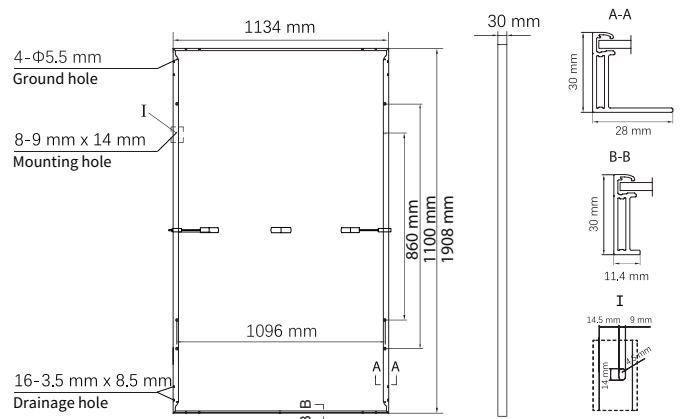
Temperature Ratings (STC)

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

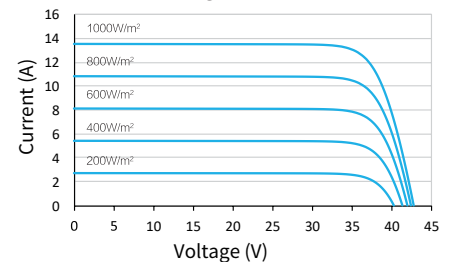
Mechanical Specifications

Outer dimensions (L x W x H)	1908 x 1134 x 30 mm
Cell type	n type mono-crystalline
No. of cells	120 (6*20)
Frame technology	Aluminum, silver anodized
Front glass thickness	1.6+1.6 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)	PV-HCB40 (Astronergy) or PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy (Stäubli)
Module weight	23 kg
Packing unit	36 pcs / box (Subject to sales contract)
Weight of packing unit (for 40'HQ container)	874 kg
Modules per 40' HQ container	864 pcs

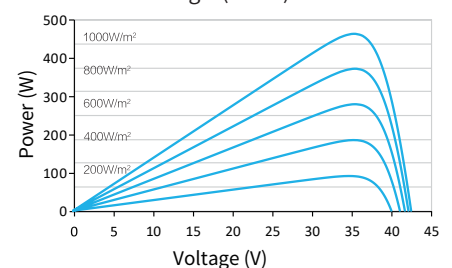


Curve

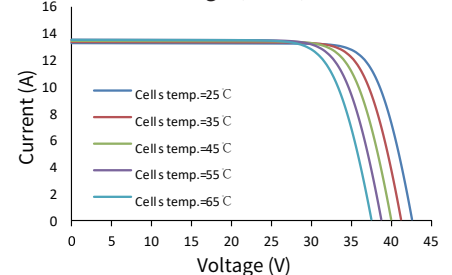
Current-Voltage (470W)



Power-Voltage (470W)



Current-Voltage (470W)



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

Made in Zhejiang, Jiangsu, Gansu, Jilin and Anhui of China, Made in Thailand.

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<http://www.astronergy.com.au>

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