



ASTRONERGY

ENERGYNAT
TRADE

Import and distribution of top PV components

ASTRO 6 Twins

Create Sustainable and Efficient Green Energy

CHSM66M(DG)/F-BH
Bifacial Series (210)

645~665W

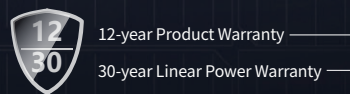
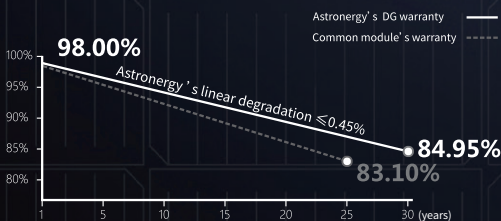
PERC+ / Multi-busbar / Half-cut

Non-destructive cutting

PID resistance

Bifacial gain

Low 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



645~665W

POWER RANGE

0~+5W

POWER SORTING

21.4%MAX MODULE
EFFICIENCY**≤ 2.0%**FIRST YEAR
POWER DEGRADATION**≤ 0.45%**YEAR 2-30
POWER DEGRADATION

Electrical Specifications

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

Rated output (Pmpp / Wp)	645	650	655	660	665
Rated voltage (Vmpp / V)	37.48	37.68	37.88	38.08	38.28
Rated current (Impp / A)	17.21	17.26	17.30	17.34	17.38
Open circuit voltage (Voc / V)	45.29	45.49	45.69	45.89	46.09
Short circuit current (Isc / A)	18.27	18.32	18.37	18.42	18.47
Module efficiency	20.8%	20.9%	21.1%	21.2%	21.4%

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

Rated output (Pmpp / Wp)	485.8	489.5	493.3	497.1	500.8
Rated voltage (Vmpp / V)	35.03	35.19	35.34	35.47	35.60
Rated current (Impp / A)	13.87	13.92	13.97	14.02	14.07
Open circuit voltage (Voc / V)	42.43	42.63	42.83	43.03	43.23
Short circuit current (Isc / A)	14.72	14.77	14.82	14.87	14.92

Electrical Specifications (Integrated power)

Pmpp gain	Pmpp / Wp	Vmpp / V	Impp / A	Voc / V	Isc / A
5%	687	37.88	18.17	45.69	19.29
10%	720	37.88	19.03	45.69	20.21
15%	753	37.89	19.90	45.70	21.13
20%	786	37.89	20.76	45.70	22.04
25%	818	37.89	21.63	45.70	22.96

Electrical characteristics with different rear power gain (reference to 655W)

Temperature Ratings (STC)

Operating Parameters

Temperature coefficient (Pmpp)	-0.34%/°C	No. of diodes	3
Temperature coefficient (Isc)	+0.04%/°C	Junction box IP rating	IP 68
Temperature coefficient (Voc)	-0.25%/°C	Max. series fuse rating	35 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V _{DC}

Mechanical Specifications

Outer dimensions (L x W x H)	2384 x 1303 x 35 mm
Cell type	P type mono-crystalline
No. of cells	132 (6*22)
Frame technology	Aluminum, silver anodized
Front / Back glass	2.0+2.0 mm
Cable length (Including connector)	Portrait: (+)410 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	37.9 kg
Packing unit	31 pcs / box (Subject to sales contract)
Weight of packing unit (for 40' HQ container)	1224 kg
Modules per 40' HQ container	527 pcs

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

Curve

