



ASTRONERGY

ASTRO 6 Twins

Create Sustainable and Efficient Green Energy

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

640~660W

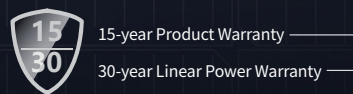
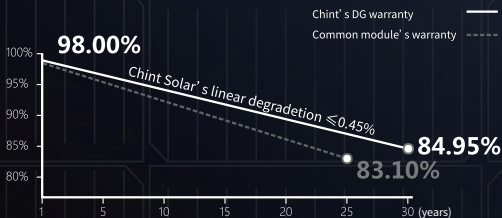
PERC+ / Multi-busbar / Half-cut

Non-destructive cutting

PID resistance

Bifacial gain

Lower BOS cost & LCOE



15-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



640~660W

POWER RANGE

0~+5W

POWER TOLERANCE

21.2%

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

| | 640 | 645 | 650 | 655 | 660 |
|---------------------------------------------|-------|-------|-------|-------|-------|
| Rated output (P _{mpp} / Wp) | 640 | 645 | 650 | 655 | 660 |
| Rated voltage (V _{mpp} / V) | 37.28 | 37.48 | 37.68 | 37.88 | 38.08 |
| Rated current (I _{mpp} / A) | 17.17 | 17.21 | 17.26 | 17.30 | 17.34 |
| Open circuit voltage (V _{oc} / V) | 45.09 | 45.29 | 45.49 | 45.69 | 45.89 |
| Short circuit current (I _{sc} / A) | 18.22 | 18.27 | 18.32 | 18.37 | 18.42 |
| Module efficiency | 20.6% | 20.8% | 20.9% | 21.1% | 21.2% |

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

| | 482.1 | 485.8 | 489.5 | 493.3 | 497.1 |
|---------------------------------------------|-------|-------|-------|-------|-------|
| Rated output (P _{mpp} / Wp) | 482.1 | 485.8 | 489.5 | 493.3 | 497.1 |
| Rated voltage (V _{mpp} / V) | 34.90 | 35.03 | 35.19 | 35.34 | 35.47 |
| Rated current (I _{mpp} / A) | 13.82 | 13.87 | 13.92 | 13.97 | 14.02 |
| Open circuit voltage (V _{oc} / V) | 42.23 | 42.43 | 42.63 | 42.83 | 43.03 |
| Short circuit current (I _{sc} / A) | 14.67 | 14.72 | 14.77 | 14.82 | 14.87 |

Electrical Specifications (Integrated power)

| P _{mpp} gain | P _{mpp} / Wp | V _{mpp} / V | I _{mpp} / A | V _{oc} / V | I _{sc} / 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 (P _{mpp}) | -0.34%/°C | No. of diodes | 3 |
| Temperature coefficient (I _{sc}) | +0.04%/°C | Junction box IP rating | IP 68 |
| Temperature coefficient (V _{oc}) | -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 (IEC/UL) | Portrait: 350 mm; Landscape: 1400 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 | 38 kg |
| Packing unit | 31 pcs / box (Subject to sales contract) |
| Weight of packing unit (for 40' HQ container) | 1227 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

