



ASTRONERGY

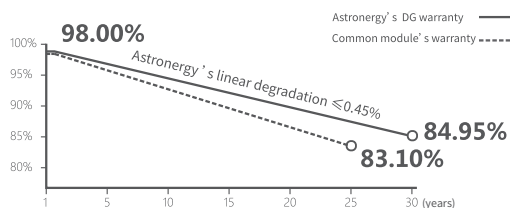
# ASTRO 5<sup>Twins</sup>

CHSM72M(DG)/F-BH  
Bifacial Series(182)

## 540~555W

### Warranty

- 15** 15-year Product Warranty
- 30** 30-year Linear Power Warranty



### Key Features

- PERC+ / Half-cut
- Non-destructive cutting
- PID resistance
- Low BOS cost & LCOE
- Bifacial gain



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



540~555W

POWER RANGE

0~+5W

POWER SORTING

21.5%

MAX MODULE  
EFFICIENCY

≤ 2.0%

FIRST YEAR  
POWER DEGRADATION

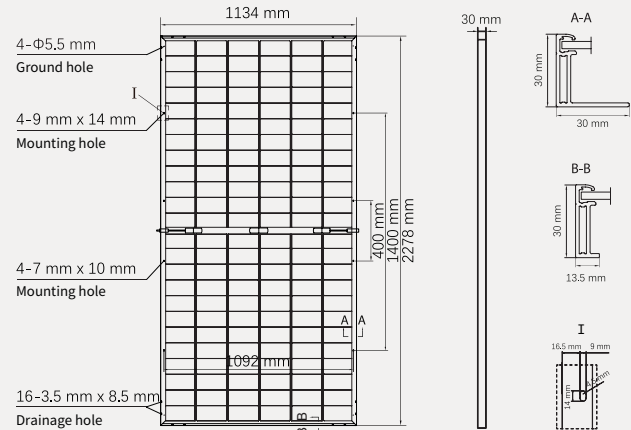
≤ 0.45%

YEAR 2-30  
POWER DEGRADATION

## Mechanical Specifications

|                                              |                                                      |
|----------------------------------------------|------------------------------------------------------|
| Outer dimensions (L x W x H)                 | 2278 x 1134 x 30 mm                                  |
| Cell type                                    | P type mono-crystalline                              |
| No. of cells                                 | 144 (6*24)                                           |
| Frame technology                             | Aluminum, silver anodized                            |
| Front / Back glass                           | 2.0+2.0 mm                                           |
| Cable length (Including connector)           | Portrait: (+)350 mm, (-)250 mm;<br>Customized length |
| Cable diameter (IEC/UL)                      | 4 mm <sup>2</sup> / 12 AWG                           |
| ① Maximum mechanical test load               | 5400 Pa (front) / 2400 Pa (back)                     |
| Connector type (IEC/UL)                      | HCB40 (Standard) / MC4-EVO2A (Optional)              |
| Module weight                                | 32.1 kg                                              |
| Packing unit                                 | 36 pcs / box                                         |
| Weight of packing unit (for 40'HQ container) | 1207 kg                                              |
| Modules per 40' HQ container                 | 720 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/m<sup>2</sup>, Cell Temperature 25° C, AM=1.5

|                                             |       |       |       |       |
|---------------------------------------------|-------|-------|-------|-------|
| Rated output (P <sub>mpp</sub> / Wp)        | 540   | 545   | 550   | 555   |
| Rated voltage (V <sub>mpp</sub> / V)        | 41.93 | 42.10 | 42.27 | 42.44 |
| Rated current (I <sub>mpp</sub> / A)        | 12.88 | 12.95 | 13.01 | 13.08 |
| Open circuit voltage (V <sub>oc</sub> / V)  | 49.90 | 50.10 | 50.30 | 50.50 |
| Short circuit current (I <sub>sc</sub> / A) | 13.66 | 13.75 | 13.84 | 13.89 |
| Module efficiency                           | 20.9% | 21.1% | 21.3% | 21.5% |

**NMOT:** Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

|                                             |       |       |       |       |
|---------------------------------------------|-------|-------|-------|-------|
| Rated output (P <sub>mpp</sub> / Wp)        | 403.5 | 407.3 | 411.0 | 414.8 |
| Rated voltage (V <sub>mpp</sub> / V)        | 39.08 | 39.24 | 39.39 | 39.55 |
| Rated current (I <sub>mpp</sub> / A)        | 10.33 | 10.38 | 10.43 | 10.49 |
| Open circuit voltage (V <sub>oc</sub> / V)  | 47.16 | 47.34 | 47.53 | 47.72 |
| Short circuit current (I <sub>sc</sub> / A) | 11.08 | 11.16 | 11.23 | 11.30 |

## Electrical Specifications (Integrated power)

| P <sub>mpp</sub> gain | P <sub>mpp</sub> / Wp | V <sub>mpp</sub> / V | I <sub>mpp</sub> / A | V <sub>oc</sub> / V | I <sub>sc</sub> / A |
|-----------------------|-----------------------|----------------------|----------------------|---------------------|---------------------|
| 5%                    | 578                   | 42.27                | 13.66                | 50.30               | 14.53               |
| 10%                   | 605                   | 42.27                | 14.31                | 50.30               | 15.23               |
| 15%                   | 633                   | 42.28                | 14.96                | 50.31               | 15.91               |
| 20%                   | 660                   | 42.28                | 15.61                | 50.31               | 16.61               |
| 25%                   | 688                   | 42.29                | 16.26                | 50.32               | 17.29               |

Electrical characteristics with different rear power gain (reference to 550W)

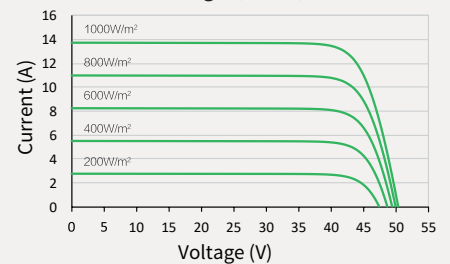
## Temperature Ratings (STC)

## Operating Parameters

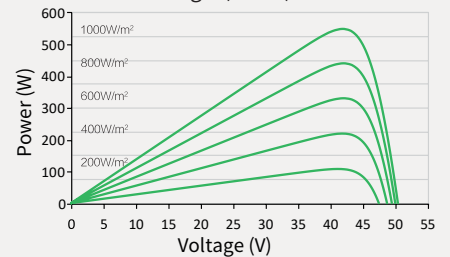
|                                             |           |                              |                     |
|---------------------------------------------|-----------|------------------------------|---------------------|
| Temperature coefficient (P <sub>mpp</sub> ) | -0.34%/°C | No. of diodes                | 3                   |
| Temperature coefficient (I <sub>sc</sub> )  | +0.04%/°C | Junction box IP rating       | IP 68               |
| Temperature coefficient (V <sub>oc</sub> )  | -0.25%/°C | Max. series fuse rating      | 30 A                |
| Nominal module operating temperature (NMOT) | 41±2°C    | Max. system voltage (IEC/UL) | 1500V <sub>DC</sub> |

## Curve

Current-Voltage (550W)



Power-Voltage (550W)



Current-Voltage (550W)

