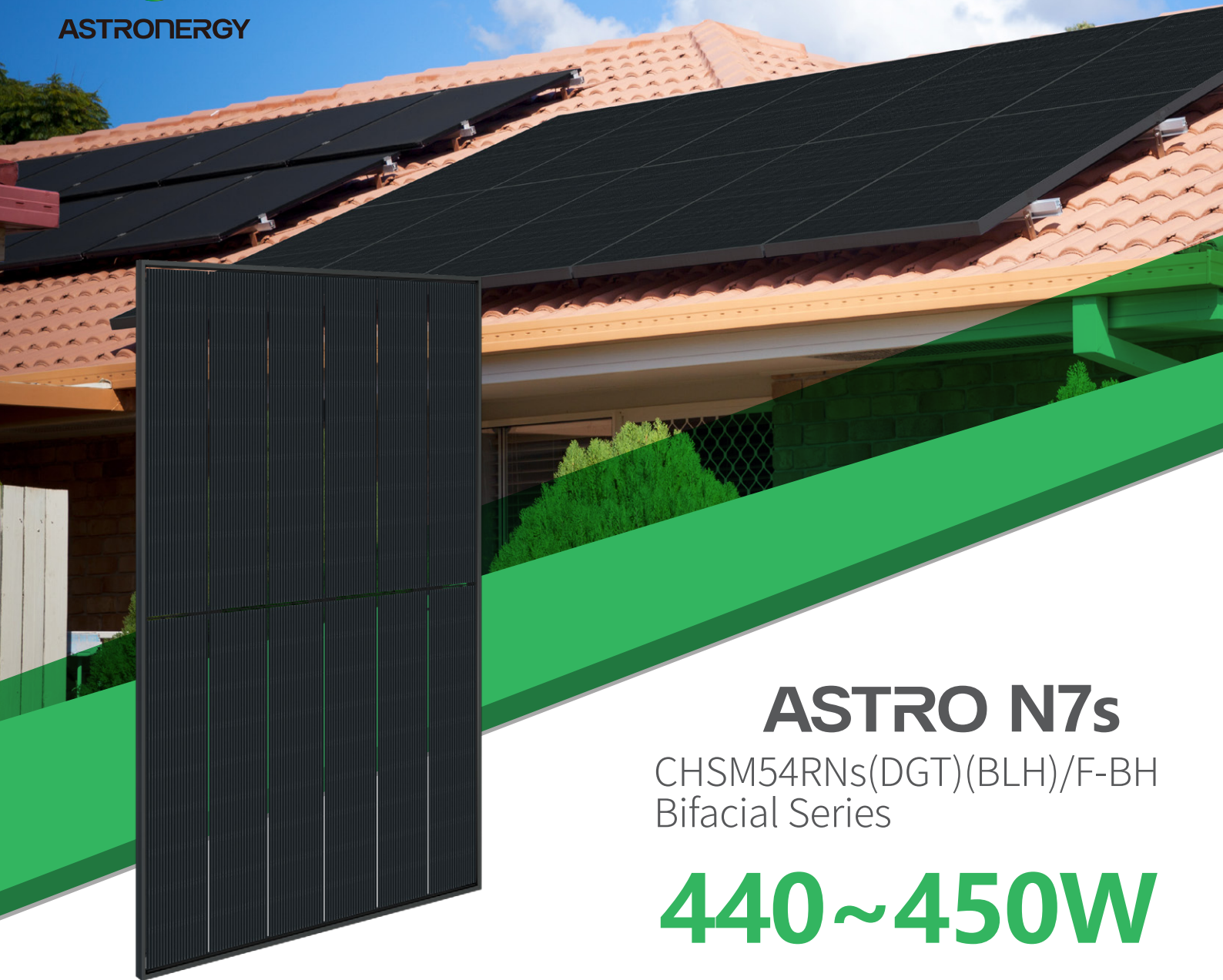




ASTRONERGY



# ASTRO N7s

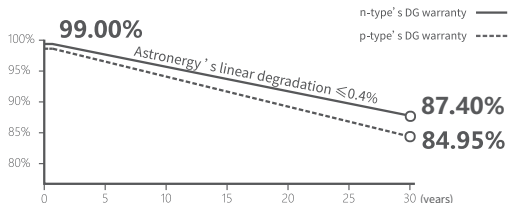
CHSM54RN<sub>s</sub>(DGT)(BLH)/F-BH  
Bifacial Series

# 440~450W

## Warranty

**30** 30-year Product Warranty  
(special for rooftop market)

**30** 30-year Linear Power Warranty



## Key Features

- High efficiency N-type TOPCon cells
- Elegant Zero Busbar design
- Dual glass for improved durability
- Manufacturing with AI technology
- Suitable for residential systems
- Easy to install and transport



**CE** ISO 9001:2015:ISO Quality Management System  
ISO 14001:2015:ISO Environment Management System  
ISO 45001:Occupational Health and Safety



**Tier 1**  
BloombergNEF



**440~450W**

POWER RANGE

**0~+3%**

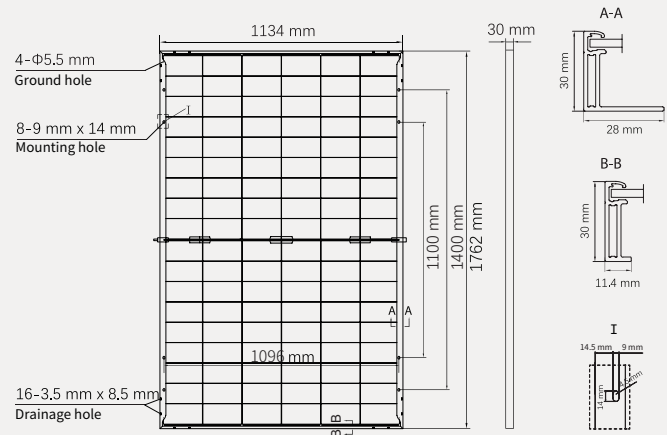
POWER SORTING

**22.5%**MAX MODULE  
EFFICIENCY**≤ 1.0%**FIRST YEAR  
POWER DEGRADATION**≤ 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 anodized
Front / Back glass	1.6+1.6 mm
Cable length (Including connector)	Portrait: (+)350 mm, (-)250 mm; 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)	PV-HCB40 (Astronergy) or PV-KST4-EVO2A/ xy, PV-KBT4-EVO2A/xy (Stäubli)
Module weight	21.5 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40' HQ container)	820 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 CHSM54RNs(DGT)(BLH)/F-BH-XXX(XXX=440-450)

**STC:** Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25° C, AM=1.5

	440	445	450
Rated output (P <sub>mpp</sub> / Wp)			
Rated voltage (V <sub>mpp</sub> / V)	33.05	33.22	33.39
Rated current (I <sub>mpp</sub> / A)	13.31	13.40	13.48
Open circuit voltage (V <sub>oc</sub> / V)	39.00	39.20	39.40
Short circuit current (I <sub>sc</sub> / A)	14.10	14.19	14.28
Module efficiency	22.0%	22.3%	22.5%

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

	330.9	334.6	338.4
Rated output (P <sub>mpp</sub> / Wp)			
Rated voltage (V <sub>mpp</sub> / V)	31.11	31.27	31.43
Rated current (I <sub>mpp</sub> / A)	10.64	10.70	10.77
Open circuit voltage (V <sub>oc</sub> / V)	37.04	37.23	37.42
Short circuit current (I <sub>sc</sub> / A)	11.38	11.46	11.53

Refer to the installation manual for BNPI electrical ratings and bifaciality coefficients for V<sub>oc</sub>, I<sub>sc</sub>, and P<sub>max</sub>.  
Power tolerance: +/- 3.5%

## 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%	467	33.22	14.07	39.20	14.90
10%	490	33.22	14.73	39.20	15.61
15%	512	33.22	15.40	39.20	16.32
20%	534	33.22	16.07	39.20	17.03
25%	556	33.22	16.74	39.20	17.74

Electrical characteristics with different rear power gain (reference to 445W)

## Temperature Ratings (STC) Operating Parameters

Temperature coefficient (P <sub>mpp</sub> )	-0.29%/°C	No. of diodes	3
Temperature coefficient (I <sub>sc</sub> )	+0.043%/°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>

Fire performance: Class A

Made in China, Made in Thailand.

© Chint New Energy Technology Co., Ltd. Reserves the right of final interpretation. please contact our company to use the latest version for contract.

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

## Curve

