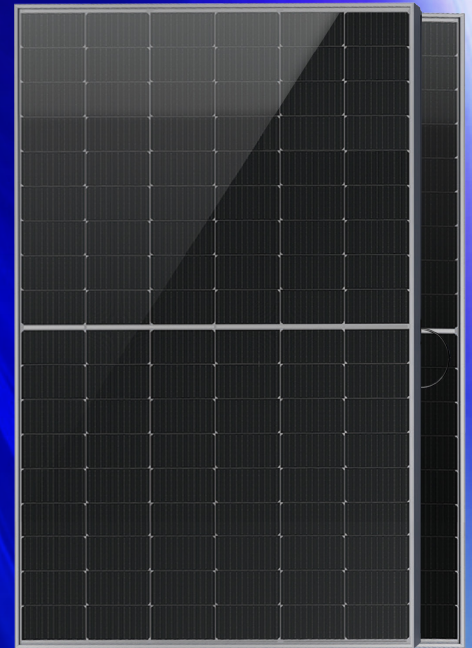










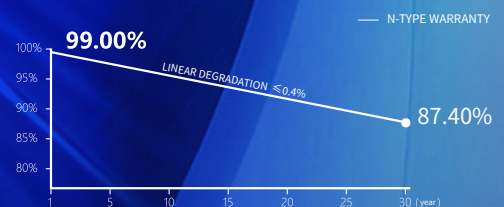


**445~465W**

**HY-NT10/54GDF**



-  Module Efficiency up to 23.3%
-  Zero LID
-  SMBB + Half-cell tech, reduce internal current loss, improve module efficiency, minimize micro-crack impacts, and improve module reliability
-  Non-destructive Slicing Tech, reduce micro-crack risk
-  Lower temperature coefficient (-0.29%/°C), lower operating temperature, increase the power generation
-  Excellent low irradiance performance, higher power output
-  85% Bifaciality rate up to 80-85%, and up to 30% power gain from back side (depending on albedo)
-  Resistant to harsh environments
-  Anti PID
-  More energy yield, lower BOS and LCOE



-  30-YEAR PRODUCT WORKMANSHIP WARRANTY
-  30-YEAR LINEAR POWER WARRANTY

Subject to the terms and conditions contained in the applicable HY Solar Limited Warranty Statement. Also this 30-year limited product warranty is available only for products installed and operating on residential rooftops in certain regions.

**Comprehensive Products and System Certificates**

IEC 61215, IEC 61730  
ISO 9001:2015 Quality management systems  
ISO 14001:2015 Environmental management systems  
ISO 45001:2018 Occupational health and safety management systems



## Electrical performance parameters

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

Rated output (P <sub>mpp</sub> / Wp)	445	450	455	460	465
Rated voltage (V <sub>mpp</sub> / V)	32.65	32.83	33.00	33.17	33.34
Rated current (I <sub>mpp</sub> / A)	13.63	13.71	13.79	13.87	13.95
Open circuit voltage (V <sub>oc</sub> / V)	39.10	39.30	39.50	39.70	39.90
Short-circuit current (I <sub>sc</sub> / A)	14.40	14.48	14.56	14.64	14.72
Module efficiency	22.3%	22.5%	22.8%	23.0%	23.3%
Power tolerance	0~+5W				

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)	334.8	338.4	342.0	345.7	349.3
Rated voltage (V <sub>mpp</sub> / V)	30.66	30.82	30.98	31.14	31.30
Rated current (I <sub>mpp</sub> / A)	10.92	10.98	11.04	11.10	11.16
Open circuit voltage (V <sub>oc</sub> / V)	36.82	37.00	37.18	37.36	37.54
Short-circuit current (I <sub>sc</sub> / A)	11.54	11.61	11.68	11.75	11.82

## Different rear power gains (450W as an example)

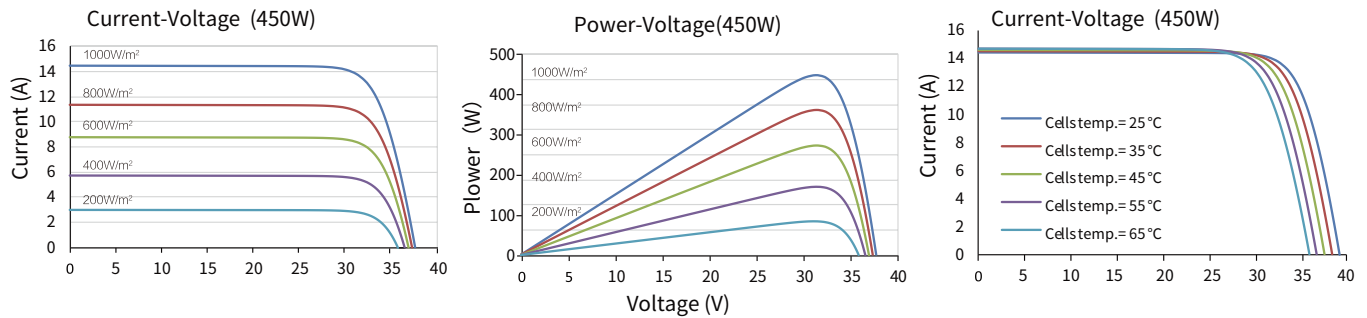
Power gains P <sub>mpp</sub> / Wp	V <sub>mpp</sub> /V	I <sub>mpp</sub> /A	V <sub>oc</sub> / V	I <sub>sc</sub> /A	
5%	473	32.83	14.39	39.30	15.20
15%	518	32.83	15.76	39.30	16.65
25%	563	32.83	17.13	39.30	18.10

## Temperature coefficient

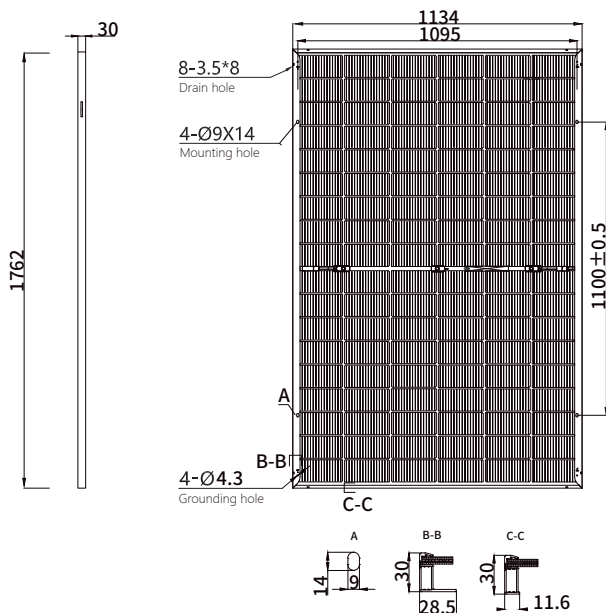
Temperature coefficient (P <sub>mpp</sub> )	-0.29%/°C
Temperature coefficient (I <sub>sc</sub> )	+0.043%/°C
Temperature coefficient (V <sub>oc</sub> )	-0.24%/°C
Nominal module operating temperature (NMOT)	42±2°C

## Operating parameters

Max. system voltage (IEC)	1500V <sub>oc</sub>
Number of diodes	3
Junction box protection rating	IP 68
Max. series fuse rating	30 A
Operational temperature	-40~+85°C
Bifaciality rate	80±5%



## Mechanical parameters



Outer dimensions (L x W x H)	1762 x 1134 x 30 mm
Cell	N type mono-crystalline
Number of cells	108 (6*18)
Frame Type	Aluminu, silver/black anodized
Glass thickness	2.0+2.0 mm
Cable length (including connector)	Portrait: (+)300 mm, (-)300 mm; Customized length
Cable cross-sectional area (IEC)	4 mm <sup>2</sup> / 12 AWG
① Maximum test mechanical load	5400Pa (front) /2400Pa(rear)
Connector type (IEC)	PV-HYC11xyz(standard)/MC4 EVO2(optional)
Module weight	24.5kg
Packaging unit	36 pcs / box
Weight of packing unit	975 kg / box
Modules per 40' HQ container	864 pcs

① Please refer to the installation manual or contact us to confirm.  
The maximum test mechanical load = 1.5 × maximum design mechanical load.

\*The data above is for reference only and the actual data is in accordance with the practical testing. Power Measurement Tolerance ±3% under STC standard.