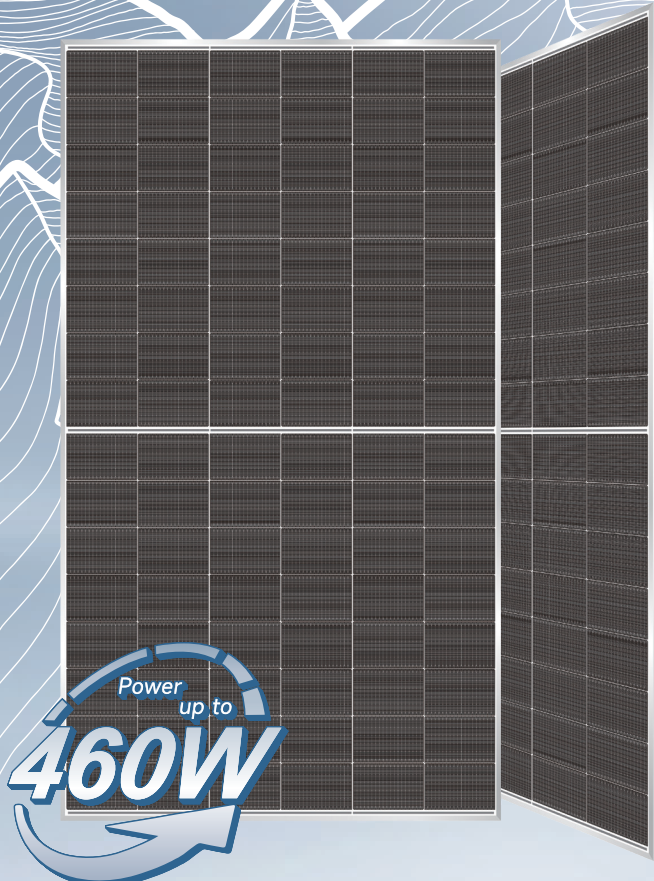


HJTG10460R

440-460W

96-cell Bifacial HJT Half Cell
Double-glass Solar Module



HJT 3.0

Combining gettering process and double-sided $\mu\text{-Si}$ to maximize cell efficiency and module power.



Up to 90% Bifaciality

Natural symmetrical bifacial structure bringing more energy yield from the backside.



Sealing with PIB based sealant

Stronger water resistance, greater air impermeability to extend module lifespan.



Higher reliability

Industrial leading product and performance warranty, ensuring modules' consistent outstanding performance.



Suitable for Utility Solar projects

WARRANTY

Product
Warranty **15**
years

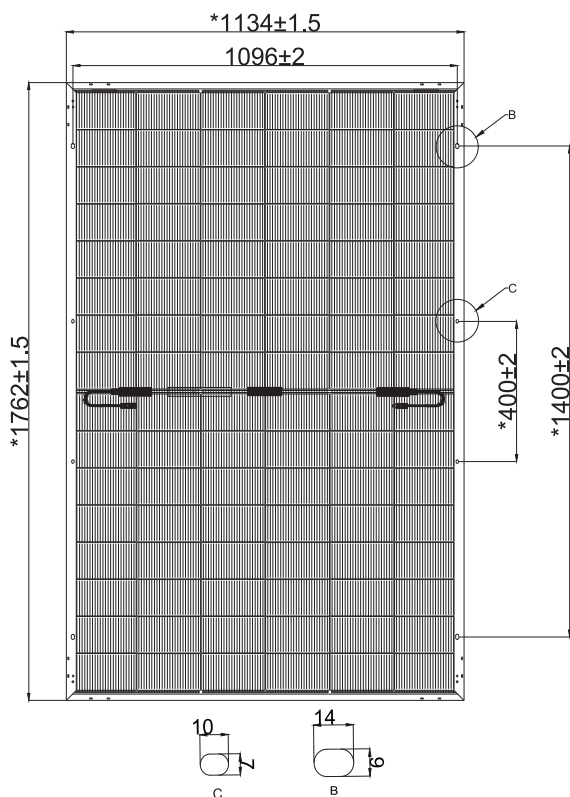
Linear
Power
Warranty **30**
years



The specification and key features described in this datasheet may deviate slightly and are guaranteed. Tengying serves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the latest version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

Engineering Drawings

Unit: mm



Electrical Characteristics (STC*)

HJTG10460R	TS440	TS445	TS450	TS455	TS460
Maximum Power (P _{max})	440W	445W	450W	455W	460W
Module Efficiency (%)	22.02%	22.27%	22.52%	22.77%	23.02%
Optimum Operating Voltage (V _{mp})	30.43V	30.66V	30.88V	31.10V	31.30V
Optimum Operating Current (I _{mp})	14.47A	14.53A	14.60A	14.66A	14.72A
Open Circuit Voltage (V _{oc})	36.68V	36.95V	37.22V	37.47V	37.72V
Short Circuit Current (I _{sc})	15.26A	15.30A	15.36A	15.41A	15.45A
Operating Module Temperature	-40 to +85 °C				
Maximum System Voltage	DC1500V (IEC)				
Maximum Series Fuse	30A				
Power Tolerance	0~+5W				
Bifaciality	85% ± 5%				

*STC: Irradiance 1000 W/m², cell temperature 25 °C, AM=1.5. Tolerance of P_{max} is within +/- 3%.

BSTC**/NOTC**

Maximum Power (P _{max})	490W	495W	500W	505W	510W
Optimum Operating Voltage (V _{mp})	30.43V	30.66V	30.88V	31.10V	31.30V
Optimum Operating Current (I _{mp})	16.11A	16.15A	16.19A	16.24A	16.30A
Open Circuit Voltage (V _{oc})	36.68V	36.95V	37.22V	37.47V	37.72V
Short Circuit Current (I _{sc})	17.01A	17.05A	17.12A	17.17A	17.22A

**BSTC: Front side irradiation 1000W/m², back side reflection irradiation 135W/m², AM=1.5, ambient temperature 25 °C.

Maximum Power (P _{max})	335W	338W	342W	346W	350W
Optimum Operating Voltage (V _{mp})	28.91V	29.11V	29.30V	29.51V	29.71V
Optimum Operating Current (I _{mp})	11.58A	11.62A	11.68A	11.73A	11.78A
Open Circuit Voltage (V _{oc})	35.01V	35.27V	35.52V	35.77V	36.00V
Short Circuit Current (I _{sc})	12.21A	12.24A	12.29A	12.33A	12.36A

**NOCT: Irradiance 800W/m², Ambient Temperature 20 °C, Wind Speed 1m/s.

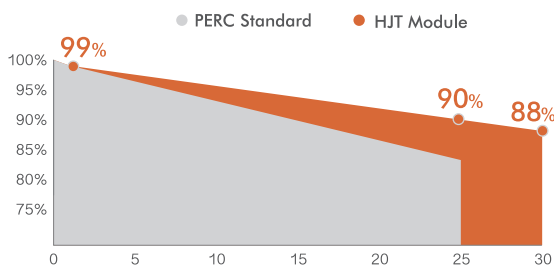
Temperature Characteristics

Nominal Operating Cell Temp. (NOCT)	44 °C ± 2 °C
Temperature Coefficient of P _{max}	-0.26%/°C
Temperature Coefficient of V _{oc}	-0.22%/°C
Temperature Coefficient of I _{sc}	0.04%/°C

Safety & Warranty

Safety Class	Class II
Product Warranty	15 yrs Workmanship
Performance Warranty	30 yrs Linear Warranty*

* Less than 1% attenuation in the 1st year, the annual attenuation from the 2nd year is no more than 0.375%, and the power is no less than 88% until the 30th year.



* Refer to TENGYING standard warranty for details

Mechanical Characteristics

Cell Type	HJT Mono 182 × 105mm
Cell Connection	96 (6 × 16)
Module Dimension	1762 x 1134 x 30 mm
Weight	23 kg
Junction Box	IP68
Output Cable	4mm ² , 300mm in length, length can be customized / UV resistant
Connectors Type	MC4 original / MC4 compatible
Frame	Anodised aluminum alloy
Front Load	5400 Pa
Rear Load	2400 Pa
Glass Thickness	Double glass, 1.6mm

Shipping Configurations

Container Size	40'HC
Pallets Per Container (pcs)	26
Modules Per Pallet (pcs)	36
Modules Per Container	936