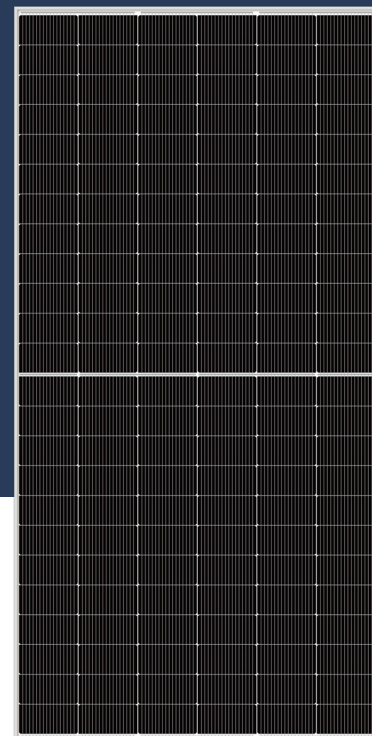


Tangra™ M Pro

N-Type High efficiency Bifacial Dual Glass Module (Hail-Resistant)

TS-BGT72(580-600)



Bifacial technology allows for the harvesting of up to an additional 30% energy from the rear side of the module.



30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module.



N-type solar cell has no LID naturally which can increase power generation.



Excellent low irradiance performance.



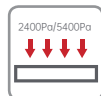
Enhanced light trapping and optimized current collection contribute to the improvement of both module power output and reliability.



Industry leading lowest thermal coefficient of power.



Design optimized for lower operating current, resulting in minimized hot spot loss and improved temperature coefficient.

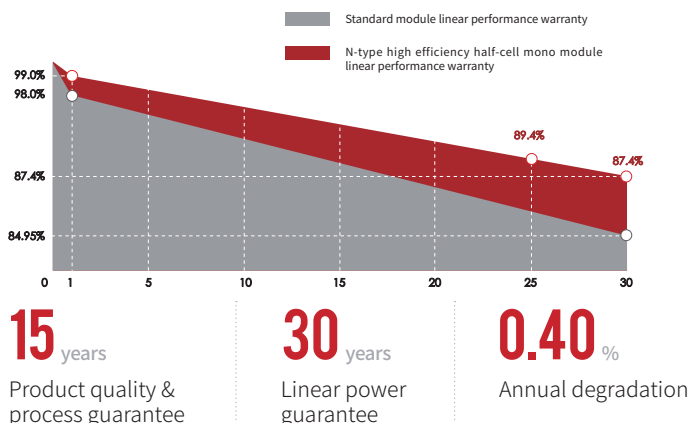


Certified to withstand: wind load (2400 Pa) and snow load (5400 Pa).



100% triple EL test enables remarkable reduction of module hidden crack rate.

LINEAR PERFORMANCE WARRANTY



COMPREHENSIVE CERTIFICATES



- ISO 9001: Quality Management System
- ISO 14001: Environmental Management System Standard
- ISO 45001: International Occupational Health and Safety Assessment System Standard
- SA8000: 2014 Social Accountability Management System

WARRANTY INSURANCE



Warranty partner

Munich RE



中国平安
PING AN
P & C INSURANCE CO CN SZH

* Optional performance warranty insurance. Please contact our local sales staff for more information.

* Different markets have different certification requirements. Also, the products are under rapid innovation. Please confirm the certification status with regional sales representatives.

ELECTRICAL CHARACTERISTICS

Model of modules	TS-BGT72(580)		TS-BGT72(585)		TS-BGT72(590)		TS-BGT72(595)		TS-BGT72(600)	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Peak power - P_{mp} (W)	580	444	585	448	590	452	595	456	600	460
Open circuit voltage - V_{oc} (V)	51.97	49.76	52.16	49.94	52.35	50.12	52.54	50.30	52.73	50.48
Short circuit current - I_{sc} (A)	13.80	11.12	13.85	11.16	13.90	11.20	13.95	11.24	14.00	11.28
MPP voltage - V_{mp} (V)	44.04	42.17	44.22	42.34	44.40	42.51	44.58	42.68	44.76	42.85
MPP current - I_{mp} (A)	13.17	10.53	13.23	10.58	13.29	10.63	13.35	10.68	13.41	10.73
Module efficiency - η_m (%)	22.5		22.6		22.8		23.0		23.2	

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 °C, Spectra at AM1.5

NMOT (Nominal Module Operating Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

ELECTRICAL CHARACTERISTICS WITH DIFFERENT POWER BIN (REFERENCE TO 13.5% IRRADIANCE RATIO)

Peak power (P_{max}) (W)	643	648	654	659	665
Open circuit voltage (V_{oc}) (V)	51.97	52.16	52.35	52.54	52.73
Short circuit current (I_{sc}) (A)	15.29	15.35	15.40	15.46	15.51
MPP voltage - V_{mp} (V)	44.04	44.22	44.40	44.58	44.76
MPP current - I_{mp} (A)	14.59	14.66	14.72	14.79	14.86

STRUCTURAL CHARACTERISTICS

Module dimensions (L*W*H)	2278 x 1134 x 35 mm
Weight	39.6 kg
Cell	144 cells, N-type monocrystalline
Front glass	3.2mm, anti-reflection coating
Back glass	2.0mm, heat strengthened glass
Frame	Anodized aluminum alloy
Junction box	IP68, 3 bypass diodes
Output wire	4.0 mm ²
Wire length	300mm/1200mm/customized length
Connector	MC4 Compatible
Packaging specification	31 pcs/Pallet; 589 pcs/40'HQ

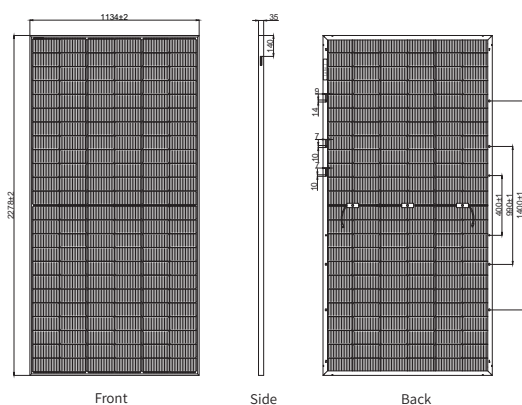
OPERATING PARAMETERS

Power tolerance (W)	(0,+5)
Maximum system voltage (V)	1500
Maximum rated fuse current (A)	30
Current operating temperature (°C)	-40~+85 °C
Mechanical load	5400 Pa */ 2400 Pa ☹
Hailstone test (mm)	55

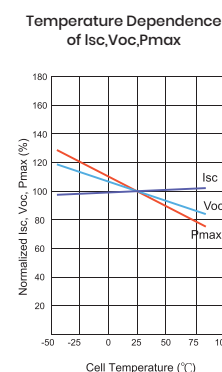
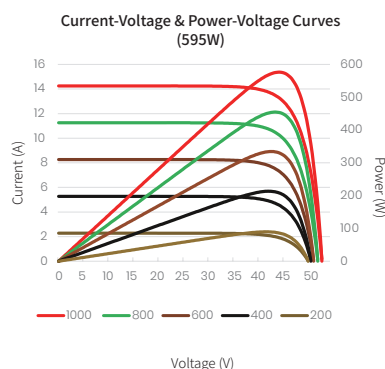
TEMPERATURE PERFORMANCE RATINGS

Temperature coefficient (P_{max})	-0.30 %/°C
Temperature coefficient (V_{oc})	-0.28 %/°C
Temperature coefficient (I_{sc})	+0.04 %/°C
Nominal Module Operating Temperature	43±2 °C

MODULE DIMENSIONS (MM)



* The unmarked tolerance is ±1 mm
Length shown in mm



Scan the QR code to
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E-mail: info@thornovasolar.com

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