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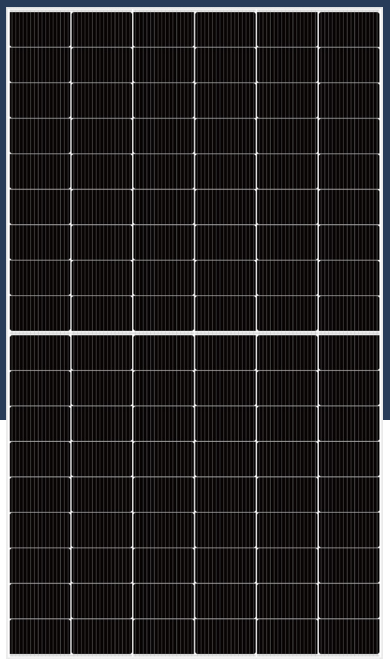
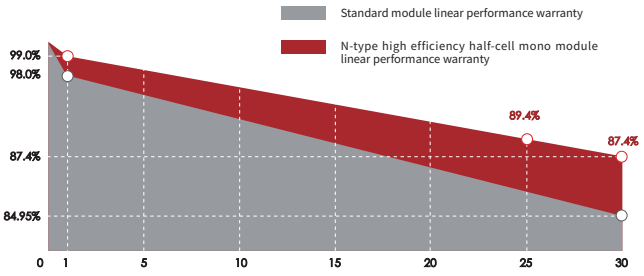
Tangra™ M Pro HD 485–505W

N-Type High efficiency Bifacial Dual Glass Module



- Bifacial technology enables additional energy harvesting from rear side (up to 30%)
- 30-year lifespan delivers 10-30% more power compared with conventional P-type modules
- The natural lack of LID in the N-type solar cell can increase power generation
- Excellent low irradiance performance
- Better light trapping and current collection to improve module power output and reliability
- Industry-leading, lowest thermal coefficient
- Optimized electrical design and lower operating current for reduced hot spot loss and better temperature
- Certified to withstand 2400 Pa of wind load and 5400 Pa of snow load
- 100% triple EL test, which greatly reduces the hidden cracks rate

LINEAR PERFORMANCE WARRANTY



15 years
Product quality & process guarantee

30 years
Linear power guarantee

0.40%
Annual degradation

WARRANTY INSURANCE

Warranty partner

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

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

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

ELECTRICAL CHARACTERISTICS

108 cells

Model of modules	TS-BGT54(485)-G11		TS-BGT54(490)-G11		TS-BGT54(495)-G11		TS-BGT54(500)-G11		TS-BGT54(505)-G11	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum power — P_{mp} (W)	485	371	490	375	495	378	500	382	505	386
Open-circuit voltage — V_{oc} (V)	39.20	37.10	39.50	37.40	39.80	37.70	40.10	38.00	40.40	38.30
Short-circuit current — I_{sc} (A)	15.77	12.72	15.80	12.74	15.83	12.76	15.86	12.78	15.89	12.80
Maximum power voltage — V_{mp} (V)	32.68	30.86	32.88	31.08	33.10	31.30	33.30	31.52	33.50	31.73
Maximum power current — I_{mp} (A)	14.85	12.02	14.91	12.05	14.97	12.08	15.03	12.11	15.08	12.15
Module efficiency — η_m (%)	21.8		22.0		22.3		22.5		22.7	

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 ℃, Spectra at AM1.5
NMOT (Nominal Module Operating Temperature): Irradiance 800W/m², Ambient Temperature 20℃, 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)	538	543	549	555	560
Open Circuit Voltage (V_{oc}) (V)	39.20	39.50	39.80	40.10	40.40
Short Circuit Current (I_{sc}) (A)	17.47	17.51	17.54	17.57	17.61
MPP Voltage (V_{mp}) (V)	32.68	32.88	33.10	33.30	33.50
MPP Current (I_{mp}) (A)	16.45	16.52	16.59	16.65	16.71

STRUCTURAL CHARACTERISTICS

Module size (L*W*H)	1961x 1134 x 30 mm
Weight	27.5 kg
Cell	108 cells, N-type monocrystalline
Front glass	2.0 mm, anti-reflection coating
Back glass	2.0 mm, heat strengthened glass
Frame	Anodized aluminum alloy
Junction box	IP68, 3 diodes
Output wire	4.0 mm²
Wire length	300mm/1200mm/customized
Connector	MC4 Compatible
Packing Specification	36pcs/pallet; 864 pcs/40'HQ

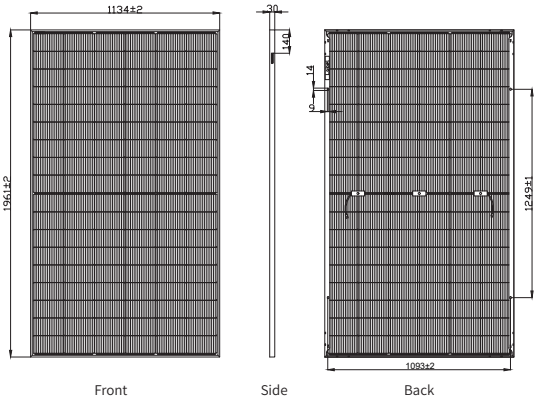
OPERATING PARAMETERS

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 ෧

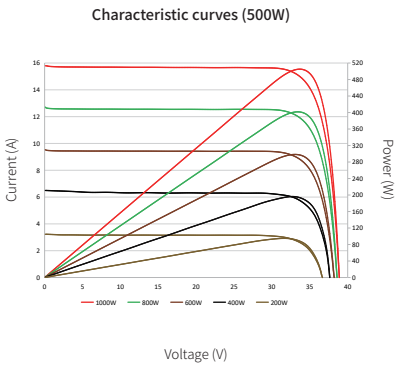
TEMPERATURE PERFORMANCE RATINGS

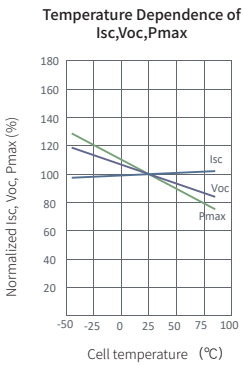
Temperature coefficient (P_{max})	-0.30 %/°C
Temperature coefficient (V_{oc})	-0.28 %/°C
Temperature coefficient (I_{sc})	+0.04 %/°C
Nominal Module Operating Temperature	43±2 °C

MODULE DIMENSIONS (MM)



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





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