



495-510 W

High Efficiency Bifacial Dual Glass TOPCon Module
In Heavy Snow Load

TS-BGT54-G11 All Black



Bifacial technology allows for the harvesting of up to an additional 25% 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.

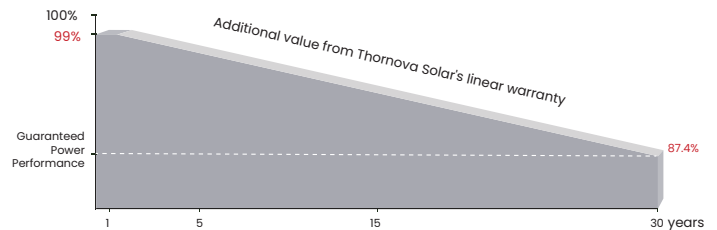


Certified to withstand: wind load (5000 Pa) and snow load (8100 Pa).



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

LINEAR PERFORMANCE WARRANTY



15 years

Product quality & process guarantee

30 years

Linear power guarantee

0.40%

Annual degradation Over 30 years

COMPREHENSIVE CERTIFICATES



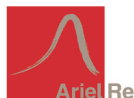
ISO 9001: Quality Management System

ISO 14001: Environmental Management System Standard

ISO 45001: International Occupational Health and Safety Assessment System Standard

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

RE INSURANCE



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

ELECTRICAL CHARACTERISTICS

Model of modules	TS-BGT54(495)-G11		TS-BGT54(500)-G11		TS-BGT54(505)-G11		TS-BGT54(510)-G11	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak power - P_{mp} (W)	495	378	500	382	505	386	510	390
Open circuit voltage - V_{oc} (V)	39.80	37.70	40.10	38.00	40.30	38.30	40.50	38.60
Short circuit current - I_{sc} (A)	15.83	12.76	15.86	12.78	15.89	12.81	15.92	12.84
MPP voltage - V_{mp} (V)	33.10	31.30	33.30	31.52	33.50	31.80	33.70	32.05
MPP current - I_{mp} (A)	14.97	12.08	15.03	12.11	15.09	12.15	15.14	12.18
Module efficiency - η_m (%)	22.3 %		22.5 %		22.7 %		22.9 %	

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

NOCT (Nominal Operating Cell 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_{mp} (W)	549	555	560	565
Open circuit voltage - V_{oc} (V)	39.80	40.10	40.30	40.50
Short circuit current - I_{sc} (A)	17.54	17.57	17.61	17.64
MPP voltage - V_{mp} (V)	33.10	33.30	33.50	33.70
MPP current - I_{mp} (A)	16.59	16.65	16.72	16.78
Irradiance ratio (rear/front)	13.5%			

STRUCTURAL CHARACTERISTICS

Module dimension (L*W*H)	1961 x 1134 x 35 mm (77.20 x 44.65 x 1.38 inch)
Weight	28 kg (61.73 lbs)
Number of cells	108 cells
Cell	N-type monocrystalline
Glass	(F)2.0mm, Anti-Reflection Coating (B)2.0mm, Heat Strengthened Glass
Frame	Anodized aluminum alloy
Junction box	IP68, 3 bypass diodes
Output wire	4.0 mm ²
Wire length	300 mm / 1200 mm / Customized length
Connector	MC4 - EVO2
Packing specification	31 pcs/Pallet; 620 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
Bifaciality	80±5%

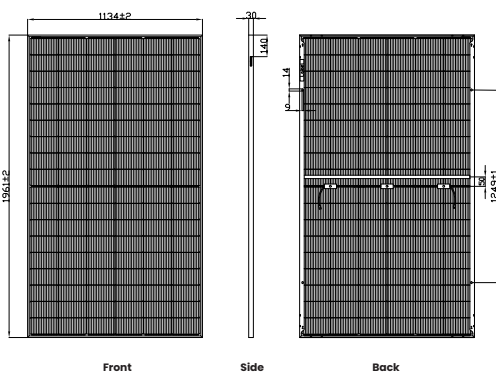
MECHANICAL LOADING

Front side maximum static loading (Pa)	8100
Rear side maximum static loading (Pa)	5000
Hailstone test (mm)	35

TEMPERATURE RATINGS

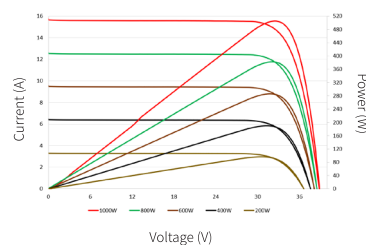
Temperature coefficient (P_{max})	-0.30 %/°C
Temperature coefficient (V_{oc})	-0.28 %/°C
Temperature coefficient (I_{sc})	+0.04 %/°C
Nominal operating cell temperature	45±2 °C

MODULE DIMENSIONS (MM)

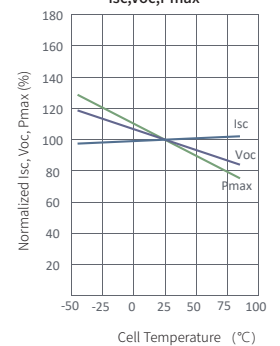


* The unmarked tolerance is ±1 mm
Length shown in mm

Current-Voltage & Power-Voltage Curves (510W)



Temperature Dependence of I_{sc}, V_{oc}, P_{max}



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E-mail: info@thornovasolar.com

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