



# 565-585W

N-type high efficiency half-cell mono module

**TS-BBT72** 



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

# WARRANTY INSURANCE





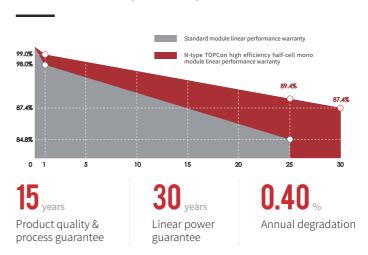






<sup>\*</sup> Optional performance warranty insurance. Please contact our local sales staff for more information.

## 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

2014 Social Accountability Management System SA8000:



<sup>\*</sup> 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-BBT72(565)		TS-BBT72(570)		TS-BBT72(575)		TS-BBT72(580)		TS-BBT72(585)	
	STC	NOCT								
Maximum power $-P_{mp}(W)\pm3\%$	565	421	570	425	575	428	580	432	585	436
Open-circuit voltage $- V_{oc}(V) \pm 3\%$	51.45	48.57	51.60	48.71	51.75	48.85	51.90	48.99	52.09	49.17
Short-circuit current $-I_{sc}(A)\pm3\%$	13.46	10.87	13.51	10.92	13.56	10.96	13.61	11.00	13.68	11.05
${\it Maximum power voltage-V_{mp}(V)}$	44.10	41.28	44.23	41.41	44.35	41.52	44.48	41.64	44.61	41.76
Maximum power current $-I_{mp}$ (A)	12.81	10.19	12.89	10.26	12.96	10.31	13.04	10.38	13.12	10.44
Module efficiency $-\eta_{m}$ (%)	21.9		22.1		22.3		22.5		22.6	
Power tolerance (W)	(0,+5)									
Maximum system voltage (V)	1500									
Maximum rated fuse current (A)	25									
Current operating temperature (°C)	-40~+85 °C									

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

#### STRUCTURAL CHARACTERISTICS

Module dimensions (L*W*H)	2278 x 1134 x 30 mm				
Weight	27.6 kg				
Number of cells	144 cells				
Cell	N-type monocrystalline				
Glass	Tempered, 3.2 mm AR, high transmittance, low iron				
Frame	Anodized aluminum alloy (Silver/Black)				
Junction box	IP68, 3 bypass diodes				
Output wire	4.0 mm², wire length: 300mm/1200mm/customized				
Connector	PV-KST4-EVO 2/xy_UR,PV-KBT4-EVO 2/xy_UR				
Connector Manufacturer	Staubli Electrical Connectors AG				
Mechanical load	Snow load: 5400 Pa ☀/ Wind load: 2400 Pa 🦦				

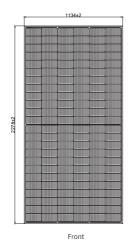
#### **TEMPERATURE PERFORMANCE RATINGS**

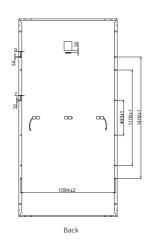
TANGRA temperature coefficient (P <sub>max</sub> )	-0.30 %/°C
Temperature coefficient (V <sub>oc</sub> )	-0.28 %/°C
Temperature coefficient (I <sub>sc</sub> )	+0.04 %/°C
Nominal operating cell temperature	43±2°C
Fire safety class	С

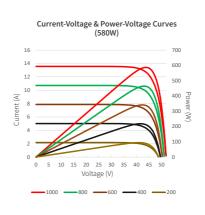
#### **PACKAGING CONFIGURATION**

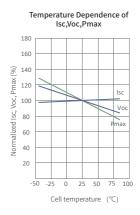
Container	40HQ
Quantity/pallet	36
Pallets/container	20
Quantity/container	720

#### **MODULE DIMENSIONS (MM)**









 $<sup>^{\</sup>star}$  The unma rance is  $\pm 1$  mm Length shown in mm



Scan the QR code to get more information

Side

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<sup>\*</sup>The parameters delineated within this datasheet, both technical and monetary, may exhibit variations contingent upon the region. Thornova Solar provides no warranty as to their absolute accuracy. Owing to our unceasing commitment to innovation, research, development, and product enhancement, Thornova Solar retains the discretion to amend any information encapsulated in this datasheet without any preceding notification. Clients are urged to procure the most recent iteration of this datasheet and incorporate it as an intrinsic component of the legally binding agreement ratified by both parties. The English rendition of this datasheet serves purely as a point of reference. Should discrepancies arise between the English text and versions rendered in other languages, the stipulations of the English version shall take precedence.



