



# BISTAR

TP7F60M  
TP7F60M(H) **120-cell**

**440 - 460W**

10BB Half-cut Mono Perc



## SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 61703
- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 45001: 2018 Occupational Health and Safety Management Systems



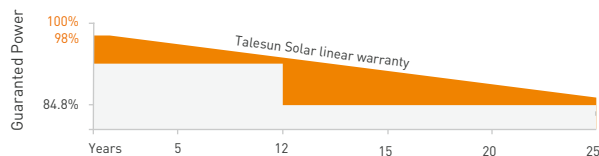
## PERFORMANCE WARRANTY

**12** Years  
Quality Assurance

**25** Years  
Power Output Guarantee

Linear Performance Warranty

Standard Performance Warranty



## KEY FEATURES



### 10BB Half-cut Cell Technology

New circuit design, lower internal current, lower  $R_s$  loss  
Ga doped wafer, attenuation  $<2\%$  (1st year) /  $\leq 0.55\%$  (Linear)



### Significantly Lower the Risk of Hot Spot

Special circuit design with much lower hot spot temperature



### Lower LCOE

2% more power generation, lower LCOE



### Excellent Anti-PID Performance

2 times of industry standard Anti-PID test



### IP68 Junction Box

High waterproof level

## ELECTRICAL CHARACTERISTICS

Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	440	328	445	332	450	336	455	339	460	343
Operating Voltage (Vmpp/V)	34.35	32.1	34.53	32.2	34.70	32.4	34.87	32.6	35.04	32.7
Operating Current (Impp/A)	12.81	10.23	12.89	10.30	12.97	10.36	13.05	10.42	13.13	10.49
Open-Circuit Voltage (Voc/V)	40.99	38.6	41.16	38.7	41.33	38.9	41.50	39.1	41.67	39.2
Short-Circuit Current (Isc/A)	13.69	11.04	13.78	11.11	13.86	11.17	13.94	11.24	14.02	11.30
Module Efficiency (%)	20.30		20.60		20.80		21.10		21.30	

STC: Irradiance 1000W/m<sup>2</sup>, Spectra at AM1.5, Module Temperature 25 °C. Power output tolerance: 0~+5W, Test uncertainty for Pmax: ±3%  
 NMOT: Irradiance 800W/m<sup>2</sup>, Spectra at AM1.5, Ambient Temperature 20 °C, Wind speed 1m/s

## MECHANICAL CHARACTERISTICS

Solar Cell	Monocrystalline 182*182mm
No. of Cells	120 (6*20)
Module Dimensions	1908*1134*35mm (75.12*44.65*1.38inches)
Weight	24.3kg (53.6lbs.)
Front Glass	3.2mm AR Coating Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass Diodes
Output Cables	4mm <sup>2</sup> (IEC), 12AWG(UL) 300mm in Length or Customized Length
Connectors	T01/LJQ-3-CSY/MC4/MC4-EV02

## APPLICATION CONDITIONS

Maximum System Voltage	1000V/1500V/DC
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	25A
Safety Protection Class	Class II
Mechanical Load (Front side)	5400Pa
Mechanical Load (Back side)	2400Pa

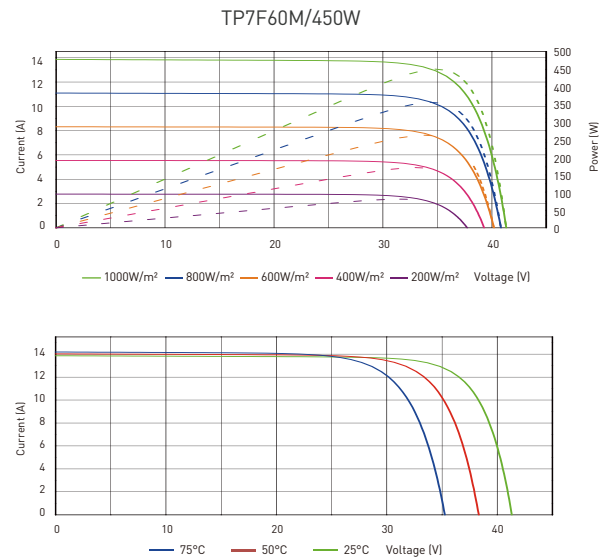
## TEMPERATURE CHARACTERISTICS

Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	+0.048%/°C
Nominal Module Operating Temperature(NMOT)	43±2°C

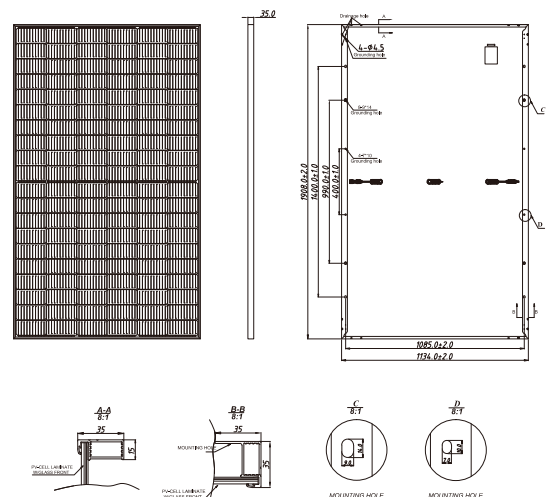
## PACKING CONFIGURATION

Pieces Per Pallet	31	31(USA)
Pieces Per Container(40'HQ)	744	744

## I-V CURVE



## TECHNICAL DRAWINGS



The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Suzhou Talesun Solar Technologies Co., Ltd. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent 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.