



# BISTAR

TN7F60M  
TN7F60M(H) **120-cell**

**460 - 480W**

16BB Half-cut Mono N-type



## SYSTEM & PRODUCT CERTIFICATES

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

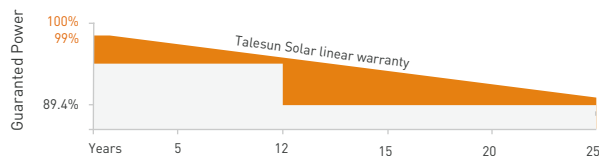


## PERFORMANCE WARRANTY

**12** Years  
Quality Assurance

**25** Years  
Power Output Guarantee

Linear Performance Warranty



## KEY FEATURES



### 16BB Half-cut Cell Technology

New circuit design, lower internal current, lower  $R_s$  loss  
Ga doped wafer, attenuation  $< 1\%$  (1st year) /  $\leq 0.4\%$  (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)	460	349	465	354	470	358	475	362	480	366
Operating Voltage (Vmpp/V)	34.70	33.10	34.87	33.00	35.03	33.10	35.19	33.20	35.36	33.40
Operating Current (Impp/A)	13.26	10.54	13.34	10.74	13.42	10.81	13.50	10.87	13.58	10.94
Open-Circuit Voltage (Voc/V)	42.03	39.90	42.20	39.90	42.36	40.00	42.52	40.20	42.69	40.40
Short-Circuit Current (Isc/A)	14.00	11.28	14.08	11.35	14.16	11.42	14.24	11.48	14.32	11.54
Module Efficiency (%)	21.26		21.49		21.72		21.95		22.19	

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

Cell Type	N-type Mono-Crystallin (16Busbar)
No. of Cells	120pcs in series (6*20)
Module Dimensions	1908*1134*35mm (75.12*44.65*1.38inches)
Weight	24.3kg (53.57lbs.)
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

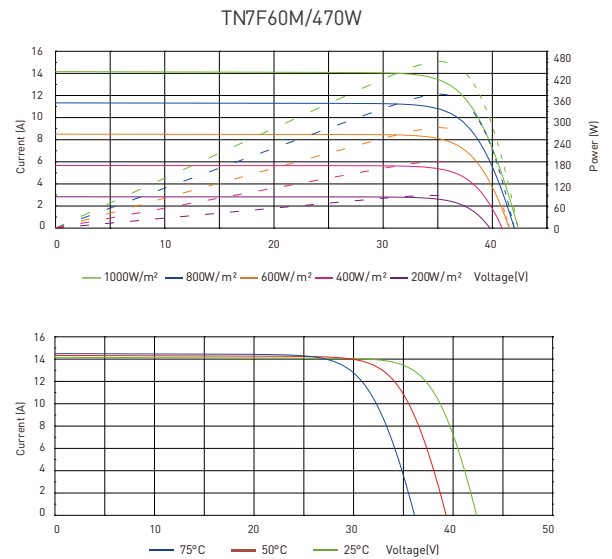
## TEMPERATURE CHARACTERISTICS

Temperature Coefficient of Pmax	-0.30%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	+0.046%/°C
Nominal Module Operating Temperature(NMOT)	43±2°C

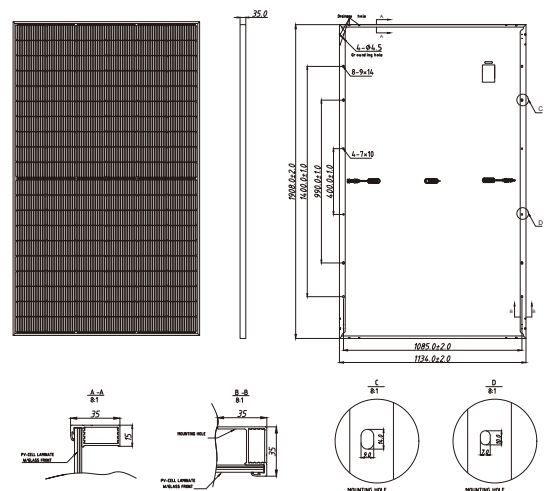
## PACKING CONFIGURATION

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

## I-V CURVE



## TECHNICAL DRAWINGS



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