



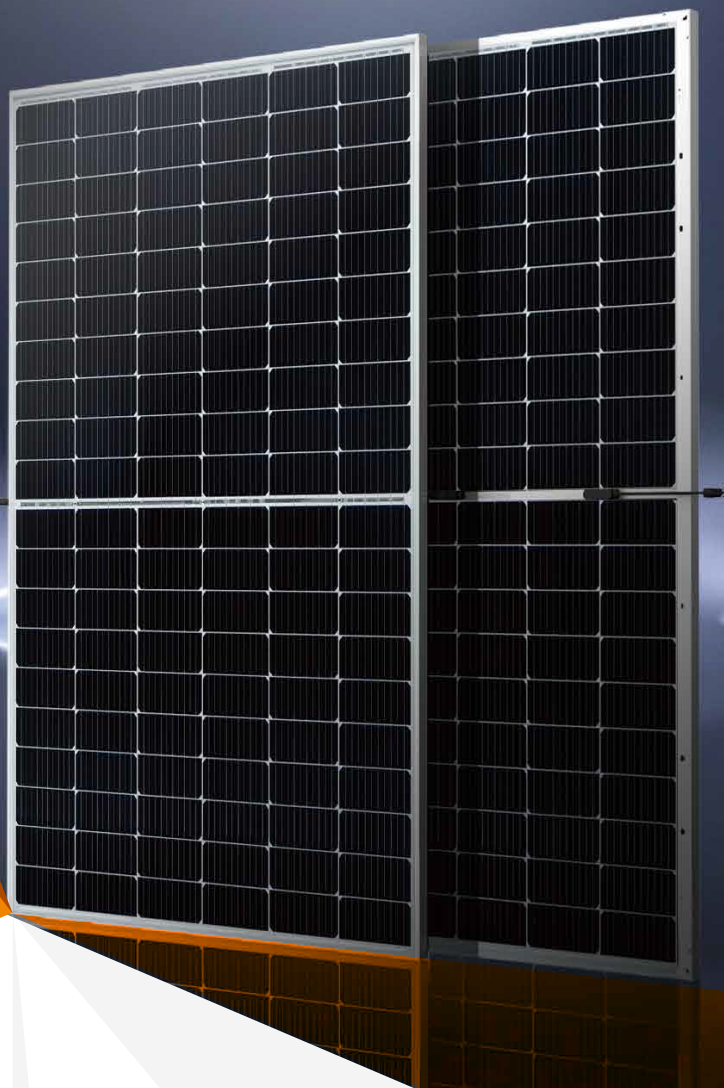
BIPRO

TD7G60M **120-cell**

440 - 460W

Bifacial Dual Glass

10BB Half-cut Mono Perc



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



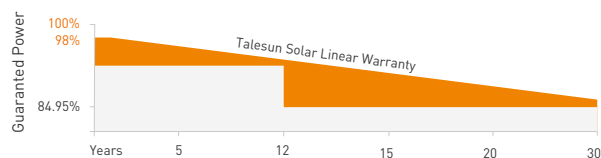
PERFORMANCE WARRANTY

12 Years
Quality Assurance

30 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) / $\leq 0.45\%$ (Linear)



Industry Leading High Yield

Bifacial PERC cell technology,
5%-25% more yield depends on different conditions



Excellent Anti-PID Performance

2 times of industry standard Anti-PID test



Wider Application

No water-permeability and high wear-resistance,
can be widely used in high-humid, windy and dusty area



IP68 Junction Box

High waterproof level

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* GL-EN-Version 2022.03.24

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		20.50		20.70		21.00		21.20	

STC: Irradiance 1000W/m², Spectra at AM1.5, Module Temperature 25 °C. Power output tolerance: 0~+5W, Test uncertainty for Pmax: ±3%
NMOT: Irradiance 800W/m², Spectra at AM1.5, Ambient Temperature 20 °C, Wind speed 1m/s

REAR SIDE POWER GAIN(REFERENCE TO 445W FRONT)

Pmax gain	5%	10%	15%	20%	25%
Pmax/W	467	490	512	534	556
Vmpp/V	34.53	34.53	34.53	34.53	34.53
Impp/A	13.53	14.18	14.82	15.47	16.11
Voc/V	41.16	41.16	41.16	41.16	41.16
Isc/A	14.47	15.16	15.85	16.54	17.23

MECHANICAL CHARACTERISTICS

Cell Type	Monocrystalline Silicon (10Busbar)
No. of Cells	120pcs in series (6*20)
Module Dimensions	1914*1134*30mm (75.35*44.65*1.18inches)
Weight	26.8kg (59.1lbs)
Front Glass	2.0mm AR Coating Semi-tempered Glass
Back Glass	2.0mm Glazed Semi-tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass Diodes
Output Cables	4mm² (IEC), 12AWG (UL) 300mm in Length or Customized Length
Connectors	T01/LJQ-3-CSY/MC4/MC4-EV02

APPLICATION CONDITIONS

Maximun System Voltage	1500V/DC
Operating Temperature	-40° C~+85° C
Maximun Series Fuse	30A
Safety Protection Class	Class II
Mechanical Load	Front side 5400PaBack side 2400Pa
Refer. Bifaciality Factor	70%±5%

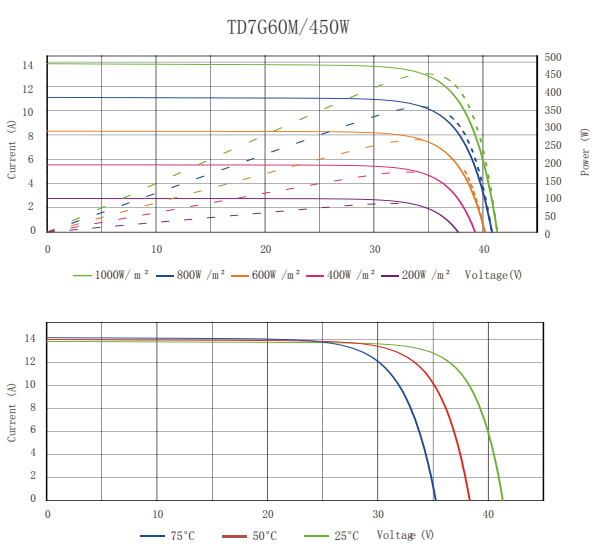
TEMPERATURE CHARACTERISTICS

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

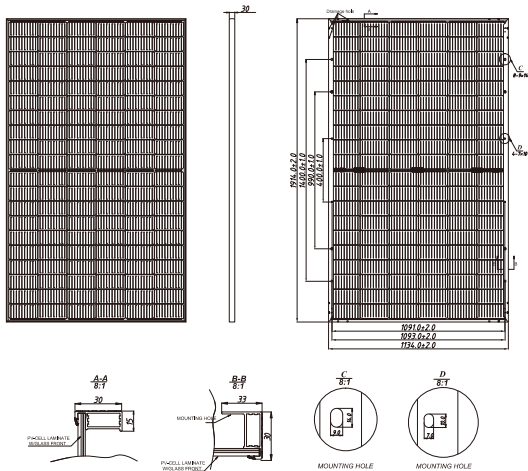
PACKING CONFIGURATION

Pieces Per Pallet	36	36 (USA)
Pieces Per Container(40'HQ)	864	684

I-V CURVE



TECHNICAL DRAWINGS



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