

DAS Solar Black Solution

A New Definition of Residential PV Module

440W

Maximum Power Output

N **N-type TOPCon**
Technology

Double-Glass
Module

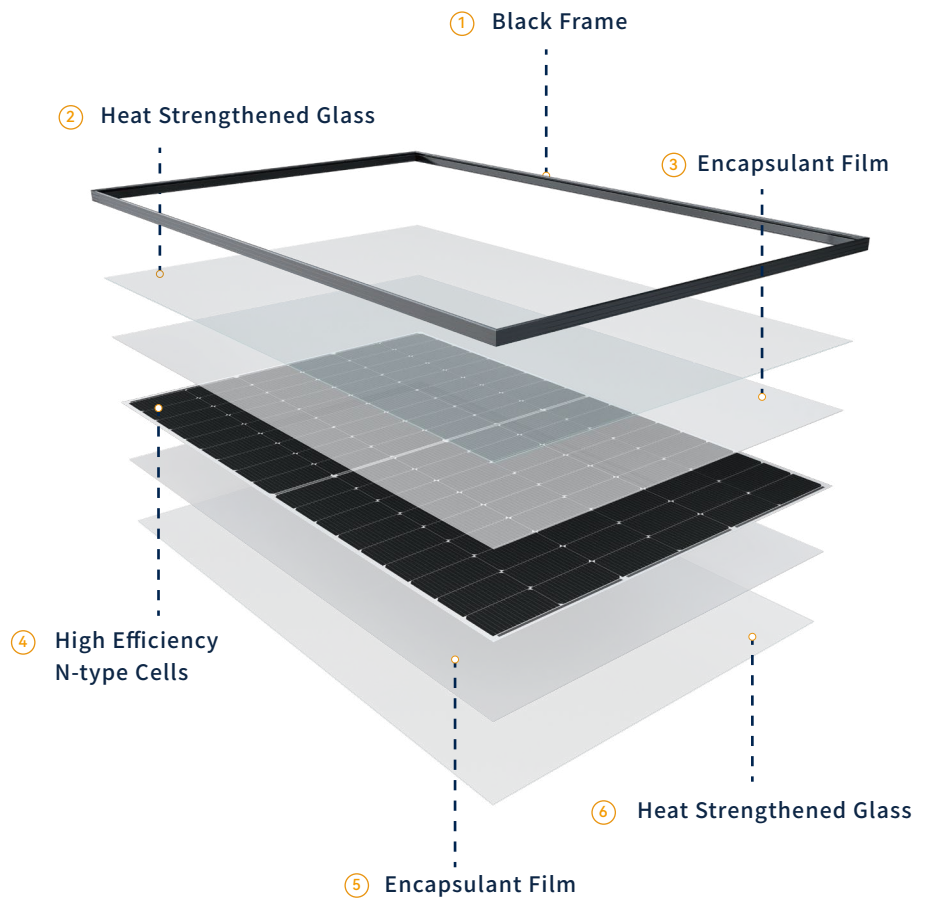
22.5%
Maximum Module Efficiency



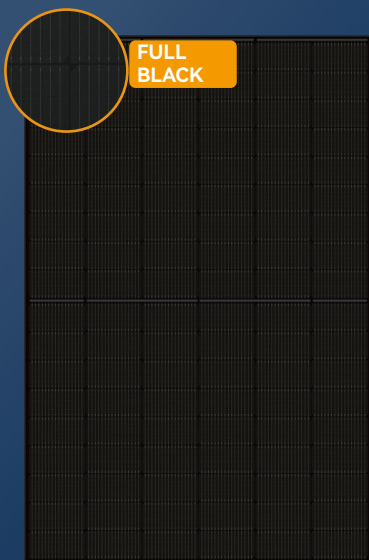
product warranty



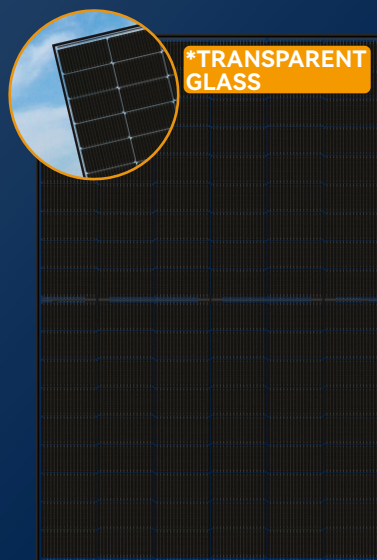
linear power warranty



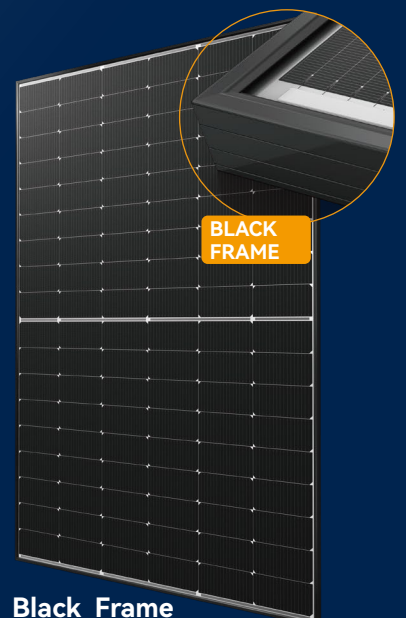
► Custom design crafted just for the Aussie market



Black Pro



Black Thru



Black Frame

Why DAS TOPCon Double Glass Module

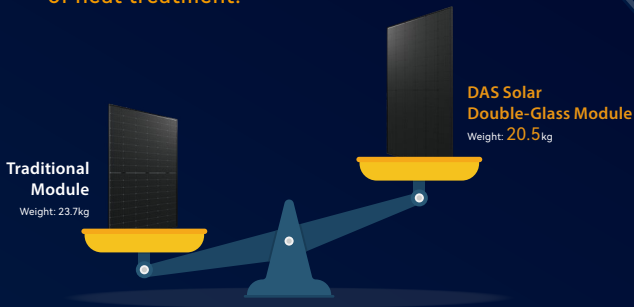
▶ DAS Solar's N-type TOPCon 4.0 Technology

Cell Efficiency



▶ Ultra Thin Glass Equipped

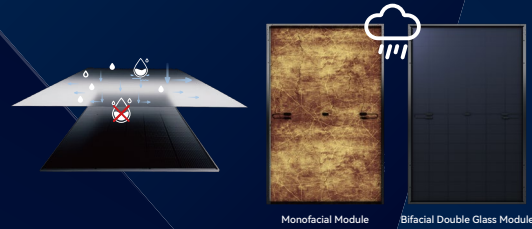
3.2kg lighter than regular double-glass module, reducing roof loads, but still with the strength of heat treatment.



▶ Double Glass Design

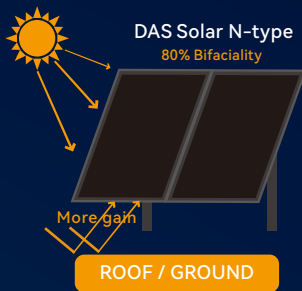
No vapor transmission on the rear side for greater reliability

Conventional single-glass modules are prone to backsheet bulging and yellowing delamination due to water vapor transmission, while DAS Solar's N-type TOPCon double-glass modules can effectively eliminate this problem.



▶ Higher Bifaciality

Up to 80% bifaciality, more energy yielded from back side



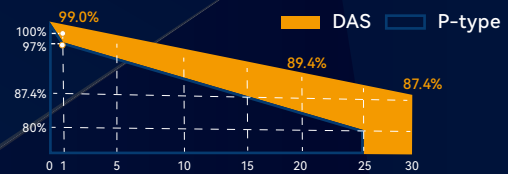
* Reflected sunlight absorbed into back of the panels

▶ Lower Power Degradation

1.73% more annual energy yield than P-type during warranty period

1.00% degradation in the 1st year

0.40% annual degradation from the 2nd year



▶ High reliability



Hail Test



Sand Erosion Test



Salt Mist Corrosion Level 6 Test



Dynamic Mechanical Load Test

▶ Excellent power generation performance



Advanced performance in hot climate



Improved performance on cloudy and foggy days

Why DAS Solar

STRATEGIC SHAREHOLDERS

Backed by strategic investments from major state-owned enterprises, DAS Solar has garnered sustainable financial support and reliable bank credit lines. Committed to green, low-carbon solutions and environmental protection, our shareholders have reached a cumulative installed capacity exceeding 100GW. With robust financial backing and outstanding product performance, DAS Solar has rapidly ascended to the ranks of the global TOP 10 PV manufacturers in just four short years.



Tier1 BloombergNEF

- Top 10 global module shipment
 - Top 10 solar manufacturing capacity
 - Top 2 N-type module shipment*
- *as of Q2 2023



ADVANCED R&D

- World record of open-circuit voltage: 730mV
- Impressive R&D cell efficiency: 26.33%
- Partnership with Professor Martin Green's team from the University of New South Wales (UNSW) to develop new ultra-efficient solar cells with a maximum efficiency exceeding 40%.



QUALITY CONTROL

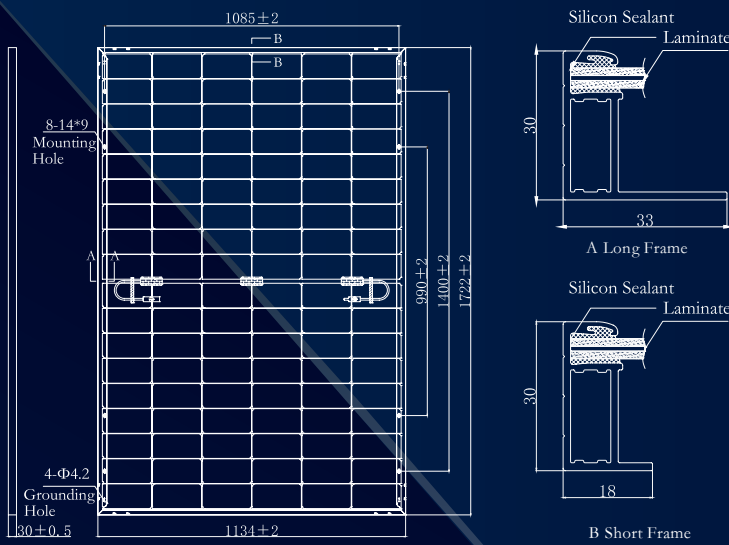
- Unique 3 EL tests during the manufacturing process effectively prevents the micro cracks in panels, compared to the standard production with only 2 EL tests.
- 100% AI automatic identification detection in key inspection steps to ensure the best quality.



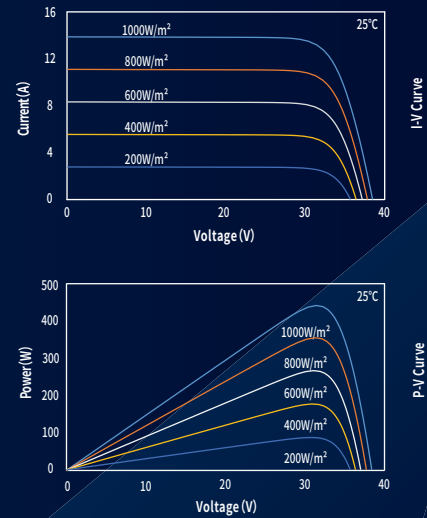
LOCAL SERVICE TEAM

- Australian local sales and service network, ensuring the most efficient support to customers' needs.
- Back up by expertise in headquarter, providing the most professional service.

Engineering Drawing (mm)



Characteristic Curves(440W)



Electrical Parameters (STC *)

	420	425	430	435	440
Nominal Max. Power(Pmax/W)	420	425	430	435	440
Open Circuit Voltage(Voc/V)	38.48	38.54	38.60	38.72	38.88
Short Circuit Current(Isc/A)	13.78	13.79	13.80	13.89	13.98
Operating Voltage(Vmp/V)	32.02	32.35	32.68	33.01	33.26
Operating Current(Imp/A)	13.12	13.14	13.16	13.18	13.23
Efficiency(%)	21.5	21.8	22.0	22.3	22.5

STC *: Irradiance = 1000 W/m², Cell Temperature = 25°C, AM = 1.5
Test condition is based on the front side

Electrical Parameters (NMOT *)

	316.0	319.0	322.0	325.0	329.0
Nominal Max. Power(Pmax/W)	316.0	319.0	322.0	325.0	329.0
Open Circuit Voltage(Voc/V)	36.40	36.46	36.52	36.82	36.69
Short Circuit Current(Isc/A)	11.11	11.11	11.12	11.20	11.27
Operating Voltage(Vmp/V)	30.05	30.28	30.51	30.83	31.04
Operating Current(Imp/A)	10.52	10.54	10.56	10.54	10.60

NMOT *: Irradiance = 800 W/m², Ambient Temperature = 20°C, AM = 1.5,
Wind Speed = 1 m/s
Test condition is based on the front side

Backside Power Gain (For 440W)

	10%	15%	20%	25%	30%
Power Gain	10%	15%	20%	25%	30%
Nominal Max. Power(Pmax/W)	484.0	506.0	528.0	550.0	572.0
Open Circuit Voltage(Voc/V)	38.88	38.88	38.98	38.98	38.98
Short Circuit Current(Isc/A)	15.38	16.08	16.78	17.48	18.17
Operating Voltage(Vmp/V)	33.26	33.26	33.36	33.36	33.36
Operating Current(Imp/A)	14.55	15.21	15.83	16.49	17.15

Mechanical Parameters

Cell Type	N Type
Module Size	1722 × 1134 × 30mm
Glass Thickness	1.6mm
Module Weight	20.5Kg
Output Cable	4mm ² , cable length 1200mm
Connector	MC4 original
Junction Box	IP68, 3 bypass diodes
Frame	Anodized aluminium alloy (Black)

Temperature Coefficients

Short Circuit Current(Isc)	+0.045%/°C
Open Circuit Voltage(Voc)	-0.250%/°C
Nominal Max. Power(Pmax)	-0.300%/°C
NMOT	42 ± 2°C

Operating Parameters

Max. System Voltage	DC1500V
Power Tolerance	0 ~ +5 W*
Operating Temperature	-40°C ~ +85°C
Max. Fuse Rated Current	30A
Front Static Load	Snow load 5400Pa, Wind load 2400Pa
Packing Data	36 pcs/Pallet; 216(20GP); 936(40HQ)

*440W module power tolerance refers to -5~+5w