

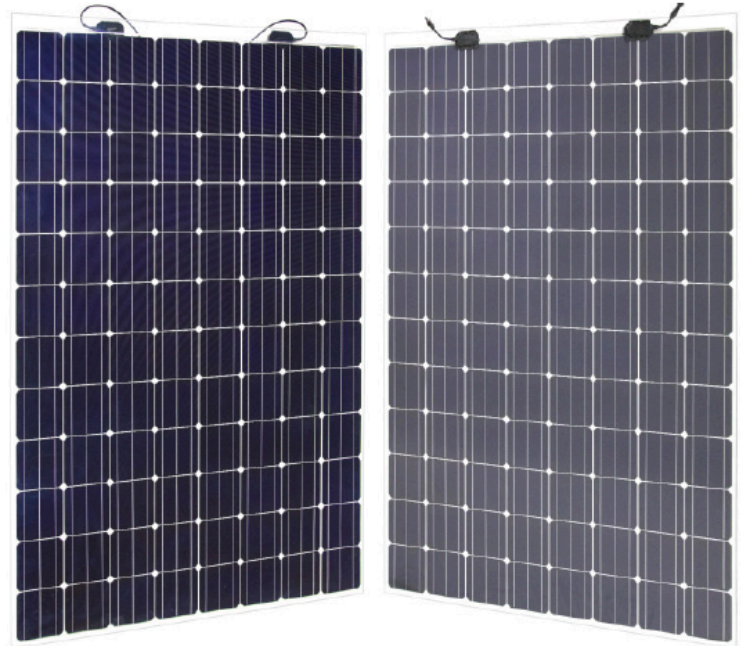
Bifacial solar panels

Bifacial high power solar panels have a smart design and collect solar energy on 2 sides. Front from sun and back from reflexes and diffuse solar light. Result is higher output and efficiency per M2 area. They are more complicated and costly but in final end cost per KWH can be better. It needs an analyse to see what is best here.

The efficiency makes panels best for areas where space is limited and high output is needed.

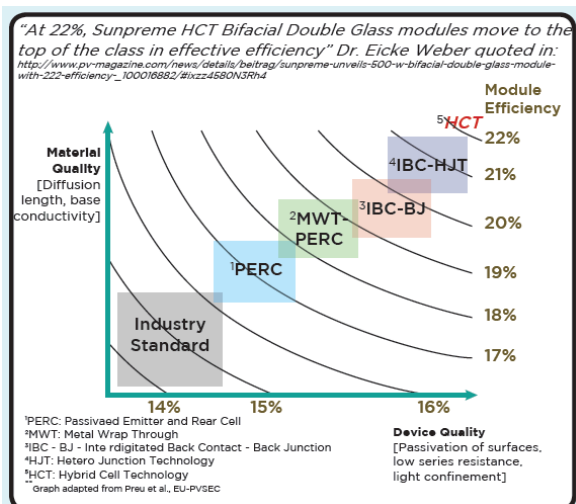
The double laminated glass design protects and seal panels in best ways so like time get better and aging is better over many years. It is also more rugged and robust.

Panels are available in outputs to 500W from a single panel so this reduce number of panels and this saves costs as well.



Front view

Back view



High Efficiency

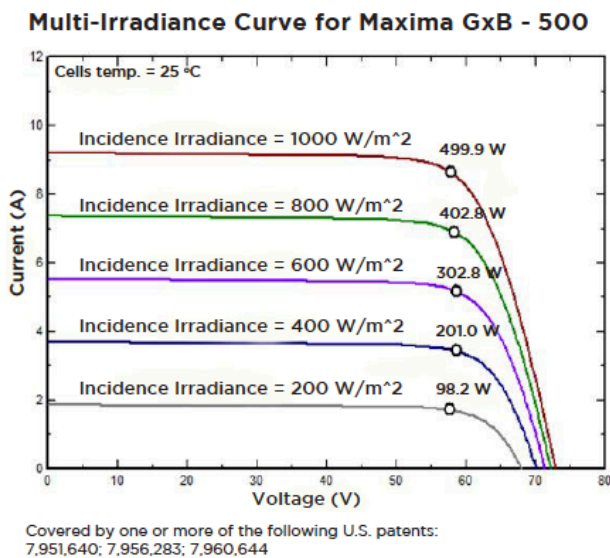
19.3 % Module Efficiency (STC),
 21.2 % efficiency with 10% Backside Power Boost,
 23.2 % with 20% Backside Power Boost

Bifacial Energy Boost

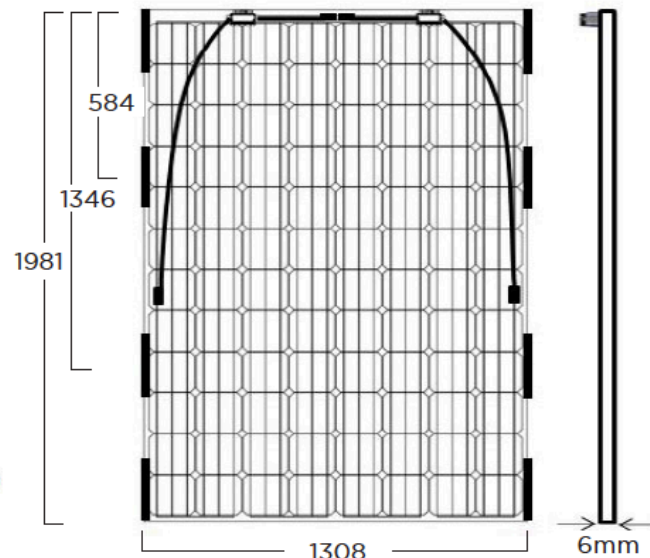
Harvests sun from the backside to increase power output up to 20%

Panels operates best where back side is not hidden in darkness

Imax - Vmax (96 cell Version)



Rear & Side View (mm)





ELECTRICAL SPECIFICATIONS¹	490	500	510
STC rated output P _{MPP} (W)	490	500	510
Cell Efficiency	21.2%	21.5%	21.8%
Module Efficiency STC	18.9%	19.3%	19.7%
Standard sorted output	-3%/+5%	-3%/+5%	-3%/+5%
Open Circuit Voltage V _{oc} (V)	70.0	70.5	71.0
Short circuit current I _{sc} (A)	9.2	9.3	9.4
Rated Voltage V _{MPP} (V)	56.5	57.1	57.6
Rated Current I _{MPP} (A)	8.7	8.8	8.9

¹: Standard Test Conditions for front-face of panel: 1000 W/m², 25°C.

BI-FACIAL OUTPUT*			
<i>With 10% Backside Power Boost</i>			
Power Output (W)	539	550	561
Module Efficiency	20.8%	21.2%	21.7%
<i>With 20% Backside Power Boost</i>			
Power Output (W)	588	600	612
Module Efficiency	22.7%	23.1%	23.6%

*Backside boost for flush mount configuration is ≤5%, resulting in I_{sc} ≤9.56 – 9.77 A

TEST OPERATING CONDITIONS	
Operating Temperature	- 40 to + 85°C
Storage Temperature	- 40 to + 85°C
Maximum Series Fuse	20 A
Maximum System Voltage	1,000VDC (UL & IEC)
Power/Sq.Ft. w/ 20% backside power boost	21.5 W / Sq. Foot
Maximum load capacity	3,600 Pa (snow load) 125 mph (wind rating)
Fire Class	Class A - Type 3

TEMPERATURE COEFFICIENTS	
Temperature coefficient P _{MPP}	-0.30%/C
Temperature coefficient I _{sc}	+0.04%/C
Temperature coefficient V _{oc}	-0.24%/C
Normal operating cell temperature (NOCT)°C	45C +/- 2