

182 P-type series

## 182 P-type Bifacial Module

445W ~ 460W



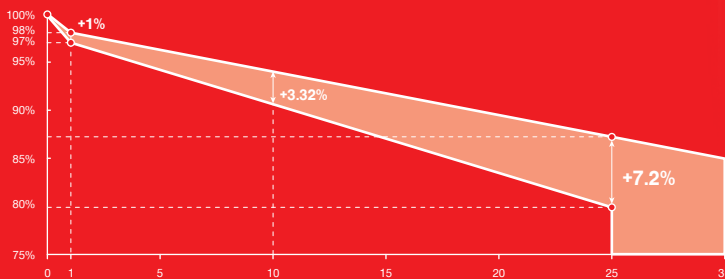
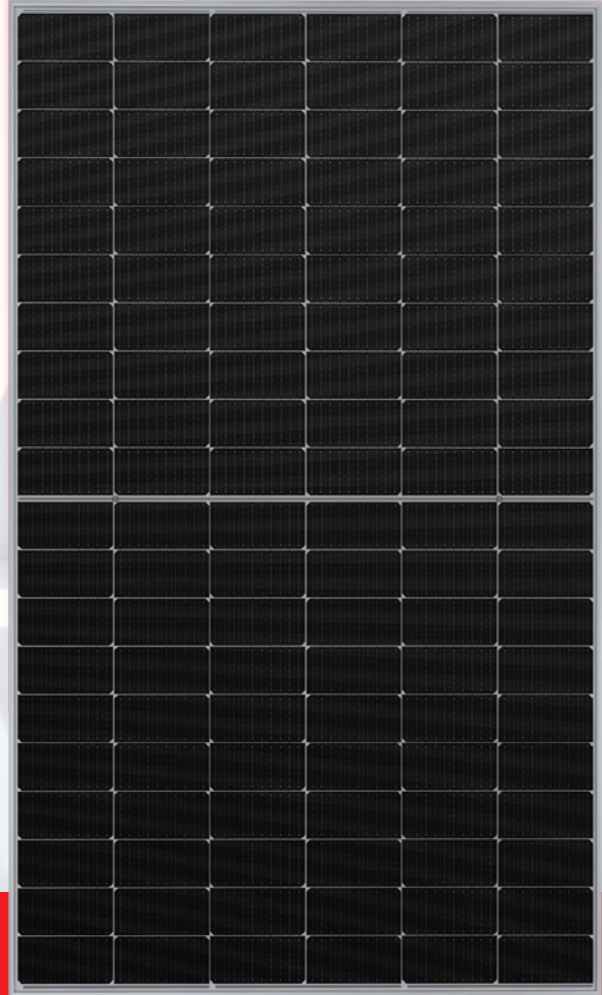
**12** years product  
workmanship warranty



**30** years linear power output  
warranty



**2%** 1st-year degradation  
**0.45%** annual degradation



Conventional LESSO Solar Module

### FEATURES AND BENEFITS



The application of multi-busbar (MBB) half-cut cell technology brings stronger resistance to shade and lower risk of hot spot.



Strict control on raw materials and process optimization of high efficiency PERC ensure better resistance against PID of PV module.



Through harsh weathering tests of sand, dust, salt mist, ammonia, etc., to get stronger weather resistance of outdoor environment.



Double sides power output to reach higher comprehensive efficiency and get more profit.



By series and parallel design, to reduce the series RS and achieve higher power output and lower BOS cost.



Lower temperature coefficient and lower operating temperature can ensure higher power generation.



Lower oxygen and carbon content result in lower LID.

# LESSO 182 P-type Bifacial Module



Power Range  
**445W ~ 460W**



Power Output Tolerance  
**0W ~ +5W**

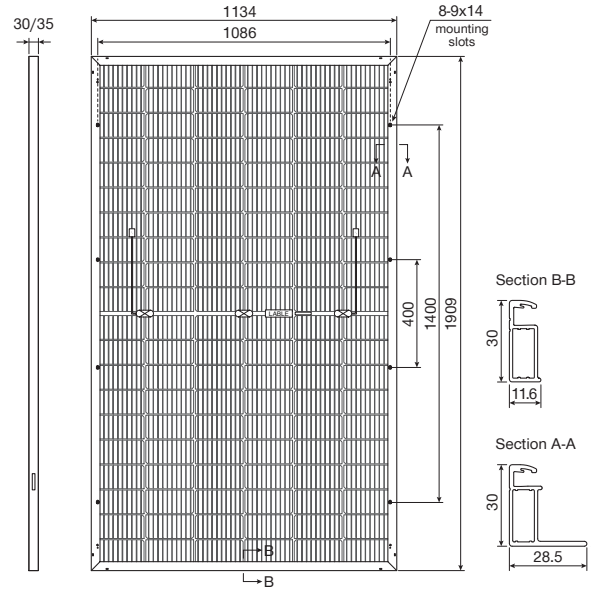


Maximum Efficiency  
**21.25%**

## Structure Performance

Solar Cell Type	182mm Mono-crystalline (Half Cell)
Solar Cell Arrangement	120pcs(6×20)
Module Dimension	1909×1134×35mm/30mm
Weight	26.9kg(35mm) / 25.7kg(30mm)
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm <sup>2</sup> , portrait $\begin{matrix} 400mm (+) \\ 200mm (-) \end{matrix}$ , landscape $\begin{matrix} 1400mm (+) \\ 1400mm (-) \end{matrix}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	31pcs(35mm) / 36pcs(30mm)
Per Container(40'HQ)	744pcs(35mm) / 864pcs(30mm)

(Unit: mm)



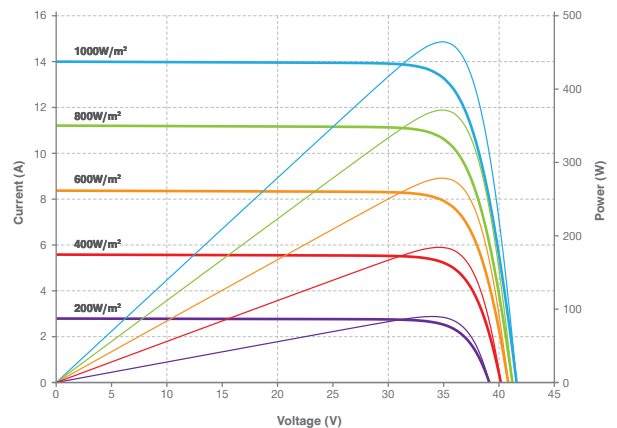
## Electrical Performance Parameters | STC

Model Type	445D(HBD) 60(182)	450D(HBD) 60(182)	455D(HBD) 60(182)	460D(HBD) 60(182)	
Nominal Max. Power	P <sub>max</sub> (W)	445	450	455	460
Max. Power Voltage	V <sub>mp</sub> (V)	34.58	34.78	34.98	35.18
Max. Power Current	I <sub>mp</sub> (A)	12.87	12.94	13.01	13.08
Open Circuit Voltage	V <sub>oc</sub> (V)	41.08	41.20	41.32	41.46
Short Circuit Current	I <sub>sc</sub> (A)	13.76	13.83	13.90	13.97
Module Efficiency	(%)	20.56	20.79	21.02	21.25
Power Output Tolerance	(W)	0~+5W			

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

\* Power measurement tolerance ±3%.

## Current-Voltage & Power-Voltage Curve (465D)



## Electrical Performance Parameters | NMOT

Model Type	445D(HBD) 60(182)	450D(HBD) 60(182)	455D(HBD) 60(182)	460D(HBD) 60(182)	
Nominal Max. Power	P <sub>max</sub> (W)	317	322	327	332
Max. Power Voltage	V <sub>mp</sub> (V)	30.54	30.91	31.27	31.62
Max. Power Current	I <sub>mp</sub> (A)	10.38	10.42	10.46	10.50
Open Circuit Voltage	V <sub>oc</sub> (V)	38.78	38.90	39.02	39.14
Short Circuit Current	I <sub>sc</sub> (A)	11.11	11.17	11.22	11.28

\* NMOT: Irradiance 800W/m<sup>2</sup>, Cell Temperature 20°C, Wind Speed 1m/s.

\* Power measurement tolerance ±3%.

## Temperature Characteristics

Nominal Module Operating Temperature	44±2°C
Temperature Coefficient (I <sub>sc</sub> )	+0.048%
Temperature Coefficient (V <sub>oc</sub> )	-0.26%
Temperature Coefficient (P <sub>max</sub> )	-0.34%

## Maximum Parameters

Working Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	25A