


P series

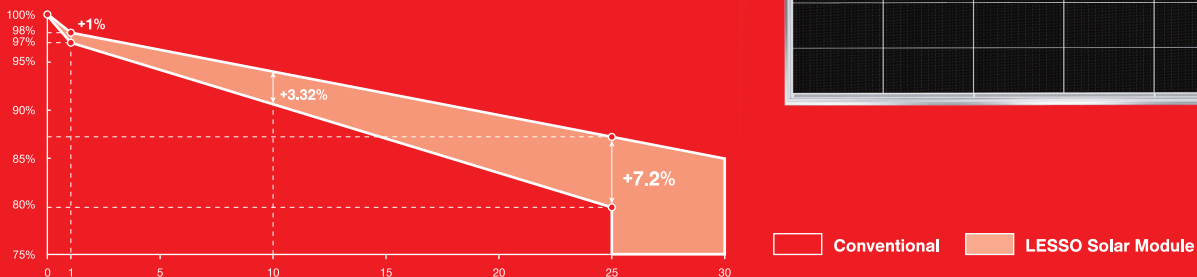
210 P-type Bifacial Module

650W ~ 660W

 **12** years product workmanship warranty

 **30** years linear power output warranty

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



FEATURES AND BENEFITS



MBB technology reducing string & busbar loss.



Better temperature coefficient, more power generation.



Even cloudy or foggy days, better weak illumination response.



Zero LID, increase power generation.



High efficiency PERC, better resistance against PID.



Higher power output, lower bos cost.



Multiple weather, resistance tests, wider applicability.



Double-sided generation, powerfully energy boost.

LESSO 210 P-type Bifacial Module (66)



Power Range
650W ~ 660W



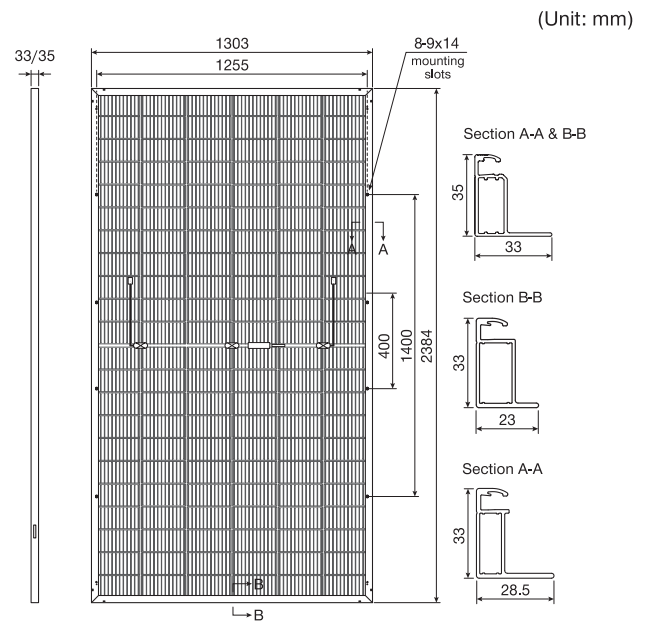
Power Output Tolerance
0W ~ +5W



Maximum Efficiency
21.25%

Structure Performance

Solar Cell Type	210mm Mono-crystalline (Half Cell)
Solar Cell Arrangement	132pcs(6x22)
Module Dimension	2384×1303×35mm/33mm
Weight	38.2kg(35mm) / 37.8kg(33mm)
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm ² , portrait ^{400mm(+)} / _{200mm(-)} , landscape ^{1400mm(+)} / _{1400mm(-)} Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	31pcs(35mm) / 36pcs(33mm)
Per Container(40'HQ)	527pcs(35mm) / 561pcs(33mm)

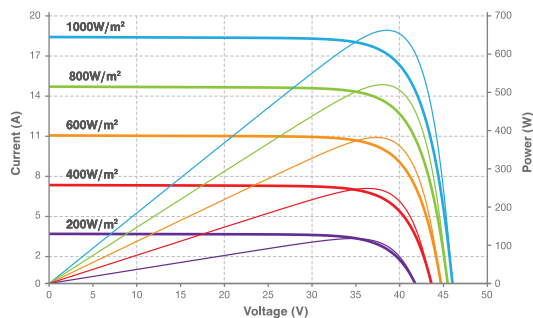


Electrical Performance Parameters

Model Type	650D(HBD)66(210)		655D(HBD)66(210)		660D(HBD)66(210)	
	STC	NMOT	STC	NMOT	STC	NMOT
Nominal Max. Power P_{MAX} (W)	650	492	655	496	660	500
Max. Power Voltage V_{MP} (V)	37.63	35.04	37.83	35.22	38.03	35.42
Max. Power Current I_{MP} (A)	17.28	14.06	17.32	14.08	17.36	14.12
Open Circuit Voltage V_{OC} (V)	45.60	43.00	45.80	43.20	46.00	43.40
Short Circuit Current I_{SC} (A)	18.34	14.78	18.38	14.82	18.42	14.86
Module Efficiency (%)	20.92		21.09		21.25	

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (660D)



Bifacial Output-rearside Power Gain

Gain	Maximum Power P_{MAX} (W)		650D		655D		660D	
	5%	683	688	693	21.97%	22.14%	22.31%	Module Efficiency (%)
10%	715	721	726	23.02%	23.19%	23.37%	Module Efficiency (%)	
	813	819	825	26.16%	26.36%	26.56%	Module Efficiency (%)	

Temperature Characteristics

Nominal Module Operating Temperature	44±2°C	Temperature Coefficient (V_{OC})	-0.26%
Temperature Coefficient (I_{SC})	+0.048%	Temperature Coefficient (P_{MAX})	-0.34%

Maximum Parameters

Working Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	30A