


P series

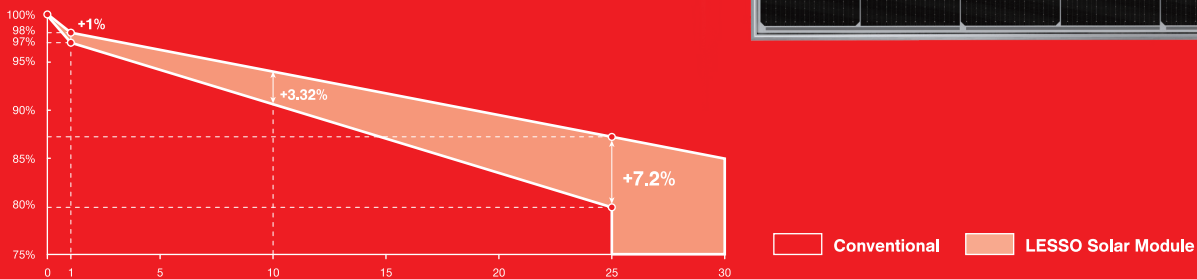
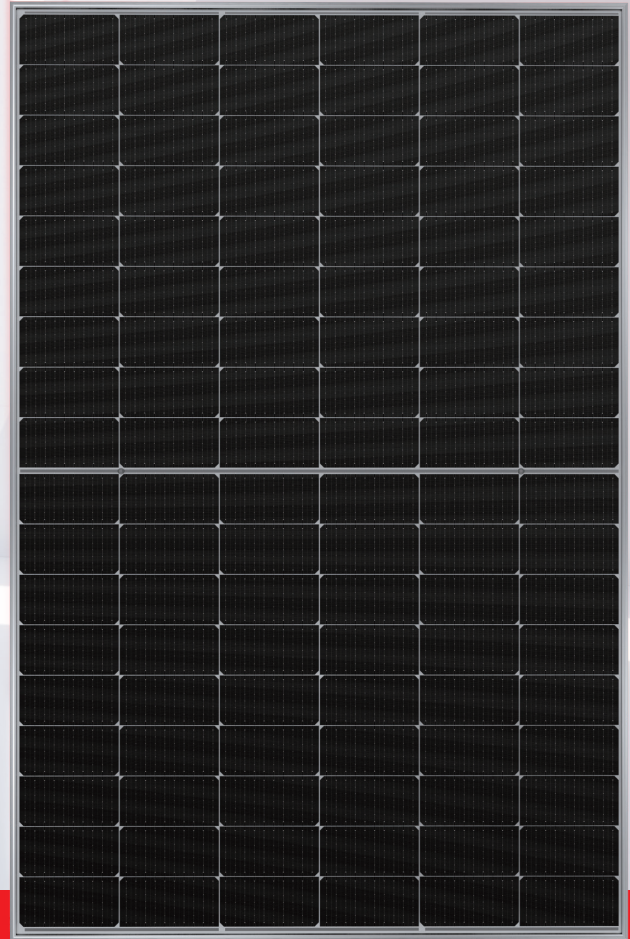
182 P-type Bifacial Module

405W ~ 415W

 **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 182 P-type Bifacial Module (54)



Power Range
405W ~ 415W



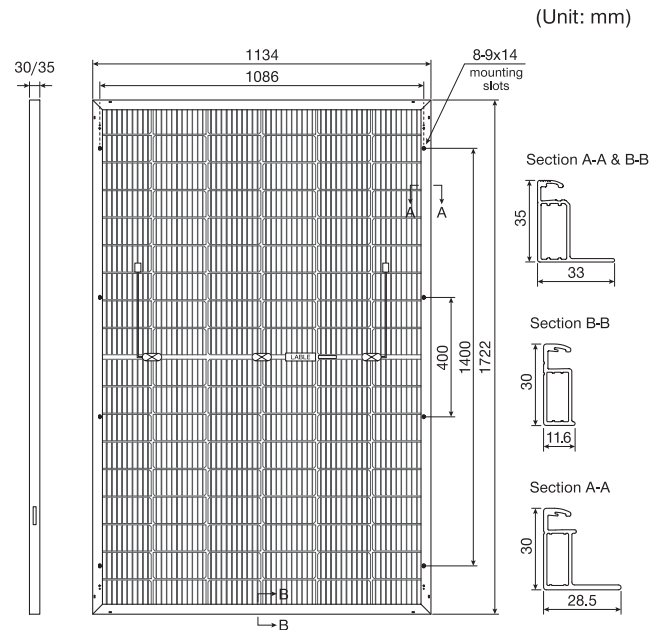
Power Output Tolerance
0W ~ +5W



Maximum Efficiency
21.25%

Structure Performance

| | |
|------------------------|---|
| Solar Cell Type | 182mm Mono-crystalline (Half Cell) |
| Solar Cell Arrangement | 108pcs(6×18) |
| Module Dimension | 1722×1134×35mm/30mm |
| Weight | 24.1kg(35mm) / 23.1kg(30mm) |
| 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(30mm) |
| Per Container(40'HQ) | 806pcs(35mm) / 936pcs(30mm) |

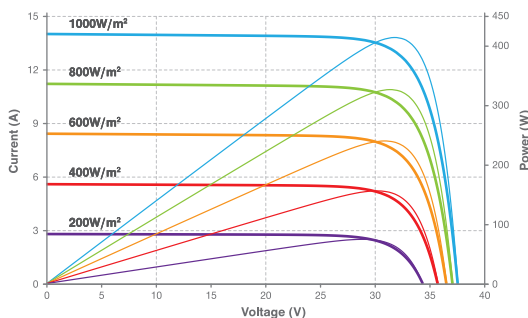


Electrical Performance Parameters

| Model Type | 405D(HBD)54(182) | | 410D(HBD)54(182) | | 415D(HBD)54(182) | |
|------------------------------------|------------------|-------|------------------|-------|------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT |
| Nominal Max. Power P_{MAX} (W) | 405 | 282 | 410 | 287 | 415 | 292 |
| Max. Power Voltage V_{MP} (V) | 31.35 | 27.12 | 31.57 | 27.50 | 31.79 | 27.87 |
| Max. Power Current I_{MP} (A) | 12.92 | 10.40 | 12.99 | 10.44 | 13.06 | 10.48 |
| Open Circuit Voltage V_{OC} (V) | 37.08 | 34.74 | 37.20 | 34.86 | 37.34 | 35.00 |
| Short Circuit Current I_{SC} (A) | 13.81 | 11.15 | 13.88 | 11.20 | 13.95 | 11.26 |
| Module Efficiency (%) | 20.74 | | 21.00 | | 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 (415D)



Bifacial Output-rearside Power Gain

| Gain | Maximum Power P_{MAX} (W) | | Module Efficiency (%) | |
|------|-----------------------------|------|-----------------------|--------|
| | 405D | 410D | 415D | 415D |
| 5% | 425 | 431 | 21.78% | 22.31% |
| | 436 | 446 | 22.05% | 23.38% |
| 10% | 446 | 451 | 22.81% | 23.38% |
| | 457 | 466 | 23.10% | 26.57% |
| 25% | 506 | 513 | 25.93% | 26.57% |
| | 519 | 526 | 26.25% | |

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 | 25A |