

PREXOS

HIGH EFFICIENCY BI-FACIAL GLASS TO TRANSPARENT BACKSHEET PV MODULES

435-460W

MAXIMUM EFFICIENCY %

20.68

POSITIVE POWER TOLERANCE WP

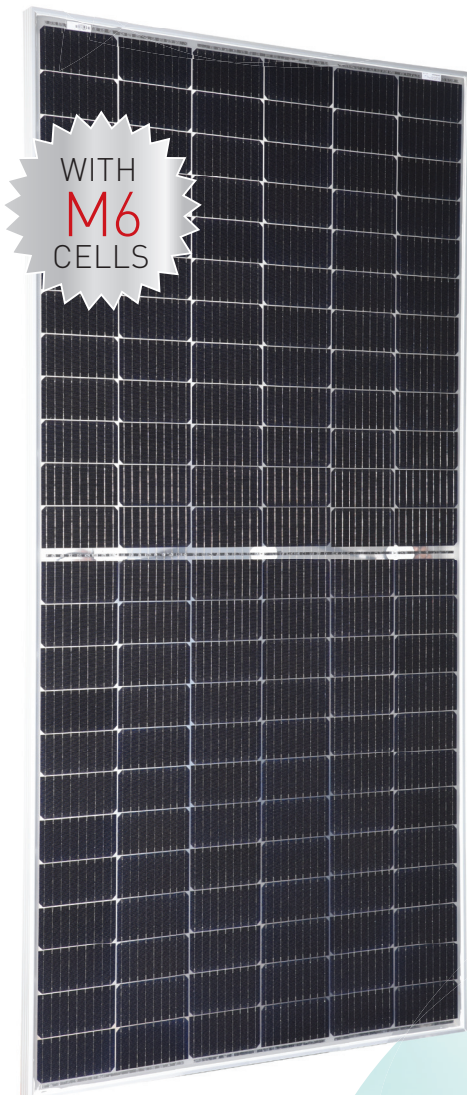
0~+4.99

CELLS

M6 144

MODULE TECHNOLOGY

HALF CUT DESIGN
WITH IMPROVED SHADE TOLERANCE



CYLINDRICAL TABBING WIRE is used to reduce the shadow on cell active area



Implementation of bypass diodes in split JB series-parallel connections enable the module to perform in **PARTIAL SHADOW CONDITIONS** with respect to full-cell module



HIGHER NUMBER OF BUSBAR makes the PV modules less prone to loss in efficiency and increase tolerance to micro cracks



FIELD RELIABILITY is improved due to multiple contact points on the cell which lowers the cell stress during module fabrication



LCOE IS CUT BACK by using M6 size solar cell with adding more power output than lower size cell module



UP TO 15% POWER GAIN from ground facing side depending upon the albedo of the ground surface



LOWER INTERNAL RESISTANCE boosts module power helping to achieve minimal power loss with respect to previous variant modules



Enlisted as a **TOP PERFORMER IN PVEL'S 2021** module reliability scorecard in terms of Potential Induced Degradation reliability test



FRAME SUPERSTRATE SUBSTRATE

SILVER

GLASS

BACKSHEET
TRANSPARENT

APPLICATIONS

- ♦ On-grid large scale utility systems
- ♦ On-grid rooftop industrial and commercial systems
- ♦ Rooftop residential systems

THIS DATASHEET IS APPLICABLE FOR: PREXOS VSMDHT.72.AAA.05 (AAA=435-460)

Electrical Data^{1,2} All data refers to STC (AM 1.5, 1000 W/m², 25°C)

| | | | | | | |
|---|-------|-------|-------|-------|-------|-------|
| Peak Power P _{max} (Wp) | 435 | 440 | 445 | 450 | 455 | 460 |
| Maximum Voltage V _{mpp} (V) | 41.4 | 41.5 | 41.5 | 41.6 | 41.6 | 41.7 |
| Maximum Current I _{mpp} (A) | 10.51 | 10.62 | 10.72 | 10.82 | 10.93 | 11.03 |
| Open Circuit Voltage V _{oc} (V) | 48.7 | 48.8 | 48.9 | 49 | 49.1 | 49.2 |
| Short Circuit Current I _{sc} (A) | 11.45 | 11.56 | 11.67 | 11.77 | 11.88 | 11.99 |
| Module Efficiency η(%) | 19.56 | 19.79 | 20.01 | 20.23 | 20.46 | 20.68 |

1) STC: 1000 W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3. | 2) Power measurement uncertainty is within +/- 2%.

Electrical Parameters at NOCT³

| | | | | | | |
|------------------------|------|------|------|------|------|------|
| Power (W) | 325 | 328 | 332 | 336 | 339 | 343 |
| V@P _{max} (V) | 38.1 | 38.2 | 38.2 | 38.3 | 38.3 | 38.4 |
| I@P _{max} (A) | 8.51 | 8.60 | 8.68 | 8.76 | 8.85 | 8.93 |
| V _{oc} (V) | 45.8 | 45.9 | 46.1 | 46.1 | 46.2 | 46.2 |
| I _{sc} (A) | 9.16 | 9.25 | 9.33 | 9.42 | 9.50 | 9.59 |

3) NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec

Equivalent Bifacial Output

| | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|
| Bifacial Gain | | | | | | |
| 5% | 457 | 462 | 467 | 473 | 478 | 483 |
| 10% | 479 | 484 | 490 | 495 | 501 | 506 |
| 15% | 500 | 506 | 512 | 518 | 523 | 529 |

Temperature Coefficients (Tc) permissible operating conditions

| | |
|---------------------------------|-----------------|
| Tc of Open Circuit Voltage (β) | -0.27%/°C |
| Tc of Short Circuit Current (α) | 0.050%/°C |
| Tc of Power (γ) | -0.35%/°C |
| Maximum System Voltage | 1500V |
| NOCT | 45°C ± 2°C |
| Temperature Range | -40°C to + 85°C |

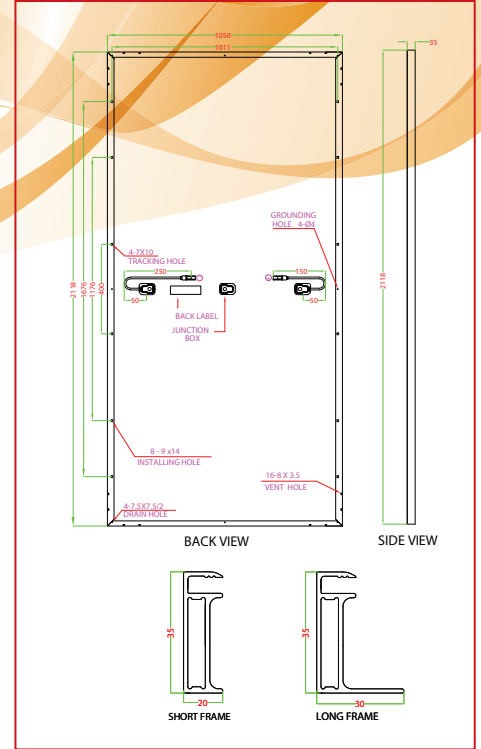
Mechanical Data

| | |
|---------------------------------|--|
| Length × Width × Height | 2118 × 1050 × 35mm (83.38 × 41.33 × 1.38 inches) |
| Weight | 23.5 Kg (51.81 lbs) |
| Junction Box | IP68, Split Junction Box with individual bypass diodes |
| Cable & Connectors [#] | 200 mm (+ve terminal) and 300 mm (-ve terminal) length cables, MC4 Compatible/MC4 Connectors |
| Application Class | Class A (Safety class II) |
| Superstrate ^{##} | 3.2 mm (0.125 inches) high transmission low iron tempered glass, AR coated |
| Cells | 72 Mono PERC (144 half-cells) |
| Back Sheet | High Transmittance Composite film with Clear Tedlar® from Dupont® |
| Frame | Anodized aluminium frame with twin wall profile |
| Mechanical Load Test | 5400 Pa (Snow load), 2400 Pa (Wind load) |
| Maximum Series Fuse Rating | 20 A |

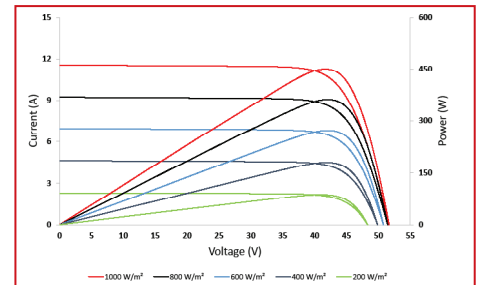
Warranty and Certifications

| | |
|------------------------------------|--|
| Product Warranty ^{**} | 12 years |
| Performance Warranty ^{**} | Linear Power Warranty for 27 years with 2% for 1st year degradation and 0.55% from year 2 to year 27 |
| Approvals and Certificates | IEC 61215 : 2016, IEC 61730 : 2016, IEC 61701, IEC 62716, IEC 60068-2-68 [*] , IEC 62804, CEC (California), UL 61215, UL 61730, CAN-CSA, CE |

Dimensions in mm

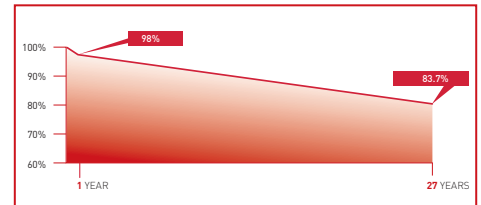


Typical I-V Curves⁴



4) Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.

Performance Warranty



Packaging Information

| | |
|-----------------------------|-----|
| Quantity /Pallet | 31 |
| Pallets/Container (40' HC) | 22 |
| Quantity/Container (40' HC) | 682 |

^{*} All (*) certifications under progress.
^{**} Refer to Vikram Solar's warranty document for terms and conditions.
[#] 400mm (15.75 inches), 1000mm (39.37 inches), 1200mm (47.24 inches) cable lengths are also available | ^{##} Anti-glare Glass is also available

Specifications included in this datasheet are subject to change without notice. Electrical data without guarantee. Please confirm your exact requirement with the company representative while placing your order.

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