

635-660W

MAXIMUM EFFICIENCY %

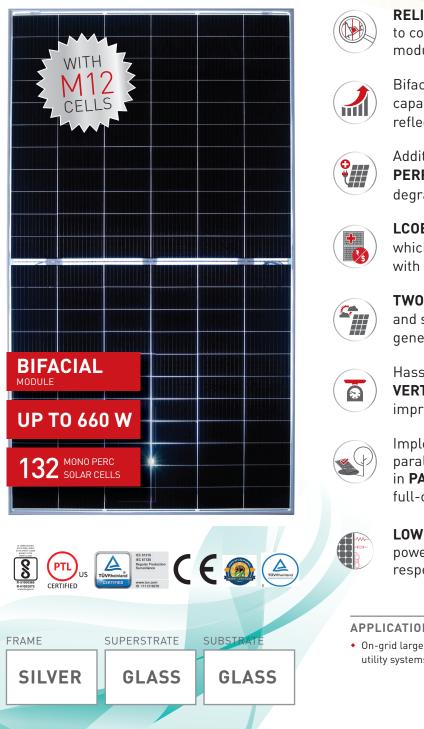
POSITIVE POWER TOLERANCE WP

21.18

0~+4.99

CELLS M12 132

MODULE TECHNOLOGY HALF CUT & MICRO GAP DESIGN WITH IMPROVED SHADE TOLERANCE



RELIABILITY IS IMPROVED with minimum exposure to corrosion from sand & salt mist with low risk of module warping & micro cracking

Bifacial gain of **UP TO 25%** with dual glass module, capable of energy generation with both direct and reflected sunlight

Additional Power yield with 30 YEARS OF PERFORMANCE LIFE with 0.5% annual power degradation

LCOE IS CUT BACK with LESS BOS COST which improves value proposition of the product with competitive ROI

TWO PEAK PERFORMANCE TIME, during sun rise and sun set with optimum utilization of dual facial generation

Hassle-free installation with ability to **INSTALL** VERTICALLY IN EAST WEST DIRECTION, with improved soiling resistant

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

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

APPLICATIONS

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

Monocrystalline Solar PV Modules, Bifacial, MBB, M12 Half-Cell, PARADEA VSMDH.66.AAA.05





TECHNICAL DATA PARADEA 635-660W

THIS DATASHEET IS APPLICABLE FOR: PARADEA VSMDH.66.AAA.05 (AAA= 635-660)

Electrical Data ^{1,2} All data refers to STC (AM 1.5, 1000 W/m ² , 25°C)						
Peak Power P _{max} (Wp)	635	640	645	650	655	660
Maximum Voltage V _{mpp} (V)	37.3	37.4	37.5	37.6	37.7	37.8
Maximum Current I _{mpp} (A)	17.03	17.12	17.20	17.29	17.38	17.47
Open Circuit Voltage V _{oc} (V)	45.8	45.9	46	46.1	46.2	46.3
Short Circuit Current I _{sc} (A)	17.76	17.85	17.93	18.02	18.1	18.17
Module Efficiency ŋ(%)	20.38	20.54	20.70	20.86	21.02	21.18

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)	474	478.3	481.9	485.6	489	493.5
V@P _{max} (V)	35.1	35.2	35.3	35.4	35.5	35.6
I@P _{max} (A)	13.53	13.59	13.66	13.72	13.78	13.85
V _{oc} (V)	42.70	42.80	42.90	43.00	43.10	43.10
I _{sc} (A)	14.35	14.42	14.49	14.60	14.68	14.68

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

Equivalent Bifacial Output

Bifacial Gain	Overall Power output (W)					
5%	667	672	677	683	688	693
10%	699	704	710	715	721	726
15%	730	736	742	748	753	759
20%	762	768	774	780	786	792
25%	794	800	806	813	819	825

-0.27%/°C

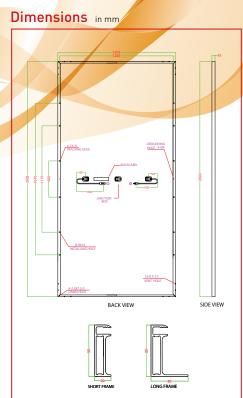
0.050%/°C

-0.35%/°C

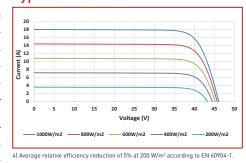
45°C ± 2°C -40°C to + 85°C

1500V

Temperature Coefficients (Tc) permissible operating conditions



Typical I-V Curves⁴



Performance Warranty

Packaging Information

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

Pallets/Container (40'HC)

Quantity/Container (40'HC)

Quantity /Pallet

Mechanical Data

Temperature Range

Tc of Open Circuit Voltage (β)

Tc of Short Circuit Current (α)

Maximum System Voltage

Tc of Power (y)

NOCT

Length × Width × Height	2391 X 1303 X 35 mm (94.13 x 51.30 x 1.38 inches)			
Weight	39.3 Kg (86.64 lbs)			
Junction Box	IP 68, Split Junction Box with individual bypass diodes			
Cable & Connectors#	200 mm (+ve terminal) and 300 mm(-ve terminal) length cables,MC4 Compati- ble/MC4 Connectors			
Application Class	Class A (Safety class II)			
Superstrate ^{##}	2.0 mm (0.098 inches) high transmission low iron content, tempered glass, AR coated			
Cells	66 Mono PERC (132 half-cells) P-Type Bifacial solar cells			
Substrate	2.0 mm (0.098 inches) high transmission low iron content, heat strengthened glass			
Frame	Anodized aluminium frame with twin wall profile			
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)			
Cell Encapsulant	Polyolefin (POE)			
Maximum Series Fuse Rating	30 A			

Warranty and Certifications

Product Warranty**	12 years
Performance	Linear Power Warranty for 30 years with 2% for 1st year degradation and 0.5% from year 2 to year 30
Approvals and Certificates^	IEC 61215 : 2016, IE <mark>C 61730 : 2016, IEC 617</mark> 01, IEC 62716, IEC 60068-2-68, IS/IEC 61730-1, IS/IEC 61730-2, IS 14286, IEC 62804, CE, CEC (California), UL 61215, UL 61730, CAN-CSA

CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT. re 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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VSL/ENG/SC/231/R04

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