

# somera

HIGH EFFICIENCY MONOFACIAL PV MODULES

## 635-670W

MAXIMUM EFFICIENCY %

21.57

POSITIVE POWER TOLERANCE WP

0~+4.99

CELLS

G12 132

MODULE TECHNOLOGY

**HALF CUT & MICRO  
GAP DESIGN**

WITH IMPROVED SHADE TOLERANCE



**CYLINDRICAL TABBING WIRE** increases cell absorption by enhancing scattering effects



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 M12 size solar cell with adding more power output than lower size cell module



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



FRAME

SILVER

SUPERSTRATE

GLASS

SUBSTRATE

BACKSHEET  
WHITE

### APPLICATIONS

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

  
**vikramsolar**  
CREATING CLIMATE FOR CHANGE

THIS DATASHEET IS APPLICABLE FOR: SOMERA VSMH.66.AAA.05 (AAA=635-670)

### Electrical Data<sup>1,2</sup> All data refers to STC (AM 1.5, 1000 W/m<sup>2</sup>, 25°C)

Peak Power P <sub>max</sub> (Wp)	635	640	645	650	655	660	665	670
Maximum Voltage V <sub>mpp</sub> (V)	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9
Maximum Current I <sub>mp</sub> (A)	15.8	15.89	15.97	16.05	16.14	16.22	16.3	16.39
Open Circuit Voltage V <sub>oc</sub> (V)	47.3	47.3	47.4	47.5	47.6	47.7	47.8	48
Short Circuit Current I <sub>sc</sub> (A)	16.99	17.07	17.15	17.23	17.31	17.4	17.48	17.55
Module Efficiency (%)	20.44	20.60	20.76	20.92	21.09	21.25	21.41	21.57

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

### Electrical Parameters at NOCT<sup>3</sup>

Power (W)	475.2	479.2	482.7	486.3	490.2	494.1	497.2	501.2
V@P <sub>max</sub> (V)	36.6	36.7	36.8	36.9	37	37.1	37.1	37.3
I@P <sub>max</sub> (A)	13	13.07	13.13	13.19	13.26	13.33	13.39	13.45
V <sub>oc</sub> (V)	44	44	44.1	44.2	44.3	44.4	44.5	44.6
I <sub>sc</sub> (A)	13.74	13.8	13.87	13.93	13.99	14.07	14.13	14.19

3) NOCT irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C, wind speed 1 m/sec

### 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

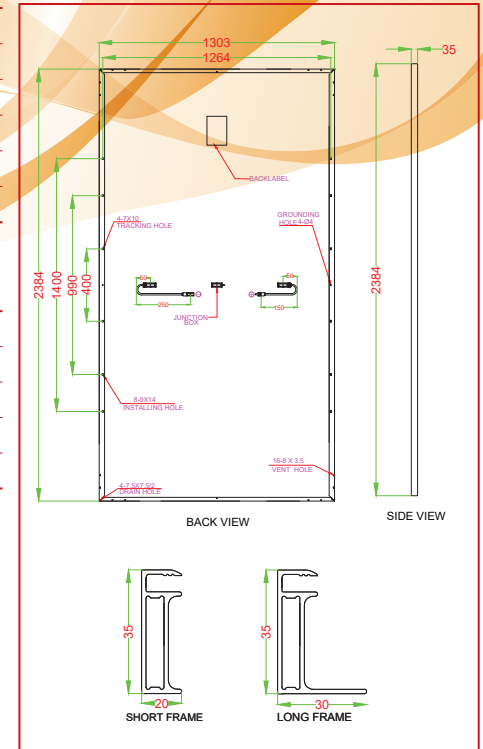
### Mechanical Data

Length × Width × Height	2384 × 1303 × 35mm (93.86 × 51.30 × 1.38 inches)
Weight	33.6 Kg (74.08 lbs)
Junction Box	IP68, Split Junction Box with individual bypass diodes
Cable & Connectors <sup>#</sup>	200 mm (+ve terminal) and 300 mm (-ve terminal) length cables, MC4 Compatible/MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate <sup>##</sup>	3.2 mm (0.125 inches) high transmission low iron tempered glass, AR coated
Cells	66 Mono PERC (132 half-cells) P-Type solar cells
Back Sheet	Composite film
Frame	Anodized aluminium frame with twin wall profile
Encapsulant	EVA (Ethylene-vinyl acetate)
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Maximum Series Fuse Rating	30A

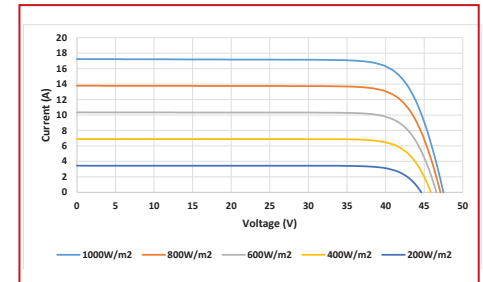
### Warranty and Certifications

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

### Dimensions in mm

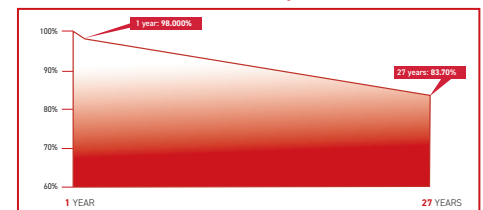


### Typical I-V Curves<sup>4</sup>



4) Average relative efficiency reduction of 5% at 200 W/m<sup>2</sup> according to EN 60904-1.

### Performance Warranty



### Packaging Information

Quantity /Pallet	31
Pallets/Container (40'HC)	17
Quantity/Container (40'HC)	527

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

**CAUTION:** READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.

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