somera

HIGH EFFICIENCY MONOFACIAL PV MODULES

580-610W

MAXIMUM EFFICIENCY %	POSITIVE POWER TOLERANCE WP	CELLS	MODULE TECHNOLOGY
21.55	0~+4.99	G12 120	**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	SUPERSTRATE	SUBSTRATE
SILVER	GLASS	BACKSHEET WHITE

APPLICATIONS

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

Monocrystalline Solar PV Modules, Monofacial, MBB, G12 Half-Cell, SOMERA VSMH.60.AAA.05

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CREATING CLIMATE FOR CHANGE

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TECHNICAL DATA

SOMERA 580-610W

THIS DATASHEET IS APPLICABLE FOR: SOMERA VSMH.60.AAA.05 (AAA=580-610)

Electrical Data[1,2]

All data refers to STC (AM 1.5, 1000 W/m², 25°C)

Peak Power P_{max} (Wp)	580	585	590	595	600	605	610
Maximum Voltage V_{mpp} (V)	36.7	36.8	36.9	37	37.1	37.2	37.3
Maximum Current I_{mpp} (A)	15.81	15.9	15.99	16.09	16.18	16.27	16.36
Open Circuit Voltage V_{oc} (V)	43.1	43.2	43.3	43.4	43.5	43.6	43.7
Short Circuit Current I_{sc} (A)	16.99	17.07	17.16	17.25	17.34	17.4	17.47
Module Efficiency (%)	20.49	20.67	20.85	21.02	21.20	21.38	21.55

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 NOCT[3]

Power (W)	434.7	438.1	441.7	445.4	449	452.3	456
V@P_{max} (V)	33.4	33.5	33.6	33.7	33.8	33.9	34
I@P_{max} (A)	13.02	13.09	13.16	13.23	13.3	13.34	13.42
V_{oc} (V)	40.1	40.2	40.3	40.4	40.5	40.5	40.6
I_{sc} (A)	13.74	13.81	13.88	13.95	14.02	14.07	14.12

3) NOCT irradiance 800 W/m², 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

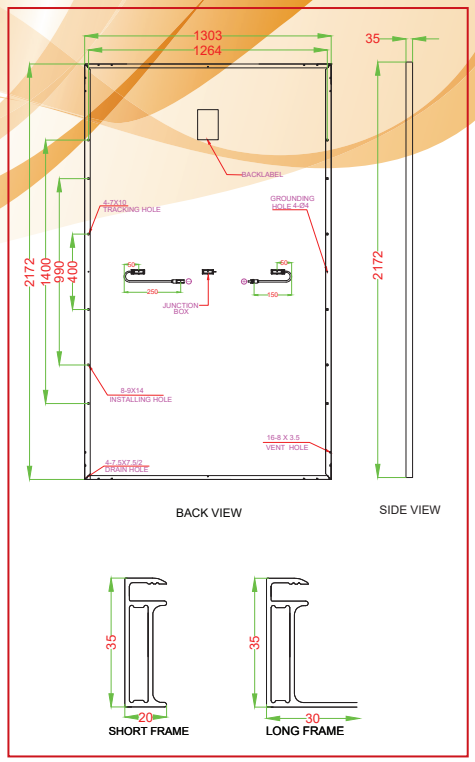
Mechanical Data

Length × Width × Height	2172 × 1303 × 35mm (85.51 × 51.30 × 1.38 inches)
Weight	30.8Kg (67.90 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	60 Mono PERC (120 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

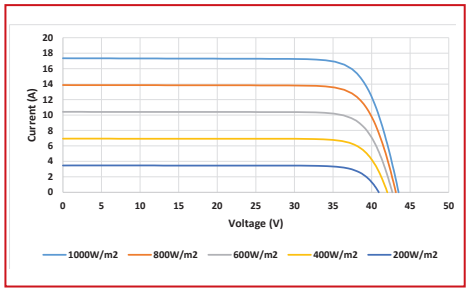
Warranty and Certifications

Product Warranty**	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, CE, CEC (California), UL 61215, UL 61730, CAN-CSA

Dimensions in mm

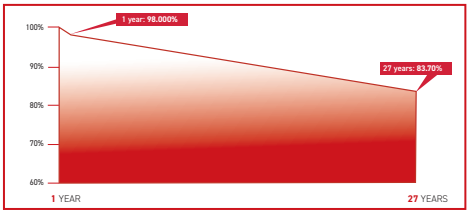


Typical I-V Curves[4]



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)	17
Quantity/Container (40'HC)	527

^ 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

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

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