

somera

SERIES 10

Monocrystalline Solar PV Modules, Monofacial, MBB, M10 Half-Cell, SOMERA VSMH.72.AAA.05

PRELIMINARY
DATASHEET

POWER OUTPUT WATT

525-550

MAXIMUM EFFICIENCY %

21.11

POSITIVE POWER TOLERANCE WP

0~+4.99

CELLS (HALF CUT)

M10 144



MONOFACIAL
MODULE

UP TO 550 W

144 MONO PERC
SOLAR CELLS



EFFECTIVE GAIN OF 1% OF CELL ACTIVE AREA by using cylindrical tabbing wire



Bypass diodes and innovative series-parallel connections enable the module to perform better in **PARTIAL SHADOW CONDITIONS**



BETTER TOLERANCE TO MICRO CRACK

Higher number of busbar makes the PV modules less prone to loss in efficiency due to micro-cracks.



IMPROVED FIELD RELIABILITY due to multiple contact points on the cell.



SUPERIOR PRICE PERFORMANCE

half-cut improves the output of the module without adding much to cost



THIS DATASHEET IS APPLICABLE FOR: SOMERA VSMH.72.AAA.05 (AAA=525-550)

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

Peak Power P _{max} (Wp)	525	530	535	540	545	550
Maximum Voltage V _{mpp} (V)	41.4	41.5	41.6	41.7	41.8	41.9
Maximum Current I _{mp} (A)	12.69	12.78	12.87	12.95	13.04	13.13
Open Circuit Voltage V _{oc} (V)	49.2	49.3	49.4	49.5	49.6	49.7
Short Circuit Current I _{sc} (A)	13.4	13.48	13.56	13.64	13.73	13.82
Module Efficiency η[%]	20.15	20.35	20.54	20.73	20.92	21.11

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

Electrical Parameters at NOCT³

Power (W)	387	393	397	399	402	407
V@P _{max} (V)	38.2	38.3	38.4	38.5	38.6	38.7
I@P _{max} (A)	10.14	10.29	10.34	10.37	10.43	10.52
V _{oc} (V)	45.7	45.9	46	46.1	46.2	46.3
I _{sc} (A)	10.83	10.89	10.96	11.03	11.09	11.15

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)	0.065%/°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

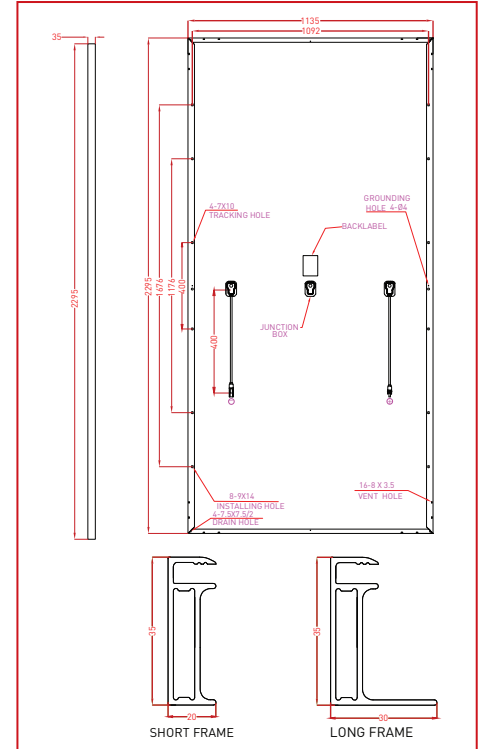
Length × Width × Height	2295 × 1135 × 35mm (90.23 × 44.68 × 1.37 inches)
Weight	28.5 Kg (62.8 lbs)
Junction Box	IP68, Split Junction Box with individual bypass diodes
Cable & Connectors [#]	400 mm length cables, MC4 Compatible/MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate	3.2 mm (0.125 inches) high transmission low iron tempered glass, AR coated
Cells	72 Mono PERC (144 half-cells) P-Type solar cells
Back Sheet	Composite film
Frame	Anodized aluminium frame with twin wall profile
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Maximum Series Fuse Rating	25A

Warranty and Certifications

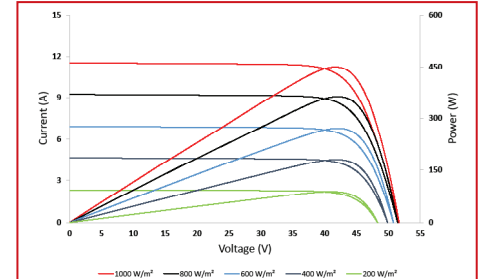
Product Warranty**	12 years
Performance Warranty**	Linear Power Warranty for 27 years with 2% for 1st year degradation and 0.65% from year 2 to year 27
Approvals and Certificates [^]	IEC 61215 : 2016, IEC 61730 : 2016, IEC 62716, IEC 60068-2-68, IEC 62804, CE, CEC (California), UL 61215, UL 61730

[^] All (*) certifications under progress. | ** Refer to Vikram Solar's warranty document for terms and conditions. | [#] 1200mm (47.24 inches) cable length is also available

Dimensions in mm

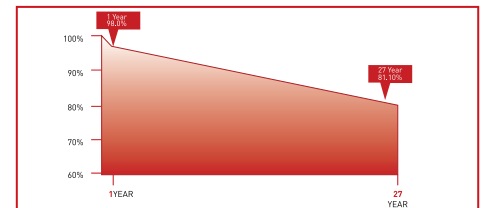


Typical I-V Curves⁴



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

Performance Warranty



Packaging Information

Quantity /Pallet	30
Pallets/Container (40'HC)	20
Quantity/Container (40'HC)	600

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