

645-670W

SUBSTRATE
GLASS ●
MESH GLASS ●

FRAME TYPE
ALUMINIUM ●

FRAME VARIANT
SILVER ●
BLACK ●

MAXIMUM EFFICIENCY %

24.8

CELL TYPE

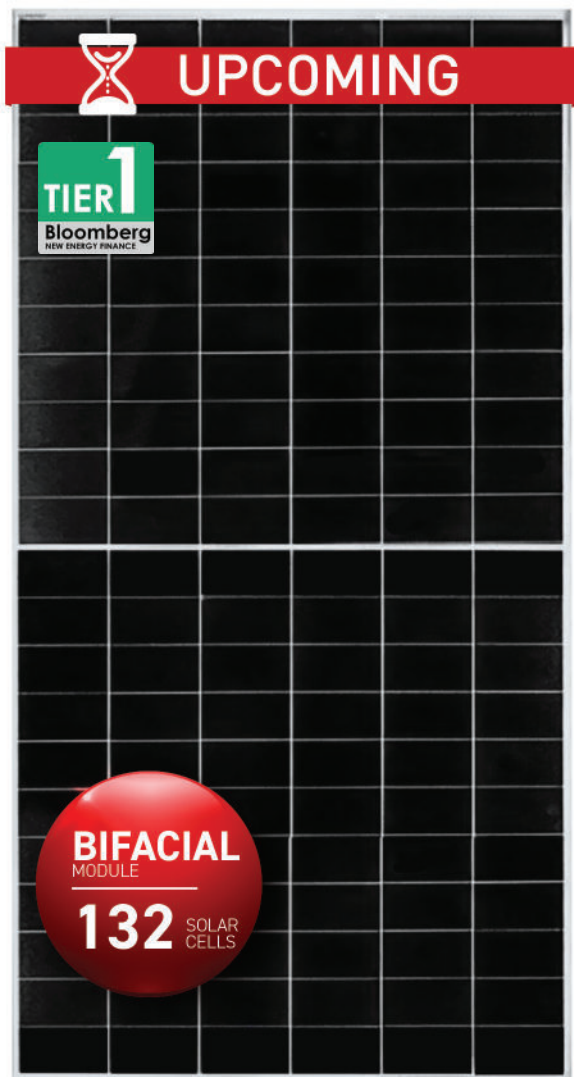
G12R^{HALF} CUT

PRODUCT WARRANTY

12 YEARS

PERFORMANCE WARRANTY

30 YEARS



MAXIMUM LIGHT ABSORPTION

- Grid-free front surface enables higher sunlight capture with minimal optical shading
- Increased short-circuit current density (J_{sc}) boosts overall power output



IMPROVED LONGEVITY

- Full-backside soldering minimizes mechanical stress and reduces microcrack risks
- Enhanced durability and long-term stability for extended module life



0% NEGATIVE POWER TOLERANCE

- Positive power tolerance of upto 0 ~ 4.99Wp
- Module current binning radically reduces string mismatch losses



PREMIUM PERFORMANCE PARAMETERS

- Maintains superior efficiency with minimal power loss under high-temperature conditions
- Lower temperature coefficient minimizing generation losses at high temperatures



SUPERIOR AESTHETICS

- Uniform appearance with no visible busbars or gridlines
- Suitable for diverse applications — from residential rooftops to large-scale utility projects

PRODUCT CERTIFICATES*



SYSTEM CERTIFICATES*

IEC 61215 : 2021, IEC 61730, UL 61730, IS 14286, IS/IEC 61730, IEC 61701, IEC 62716, IEC 60068-2-68, CAN-CSA

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION:

- ISO 9001:2015/ Quality Management System
- ISO 14001:2015/ Environmental Management System
- ISO 45001:2018/ Occupational Health and Safety Management System
- SA 8000 :2014/ Social Accountability International

THIS DATASHEET IS APPLICABLE FOR: ENERSURGE.66.AAA.05 (AAA=645-670)

ELECTRICAL PARAMETERS | STC^{1,2}

Peak Power P_{max} (Wp)	645	650	655	660	665	670
Maximum Voltage V_{mpp} (V)	41.75	41.85	41.95	42.06	42.17	42.27
Maximum Current I_{mpp} (A)	15.46	15.54	15.62	15.69	15.77	15.85
Open Circuit Voltage V_{oc} (V)	49.6	49.7	49.8	49.9	50.0	50.1
Short Circuit Current I_{sc} (A)	16.43	16.51	16.59	16.67	16.75	16.83
Module Efficiency (%)	23.88	24.06	24.25	24.43	24.62	24.80

1) STC: 1000 W/M² IRRADIANCE, 25°C CELL TEMPERATURE, AM1.5G SPECTRUM ACCORDING TO EN 60904-3 | 2) TOLERANCE OF RATING AT STC (P_{max} / I_{sc} / V_{oc}) [%]: 0-3/±5/±5
ELECTRICAL MEASUREMENT UNCERTAINTY IS WITHIN ± 2%

ELECTRICAL PARAMETERS | NOCT³

Peak Power P_{max} (Wp)	474.4	478.2	482.2	486.1	490.0	493.9
Maximum Voltage V_{mpp} (V)	38.6	38.8	38.9	39.1	39.2	39.4
Maximum Current I_{mpp} (A)	12.28	12.32	12.37	12.41	12.45	12.50
Open Circuit Voltage V_{oc} (V)	46.6	46.8	47.0	47.2	47.4	47.6
Short Circuit Current I_{sc} (A)	13.27	13.34	13.4	13.43	13.50	13.56

3) NOCT (IRRADIANCE 800 W/M², AMBIENT TEMPERATURE 20°C, WIND SPEED 1 M/SEC)

ELECTRICAL PARAMETERS | BNPI^{4,5}

Peak Power P_{max} (Wp)	706.0	711.4	716.9	722.4	727.8	733.3
Maximum Voltage V_{mpp} (V)	41.75	41.85	41.95	42.06	42.17	42.27
Maximum Current I_{mpp} (A)	16.92	17.01	17.09	17.18	17.26	17.35
Open Circuit Voltage V_{oc} (V)	49.6	49.7	49.8	49.9	50.0	50.1
Short Circuit Current I_{sc} (A)	17.98	18.07	18.16	18.25	18.33	18.42

4) BNPI: 1000W/M²±q.135, BIFACILITY COEFF. (q) AT BNPI P_{max} , I_{sc} IS 70±5% & FOR V_{oc} IS 99±10%, AM 1.5, 25°C | 5) TOLERANCE OF RATING AT BNPI (P_{max} / I_{sc} / V_{oc}) [%]: 0-3/±5/±5

TEMPERATURE COEFFICIENTS (Tc) PERMISSIBLE OPERATING CONDITIONS

Tc of Open Circuit Voltage (β)	-0.22%/°C
Tc of Short Circuit Current (α)	0.05%/°C
Tc of Power (γ)	-0.26%/°C
Maximum System Voltage	1500V
NOCT	45°C ± 2°C
Temperature Range	-40°C to + 85°C

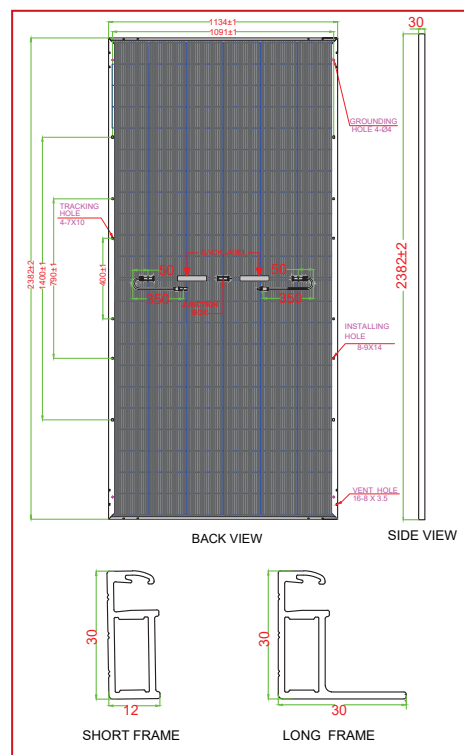
MECHANICAL DATA

Length × Width × Height	2382 X 1134 X 30 mm (93.78 x 44.65 x 1.18 inches)
Weight	33.4± 5% Kg (73.63 lbs)
Junction Box	IP 68, Split Junction Box with individual bypass diodes
Cable & Connectors*	400 mm (+ve terminal) and 400 mm (-ve terminal) length cables, MC4 Compatible/Staubli EVO connectors
Application Class	Class A (Safety class II)
Superstrate**	2.0 mm (0.08 inches) high transmission ARC Semi-tempered glass (low iron content)
Cells	66 (132 half-cells) N- TYPE Back Contact bifacial solar cells
Substrate	2.0 mm (0.08 inches) high transmission heat strengthened glass/mesh glass (low iron content)
Frame	Anodized aluminium
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Cell Encapsulant	EPE/EPE
Maximum Series Fuse Rating	35 A
Hail Test	Ø ≥35mm

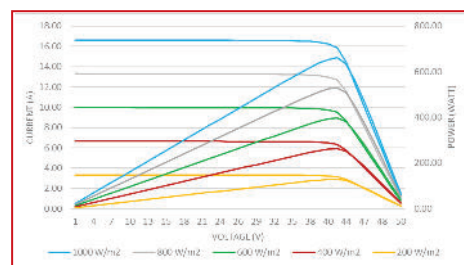
WARRANTY

Product Warranty**	12 years
Performance Warranty**	Linear Power Warranty for 30 years with 1% for 1 st year degradation and 0.35% from year 2 to year 30

DIMENSIONS IN MM

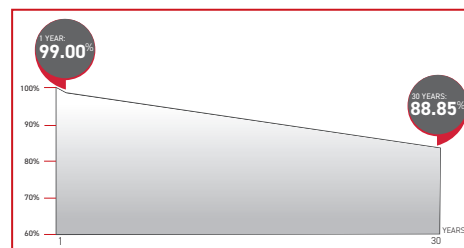


TYPICAL I-V CURVES⁶



6) AVERAGE RELATIVE EFFICIENCY REDUCTION OF 5% AT 200 W/M² ACCORDING TO EN 60904-1

PERFORMANCE WARRANTY



PACKAGING INFORMATION

Quantity /Pallet	37
Pallets/Container (40'HC)	20
Quantity/Container (40'HC)	740

All () certifications under progress. | **Refer to Vikram Solar's warranty document for terms and conditions. | *1200mm (47.24 inches), 1400mm (55.12 inches), 1600mm (62.99 inches) cable lengths are also available | **Anti-glare Glass is also available | *As per applicable product | STC: Standard Testing Condition | BNPI: Bifacial Nameplate Irradiance | NOCT: Nominal Operating Cell Temperature

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

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