

395-420W

SUBSTRATE
GLASS ●
MESH GLASS ●

FRAME TYPE
ALUMINIUM ●

FRAME VARIANT
SILVER ●
BLACK ●

MAXIMUM EFFICIENCY %

21.51

CELL TYPE

M10 HALF CUT

PRODUCT WARRANTY

12 YEARS

PERFORMANCE WARRANTY

30 YEARS



PVEL TOP PERFORMER MODEL

- Benchmarked for highest standards of long-term module reliability and performance



OPTIMIZED FRAME DESIGN

- Anodized aluminium frame with twin wall structure for higher strength
- Packaging capacity improved with more modules per container



RELIABILITY IS IMPROVED

- Higher corrosion resistance to severe conditions of sand dust, concentrated ammonia and salt mist
- Low risk of module warping & micro cracking



HIGHLY AUTOMATED PRODUCTION LINE

- Multi stage EL and digitalised visual inspection results in lower defect rates
- Implemented engineering excellence ensures top notch quality



SUPERIOR HAIL TEST PERFORMANCE

- ø 45mm hail test passed from third party laboratory with impact velocity up to 27m/s

PRODUCT CERTIFICATES



SYSTEM CERTIFICATES

IEC 61701, IEC 62716, IEC 60068-2-68, IS/IEC 61730, 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



DCR CONTENT MODULE AVAILABLE

THIS DATASHEET IS APPLICABLE FOR: PARADEA VSMDH.54.AAA.05 (AAA=395-420)

ELECTRICAL PARAMETERS | STC^{1,2}

Peak Power P_{max} (Wp)	395	400	405	410	415	420
Maximum Voltage V_{mpp} (V)	31.4	31.6	31.8	32	32.2	32.4
Maximum Current I_{mpp} (A)	12.58	12.66	12.74	12.82	12.9	12.98
Open Circuit Voltage V_{oc} (V)	37.4	37.5	37.6	37.7	37.8	37.9
Short Circuit Current I_{sc} (A)	13.2	13.3	13.4	13.5	13.6	13.7
Module Efficiency (%)	20.23	20.48	20.74	21	21.25	21.51

¹STC: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 PARAMETERS | NOCT³

Peak Power P_{max} (Wp)	294.5	298.1	301.7	305.3	308.9	312.5
Maximum Voltage V_{mpp} (V)	29.1	29.2	29.3	29.4	29.5	29.6
Maximum Current I_{mpp} (A)	10.11	10.2	10.29	10.38	10.47	10.56
Open Circuit Voltage V_{oc} (V)	34.8	34.9	35	35.1	35.2	35.3
Short Circuit Current I_{sc} (A)	10.67	10.75	10.83	10.91	10.99	11.07

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

ELECTRICAL PARAMETERS | BNPI^{4,5}

Peak Power P_{max} (Wp)	432.3	437.8	443.3	448.8	454.2	459.7
Maximum Voltage V_{mpp} (V)	31.4	31.6	31.8	32	32.2	32.4
Maximum Current I_{mpp} (A)	13.77	13.86	13.94	14.03	14.12	14.21
Open Circuit Voltage V_{oc} (V)	37.4	37.5	37.6	37.7	37.8	37.9
Short Circuit Current I_{sc} (A)	14.45	14.56	14.67	14.78	14.89	14.99

⁴ BNPI: 1000W/M²±φ.135, BIFACILITY COEFF. (β) AT BNPI P_{max} , I_{sc} IS 70±10% & 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)

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

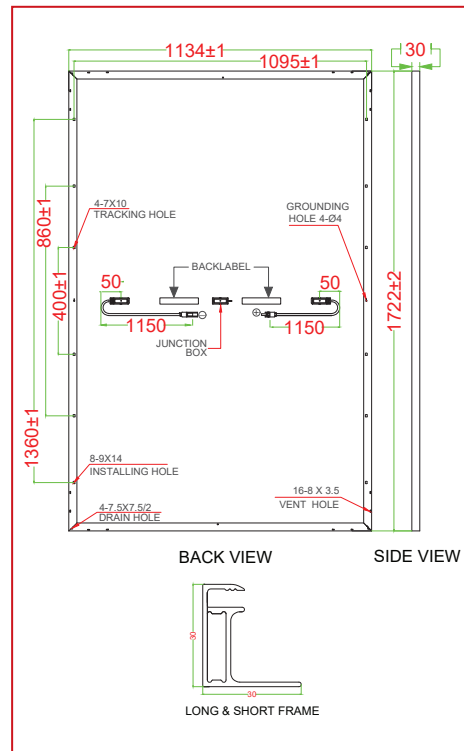
MECHANICAL DATA

Length × Width × Height	1722 × 1134 × 30mm (67.80 × 44.65 × 1.18inches)
Weight	25.10 Kg (55.33 lbs)
Junction Box	IP68, Split Junction Box with individual bypass diodes
Cable & Connectors [#]	1200 mm (+ve terminal) and 1200 mm (-ve terminal) length cables, Staubli EVO connectors
Application Class	Class A (Safety class II)
Superstrate ^{**}	2.0 mm (0.098 inches) High transmission ARC Semi-tempered glass (low iron content)
Cells	54 Mono PERC (108 half-cells) P-Type solar cells
Substrate	2.0 mm (0.098 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	EVA/EPE
Maximum Series Fuse Rating	25 A
Hail Test	Ø 45mm Impact Velocity up to 27m/s

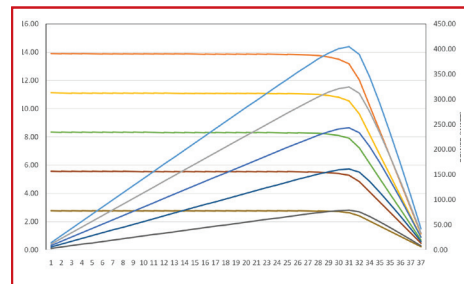
WARRANTY

Product Warranty ^{**}	12 years
Performance Warranty ^{**}	Linear Power Warranty for 30 years with 2% for 1st year degradation and 0.5% from year 2 to year 30

DIMENSIONS IN MM

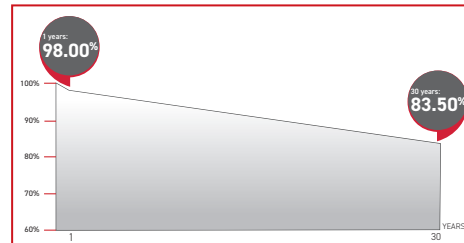


TYPICAL I-V CURVES⁷



⁷ AVERAGE RELATIVE EFFICIENCY REDUCTION OF 5% AT 200 W/M² ACCORDING TO EN 60904-1

PERFORMANCE WARRANTY



PACKAGING INFORMATION

Quantity /Pallet	36
Pallets/Container (40'HC)	26
Quantity/Container (40'HC)	936

^{*}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 | ^{*}As per applicable product | ^{**}With additional Cost & Lead Time subject to availability | 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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