

## 540-565W

SUBSTRATE  
**GLASS** ●  
MESH GLASS ●

FRAME TYPE  
**ALUMINIUM** ●  
STEEL ●

FRAME VARIANT  
**SILVER** ●  
BLACK ●

MAXIMUM EFFICIENCY %

### 21.87

CELL TYPE

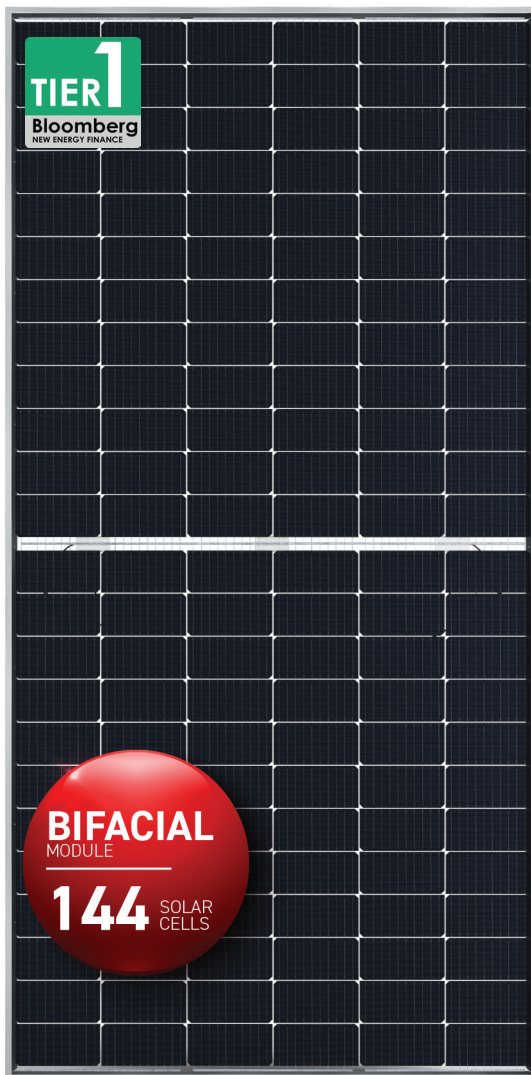
### M10 HALF CUT

PRODUCT WARRANTY

### 12 YEARS

PERFORMANCE WARRANTY

### 30 YEARS



#### PVEL TOP PERFORMER MODEL

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



#### RELIABILITY IS IMPROVED

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



#### SUPERIOR HAIL TEST PERFORMANCE

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



#### ENHANCED RELIABILITY WITH INTEGRATED BLOCKING DIODE

- Protects the solar module from reverse current, ensuring uninterrupted and safe operation
- Shields the system from electrical surges, reducing the risk of damage to components



#### OPTIMIZED PERFORMANCE

- Reduces the occurrence of local overheating and hotspots for consistent energy output
- Lowers maintenance requirements, extending the module's operational life

#### 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.72.AAA.05 (AAA=540-565)

### ELECTRICAL PARAMETERS | STC<sup>1,2</sup>

Peak Power $P_{max}$ (Wp)	540	545	550	555	560	565
Maximum Voltage $V_{mpp}$ (V)	41.7	41.8	41.9	42	42.1	42.2
Maximum Current $I_{mpp}$ (A)	12.96	13.05	13.14	13.23	13.32	13.41
Open Circuit Voltage $V_{oc}$ (V)	49.5	49.6	49.7	49.8	49.9	50
Short Circuit Current $I_{sc}$ (A)	13.64	13.73	13.82	13.91	14.0	14.08
Module Efficiency (%)	20.90	21.10	21.29	21.48	21.68	21.87

1) STC: 1000 W/M<sup>2</sup> 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 | NOCT<sup>3</sup>

Peak Power $P_{max}$ (Wp)	403	407	410	414	417	420
Maximum Voltage $V_{mpp}$ (V)	38.60	38.70	38.80	38.90	39.00	39.1
Maximum Current $I_{mpp}$ (A)	10.44	10.50	10.56	10.62	10.68	10.74
Open Circuit Voltage $V_{oc}$ (V)	46.10	46.20	46.30	46.40	46.50	46.6
Short Circuit Current $I_{sc}$ (A)	11.02	11.08	11.14	11.20	11.26	11.32

3) NOCT IRRADIANCE 800 W/M<sup>2</sup>, AMBIENT TEMPERATURE 20°C, WIND SPEED 1 M/SEC

### ELECTRICAL PARAMETERS | BNPI<sup>4,5</sup>

Peak Power $P_{max}$ (Wp)	591	597	602	607	613	618
Maximum Voltage $V_{mpp}$ (V)	41.7	41.8	41.9	42.0	42.1	42.2
Maximum Current $I_{mpp}$ (A)	14.18	14.28	14.38	14.48	14.58	14.68
Open Circuit Voltage $V_{oc}$ (V)	49.5	49.6	49.7	49.8	49.9	50.0
Short Circuit Current $I_{sc}$ (A)	14.93	15.03	15.13	15.22	15.31	15.41

4) BNPI: 1000W/M<sup>2</sup> ± 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) 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	2278 × 1134 × 30mm (89.68 × 44.65 × 1.18 inches)
Weight	32.5 ± 5% Kg (71.65 lbs)
Junction Box	IP68, Split Junction Box with three bypass diodes and one blocking diode <sup>1*</sup>
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>	2.0 mm (0.098 inches) High transmission ARC Semi-tempered glass (low iron content)
Cells	72 Mono PERC (144 half-cells) P-Type Bifacial solar cells
Substrate	2.0 mm (0.098 inches) High transmission Heat strengthened glass/ mesh glass <sup>##</sup> (low iron content)
Frame	Anodized aluminium/ Alloy steel frame <sup>##</sup>
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Cell Encapsulant	EVA/ EPE
Maximum Series Fuse Rating	25 A

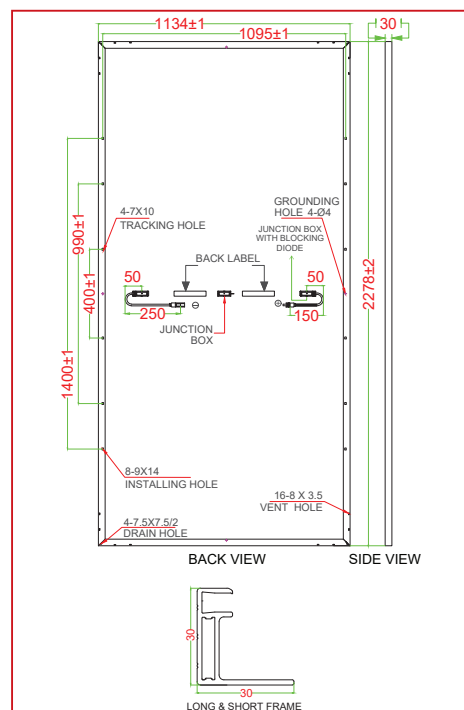
### WARRANTY

Product Warranty <sup>**</sup>	12 years
Performance Warranty <sup>**</sup>	Linear Power Warranty for 30 years with 2% for 1st year degradation and 0.5% from year 2 to year 30

### DIMENSIONS

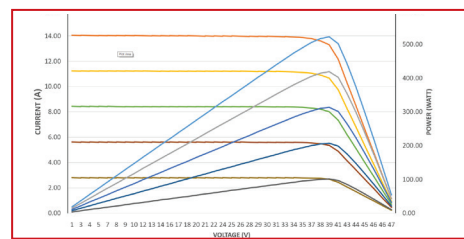
IN MM

FIG. 1



### TYPICAL I-V CURVES<sup>7</sup>

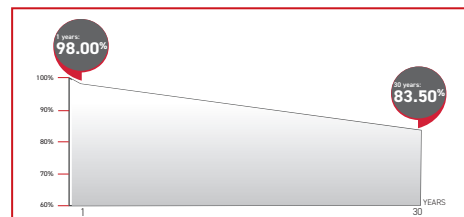
FIG. 2



7) AVERAGE RELATIVE EFFICIENCY REDUCTION OF 5% AT 200 W/M<sup>2</sup> ACCORDING TO EN 60904-1

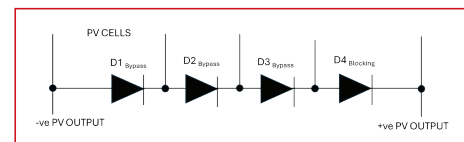
### PERFORMANCE WARRANTY

FIG. 3



### DIODE CIRCUIT DIAGRAM

FIG. 4



### PACKAGING INFORMATION

Quantity / Pallet	36
Pallets/Container (40'HC)	20
Quantity/Container (40'HC)	720

<sup>\*</sup>All (\*) certifications under progress. <sup>\*\*</sup>Refer to Vikram Solar's warranty document for terms and conditions. <sup>1</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 | <sup>#</sup>As per applicable product | <sup>\*</sup>With additional Cost & Lead Time subject to availability | STC : Standard Testing Condition | BNPI : Bifacial Nameplate Irradiance | NOCT : Nominal Operating Cell Temperature | <sup>\*</sup>refer diode circuit diagram (Fig. 4)

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

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