PARADEA

HIGH EFFICIENCY BI-FACIAL GLASS-GLASS PV MODULES

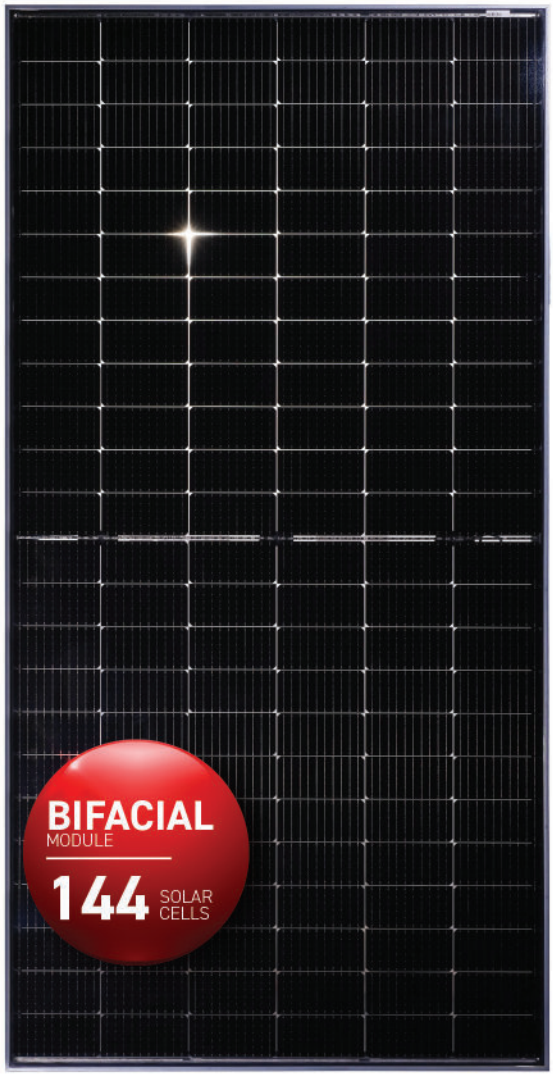
Mono PERC nTOPCon HJT

MODEL:
PARADEA VSMDH.72.AAA.05

535-560W

SUBSTRATE	FRAME TYPE	FRAME VARIANT
GLASS ●	ALUMINIUM ●	**SILVER** ●
MESH GLASS ●	**STEEL** ●	BLACK ●

MAXIMUM EFFICIENCY %	CELL TYPE	PRODUCT WARRANTY	PERFORMANCE WARRANTY
21.72	M10 **HALF CUT**	12 YEARS	30 YEARS



PVEL TOP PERFORMER MODEL

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

OPTIMIZED FRAME DESIGN

- Alloy steel 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

LOWER LCOE

- Lower balance of systems cost
- Improves value proposition of the product with competitive ROI

SUPERIOR HAIL TEST PERFORMANCE

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

PRODUCT CERTIFICATES

R-51000566
R-61002070

SYSTEM CERTIFICATES^

IEC 61215 : 2021, IEC 61730, UL 61215, 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

DCR CONTENT MODULE AVAILABLE

vikramsolar
CREATING CLIMATE FOR CHANGE

Monocrystalline Solar PV Modules, Bifacial, GG, M10 MonoPerc

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CREATING CLIMATE FOR CHANGE

Mono PERC nTOPCon HJT

TECHNICAL DATA
PARADEA 535-560W

THIS DATASHEET IS APPLICABLE FOR: **PARADEA VSMDH.72.AAA.05 (AAA=535-560)**

ELECTRICAL PARAMETERS | STC[1,2]

Peak Power P_{max} (Wp)	535	540	545	550	555	560
Maximum Voltage V_{mpp} (V)	41.6	41.7	41.8	41.9	42	42.1
Maximum Current I_{mpp} (A)	12.87	12.96	13.05	13.14	13.23	13.32
Open Circuit Voltage V_{oc} (V)	49.4	49.5	49.6	49.7	49.8	49.9
Short Circuit Current I_{sc} (A)	13.56	13.64	13.73	13.82	13.95	14.05
Module Efficiency (%)	20.75	20.94	21.13	21.33	21.52	21.72

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_{MPP} / I_{SC} / V_{OC}) [%] : 0-3/±5/±5 | ELECTRICAL MEASUREMENT UNCERTAINTY IS WITHIN ± 2%

ELECTRICAL PARAMETERS | NOCT[3]

Peak Power P_{max} (Wp)	399.20	402.80	406.70	410.60	414.20	418.10
Maximum Voltage V_{mpp} (V)	38.40	38.40	38.70	38.80	39.10	39.20
Maximum Current I_{mpp} (A)	10.39	10.48	10.51	10.58	10.59	10.66
Open Circuit Voltage V_{oc} (V)	46.00	46.00	46.20	46.20	46.70	46.80
Short Circuit Current I_{sc} (A)	10.96	11.06	11.09	11.17	11.17	11.24

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)	586	591	597	602	607	613
Maximum Voltage V_{mpp} (V)	41.6	41.7	41.8	41.9	42	42.1
Maximum Current I_{mpp} (A)	14.1	14.2	14.3	14.4	14.5	14.6
Open Circuit Voltage V_{oc} (V)	49.4	49.5	49.6	49.7	49.8	49.9
Short Circuit Current I_{sc} (A)	14.1	14.2	14.3	14.4	14.5	14.6

4) BNPI: 1000W/M2*ϕ.135, BIFACILITY COEFF. (ϕ) 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_{MPP}/ 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

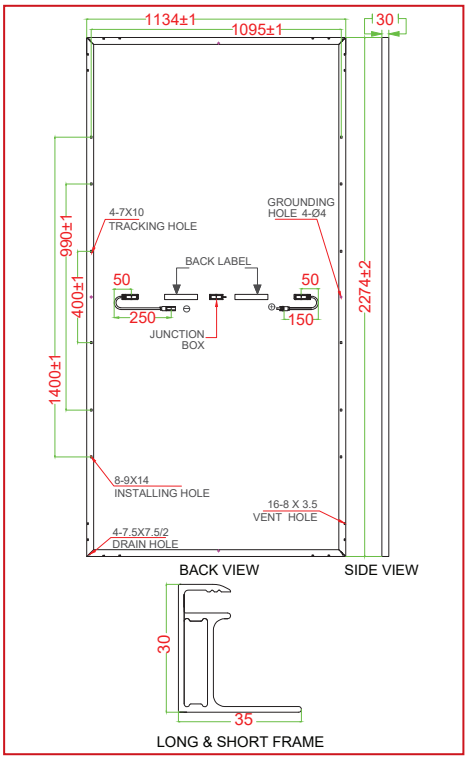
MECHANICAL DATA

Length × Width × Height	2274 × 1134 × 30 mm (89.52 × 44.65 × 1.18 inches)
Weight	34.5 Kg (76.06 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##	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#* (low iron content)
Frame	Anodized aluminium/ Alloy steel frame#*
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Cell Encapsulant	POE/ EPE/ EVA
Maximum Series Fuse Rating	25 A
Hail Test	Ø 45mm | Impact Velocity up to 27m/s

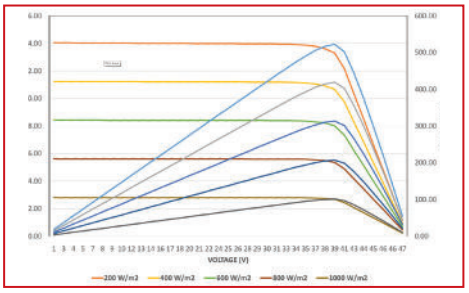
WARRANTY

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

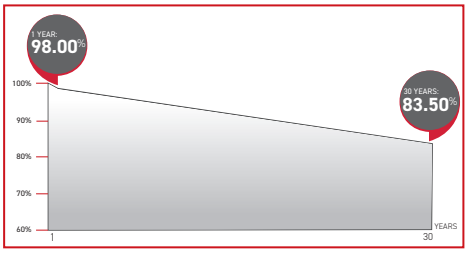


TYPICAL I-V CURVES[7]



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)	20
Quantity/Container (40'HC)	720

^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

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