

Datasheet



PREMIUM HETEROJUNCTION (HST) SOLAR MODULE

144 CELLS PRODUCT FAMILY (430-450 W)

ABOUT ECOSOLIFER

Vertically integrated Swiss Company involved in Photovoltaic (PV) power generation, founded in 2007. Have the know-how of the entire PV technology value chain with the ultimate goal of producing electricity via the lowest achievable cost structure (LCOE) and carbon foot print, based on heterojunction technology. R&D, planning and elaboration of application activities are covered entirely by EcoSolifer scientists and engineers. As PV developer of high performance solar technology EcoSolifer owns patents which underlines the future oriented company strategy. EcoSolifer's vision is an overall low carbon energy sector where PV is highly and efficiently utilized due to company's contribution. Our motto is: 'something new under the sun' that we create throughout our day by day activity.

KEY FEATURES

Exceptional performance:

- Up to 30% more energy yield, most advanced cell technology results in highest efficiency
- High power density, low degradation
- Lowest temperature coefficient $-0,25\%/^{\circ}\text{C}$ - more electricity generation on hot climate
- Designed to be PID, LID, LeTID free

Exceptional quality:

- Production of HST cells and modules according to EU standards and requirements
- Lead free cell technology

Exceptional durability:

- Guaranteed high durability even in harsh environment conditions

Exceptional lifetime power yield:

- Superior warranty: 30 years performance
- 0,20% linear power degradation/year

Exceptional appearance:

- Elegant state of the art design

WARRANTY

Initial performance warranty 99.2%

Product warranty 25 years

Linear performance warranty 30 years





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General Data

Dimension	2063 x 1026 x 30 (mm)
Weight	23,5 (kg)
Front glass	3,2 mm solar glass with anti-reflective surface
Back glass	Highly resistant polymeric
Frame	Anodized aluminium
Cell type	144 half-cut, mono n-Si, HST
Junction box	IP67 rated in accordance with IEC 62790
Connectors	MC4Evo2, PV-KBT4-EVO-2/PV-KST4-EVO-2(4mm ²) in accordance with EN50618

Electrical Data¹

		STC	NMOT ³	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Power tolerance - 0 W/+ 5 W (Wp)											
Power output - P _{max} (Wp) ²		430	328	435	332	440	336	445	339	450	343
Minimum Current at MPP	I _{mpp} (A)	9,76	7,88	9,79	7,91	9,84	7,95	9,85	7,95	9,88	7,98
Minimum Short Circuit Current	I _{sc} (A)	10,46	8,45	10,5	8,48	10,52	8,5	10,54	8,51	10,55	8,52
Minimum Voltage at MPP	V _{mpp} (V)	44,1	41,6	44,5	41,9	44,8	42,2	45,3	42,7	45,6	43
Minimum Open Circuit Voltage	V _{oc} (V)	52,6	49,6	52,8	49,8	52,9	49,8	53	49,9	53,1	50
Minimum Efficiency	η (%)	20,3		20,6		20,8		21		21,3	

Temperature Coefficients

Temperature Coefficient of I _{sc}	α [%/°C]	-0,04
Temperature Coefficient of V _{oc}	β [%/°C]	-0,24
Temperature Coefficient of P _{MPP}	γ [%/°C]	-0,26
Nominal Module Operating Temperature	NMOT [°C]	44

The temperature coefficients stated are linear values

Properties for system design

Maximum System Voltage	[V]	1,500
Maximum Series Fuse Rating	[A]	25
Max. Test Load +/-, (incl. Safety Factor of 1.5)	[Pa]	5,400 (550 kg/m ²)
Operation Temperature	°C	40 to +85

Warranty

Product Warranty [y]	25
Power Warranty [y]	30
Power after 1 year	≥99% of nominal power
Annual Degradation [%/y]	0,2
Power after 30 years	≥93.2% of nominal power

Warranty conditions apply

¹ Measurement according to IEC 60904-3, measurement tolerance: ±3%, monofacial measurement with rear side covered

² STC: Irradiance 1000 W/m², 25 °C, AM1.5 Spectrum

³ NMOT: Nominal Module Operating Temperature, with irradiance 800 W/m², AM1.5 Spectrum, 20 °C, wind speed 1 m/s

EcoSolifer AG

CH-6060 Sarnen, Kernserstrasse 17.

www.ecosolifer.com

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