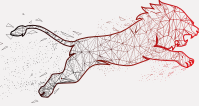


BIFACIAL HJT MONO CRYSTALLINE HALF CUT MODULE – DOUBLE GLASS

450 / 455 / 460 / 465 / 470 / 475 / 480 Watts

Lion Series



Overview

Hetero Junction (HJT) photovoltaic module is a Ground breaking Technology. HJT technology guarantees high performance and low degradation of the PV module, substantially improving the results and the yield in the time. "Lion" Series module is the ideal solution for end users who want a Quality PV & reliable product over time and a fast turnaround on their investments.

Key Benefits

	Anti-PID & LID Technology		30 Years Limited Product Warranty
	Higher yield per surface area		Low Pmax at -0,24 % / °C
	Low LCOE		Higher Light Conversion

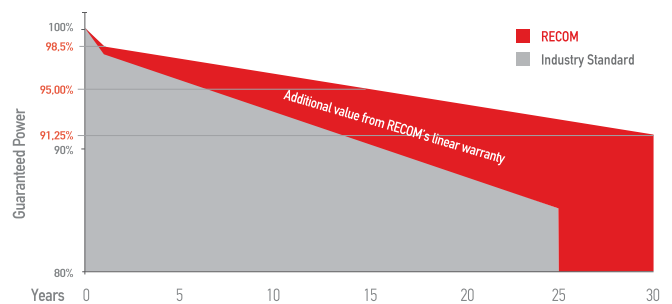


- Guaranteed mechanical resistance to severe weather conditions
- Positive Tolerance
- 100 % electro-luminescence tested

Tests, Certifications and Warranties

Standard Tests	IEC 61215, IEC 61730
Factory Quality Tests	ISO 9001: 2015, ISO 14001: 2015
Certifications	Conformity to CE, PV CYCLE Fire safety Class C according to UL790
Insurance	Third party liability insurance provided by Liberty Mutual
Wind and Snow Loads Testing	Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal)
Withstanding Hail	Maximum Diameter of 25 mm with impact speed of 23 m/s
Power Tolerance	Guaranteed +0/+5W (STC condition)
Warranties	<ul style="list-style-type: none"> • 30-year limited product warranty • 15-year manufacturer warranty on 95.0% of the nominal performance • 30-year transferable linear power output warranty

Linear Performance Warranty



First Year Output $\geq 98.5\%$ 2-30 Year Decline $\leq 0.25\%$ 30 Year Output $\geq 91.25\%$

Lion

BIFACIAL HJT MONO CRYSTALLINE HALF CUT MODULE – DOUBLE GLASS

RCM-xxx-8DBHX (xxx=450-480)

Electrical Characteristics

POWER CLASS ⁽¹⁾			450		455		460		465		470		475		480	
Testing Condition			STC ⁽²⁾ NMOT ⁽³⁾		STC NMOT		STC NMOT		STC NMOT		STC NMOT		STC NMOT		STC NMOT	
Maximum Power	Pmax	[Wp]	450	348	455	352	460	356	465	360	470	364	475	368	480	372
Maximum Power Voltage	Vmp	[V]	27.56	26.22	27.76	26.44	27.96	26.64	28.16	26.84	28.36	27.06	28.56	27.25	28.76	27.44
Maximum Power Current	Imp	[A]	16.33	13.27	16.39	13.31	16.45	13.36	16.51	13.41	16.57	13.45	16.63	13.50	16.69	13.56
Open Circuit Voltage	Voc	[V]	32.78	31.69	33.08	31.94	33.33	32.18	33.57	32.43	33.82	32.67	34.06	32.92	34.30	33.16
Short Circuit Current	Isc	[A]	17.16	13.90	17.19	13.95	17.25	14.00	17.31	14.05	17.37	14.10	17.43	14.15	17.49	14.20
Module Efficiency	Eff	[%]	21,00%		21,20%		21,40%		21,70%		21,90%		22,10%		22,30%	
Maximum Series Fuse	IR	[A]	30													
Maximum System Voltage	Vsys	[V]	1500 (IEC)													

(1) Measurement Tolerances: Pmax (± 3%), Isc & Voc (± 3%) - Power Classification 0/+5W

(2) STC (Standard Testing Condition): Irradiance 1000W/m², Cell Temperature 25°C, AM 1.5

(3) NMOT (Nominal Operating Module Temperature): Irradiance 800W/m², NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Bi Facial Output (4)

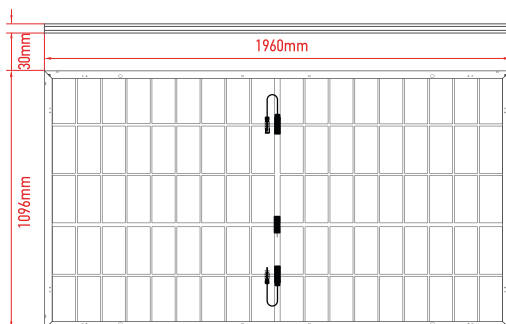
POWER CLASS			450		455		460		465		470		475		480	
			Pmax[Wp]	Eff [%]	Pmax	Eff	Pmax	Eff	Pmax	Eff	Pmax	Eff	Pmax	Eff	Pmax	Eff
Power with Backside Gain	+5	[%]	472,5	22,0%	477,8	22,2%	483,0	22,5%	488,3	22,7%	493,5	23,0%	498,8	23,2%	504,0	23,5%
	+10	[%]	495,0	23,0%	500,5	23,3%	506,0	23,6%	511,5	23,8%	517,0	24,1%	522,5	24,3%	528,0	24,6%
	+15	[%]	517,5	24,1%	523,3	24,4%	529,0	24,6%	534,8	24,9%	540,5	25,2%	546,3	25,4%	552,0	25,7%
	+20	[%]	540,0	25,1%	546,0	25,4%	552,0	25,7%	558,0	26,0%	564,0	26,3%	570,0	26,5%	576,0	26,8%
	+25	[%]	562,5	26,2%	568,8	26,5%	575,0	26,8%	581,3	27,1%	587,5	27,3%	593,8	27,6%	600,0	27,9%
	+30	[%]	585,0	27,2%	591,5	27,5%	598,0	27,8%	604,5	28,1%	611,0	28,4%	617,5	28,7%	624,0	29,0%

(4) Bifaciality Factor > 90% - Back-side power gain depends upon the specific project albedo - Efficiency is according to the surface of the module

Mechanical Data

Dimensions	1960 mm x 1096 mm x 30 mm
Weight	26.1 Kg
Cell Type	HJT - 210mm x 105mm (2 x 45 Pcs) - G12
Front Glass	2.0 mm Tempered and low iron glass + ARC
Rear Side	2.0 mm Tempered and low iron glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass diodes
Connector	Genuine MC4 Evo2, or MC4 compatible
Output cable	4mm ² - Length = 1200mm or customized

Dimensions

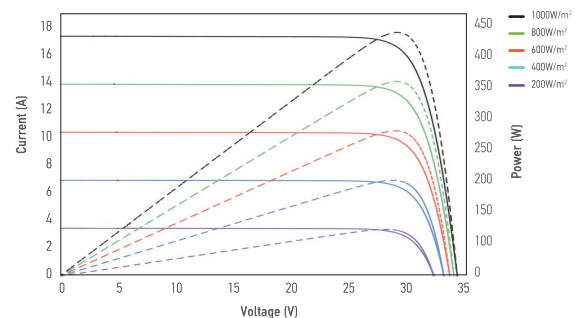


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I-V Curve

The module relative power loss at low light irradiance of 200W/m² is less than 3%.



Temperature Characteristics

Pmax Temperature Coefficient	-0.24% / °C
Voc Temperature Coefficient	-0.22% / °C
Isc Temperature Coefficient	+0.047% / °C
Operating Temperature	-40~+85 °C
Nominal Operating Module Temperature (NMOT)	42 ± 2 °C

Packing Configuration

Container	40'HC
Pieces per Pallet	35
Pallets per Container	22
Pieces per Container	(32+35) x 11 = 770 pcs

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