RECOM TECHNOLOGIES

BIFACIAL HJT MONO CRYSTALLINE HALF CUT MODULE – DOUBLE GLASS

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

Lion Series

BloombergNEF TIER 1

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.

Guaranteed mechanical resistance to severe weather conditions

Wp

Positive Tolerance

EL

100 % electro-luminescence tested

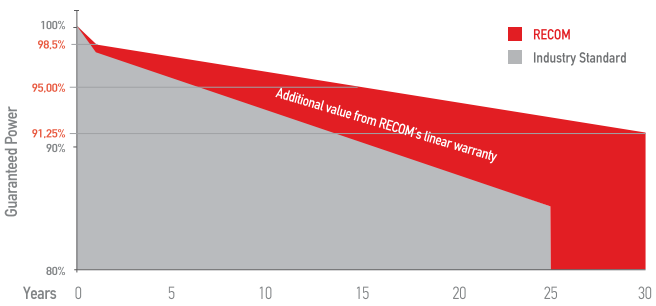
Key Benefits

- 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

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	• 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	≥ 98.5%	2-30 Year Decline	≤ 0.25%	30 Year Output	≥ 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): Irrandiance 1000W/m², Cell Temperature 25°C, AM 1.5
(3) NMOT (Nominal Operating Module Temperature): Irrandiance 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%*

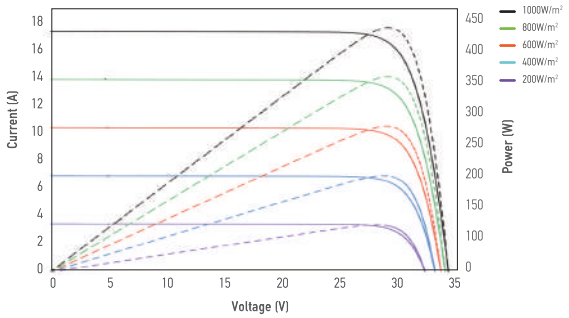
(4) Bifaciality Factor > 90% - Back-side power gain depends upon the specific project albedo - Efficiency is according to the surface of the module

Mechanical Data

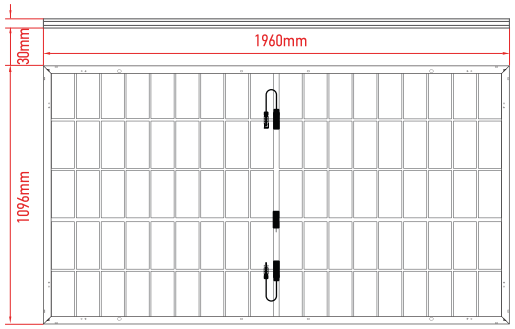
Dimensions	1960 mm x 1096 mm x 30 mm
Weight	26.1 Kg
Cell Type	HJT - 210mm x 105mm (2 x 45 Pcs) - G12
Front Glass	2.0 mm Tempered and low iron glass + ARC
Rear Side	2.0 mm Tempered and low iron glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass diodes
Connector	Genuine MC4 Evo2, or MC4 compatible
Output cable	4mm² - Length = 1200mm or customized

I-V Curve

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



Dimensions



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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**Release RCM-xxx-8DBHX(xxx=450-480)-12-612-30-SG-15Y-047-2023-03-v2.0