

Black Series

ERA-RA54HD(BK)

Product Range

440-460W

N-Type Rectangle Bifacial
Double Glass High Efficiency

460W

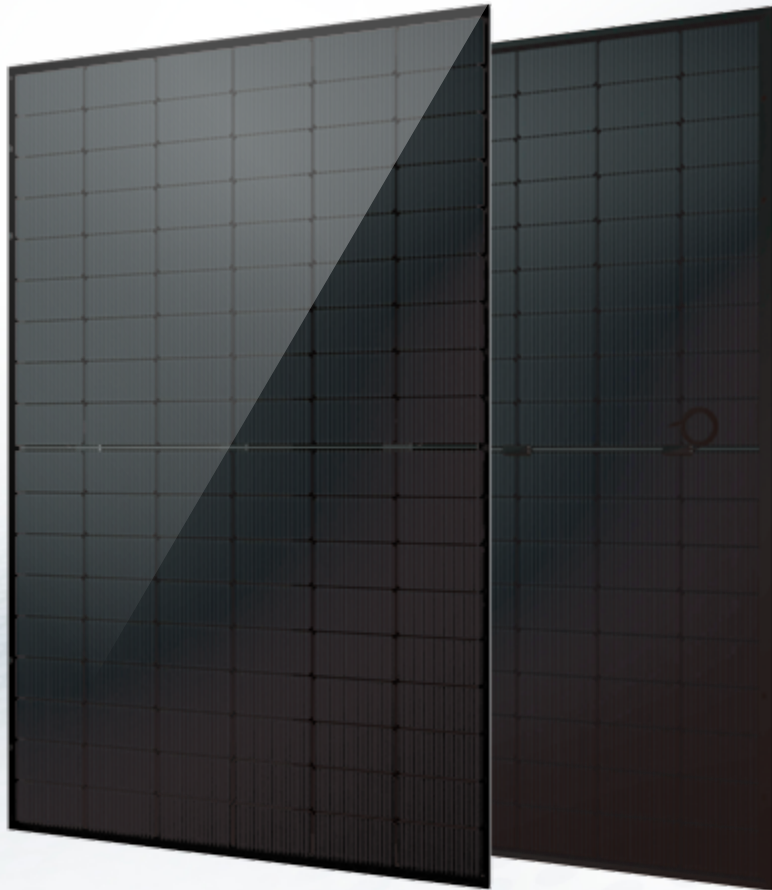
Maximum Power Output

0~+5W

Positive Power Tolerance

23.02%

Maximum Efficiency



ERA
SOLAR



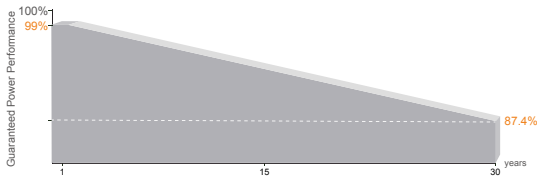
Linear Performance Warranty

25 Year Product Warranty

30 Year Linear Power Warranty

<1% First year Power Degradation

<0.4% Year 2-30 Power Degradation



Certifications

Quality Management System and Product Certification.

IEC61215(2021), IEC61730(2023), IEC61701

IEC61215-2 (bifaciality): 2021

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018: Occupational health and safety management systems



MBB Half-Cut Rectangle Solar Cell

182x94mm, 108 cells.



Small In Size, Bigger On Power

Up to 460W, 23.02% module efficiency with high density interconnect technology.



Transparent Dual-glass Design

Excellent fire rating, with better temperature coefficient.



Universal Solution For Residential And C&I Rooftops

Perfect size and low weight for handling and installation.

Double Glass, 54-CELL HALF-CUT SERIES

ELECTRICAL PARAMETERS AT STC

Module Type: ERA-RA54HD(BK)	440M	/	445M	/	450M	/	455M	/	460M
Maximum Power(Wp)	440W		445W		450W		455W		460W
Open Circuit Voltage(Voc)	38.90V		39.10V		39.30V		39.50V		39.65V
Short Circuit Current(Isc)	14.31A		14.40A		14.48A		14.56A		14.64A
Maximum Power Voltage(Vm)	32.47V		32.65V		32.82V		33.00V		33.17V
Maximum Power Current(Imp)	13.55A		13.63A		13.71A		13.79A		13.87A
Module Efficiency	22.02%		22.27%		22.52%		22.77%		23.02%
Maximum Series Fuse	25A								
Watts Positive Tolerance	0~+5W								
Number Of Diode	3								
Standard Test Conditions	1000W/M², 25°C, AM1.5								
Maximum System Voltage	1500V/DC								
Temperature-Coefficient Isc	+0.035%/°C								
Temperature-Coefficient Voc	-0.259%/°C								
Temperature-Coefficient Pmpp	-0.357%/°C								
Operating Temperature	-40°C...+85°C								
Normal Operating Cell Temperature	45±2								
Load Capacity For The Cover Of The Module (Glass)	5400Pa(IEC61215)(snow)								
Load Capacity For The Front & Back Of The Module	2400Pa(IEC61215)(wind)								

BNPI (1000w/m² + 135w/m²)

Module Type: ERA-RA54HD(BK)	440M	/	445M	/	450M	/	455M	/	460M
Maximum Power(Wp)	484W		490W		495W		501W		506W
Open Circuit Voltage(Voc)	38.93V		39.11V		39.32V		39.51V		39.65V
Short Circuit Current(Isc)	15.74A		15.84A		15.93A		16.02A		16.09A
Maximum Power Voltage(Vm)	32.49V		32.67V		32.83V		33.01V		33.16V
Maximum Power Current(Imp)	14.90A		15.00A		15.08A		15.18A		15.26A

BSI (1000w/m² + 300w/m²)

Module Type: ERA-RA54HD(BK)	440M	/	445M	/	450M	/	455M	/	460M
Maximum Power(Wp)	541W		547W		554W		560W		566W
Open Circuit Voltage(Voc)	38.92V		39.12V		39.32V		39.54V		39.75V
Short Circuit Current(Isc)	17.60A		17.71A		17.81A		17.91A		18.00A
Maximum Power Voltage(Vm)	32.49V		32.67V		32.84V		33.04V		33.20V
Maximum Power Current(Imp)	16.66A		16.75A		16.85A		16.95A		17.05A

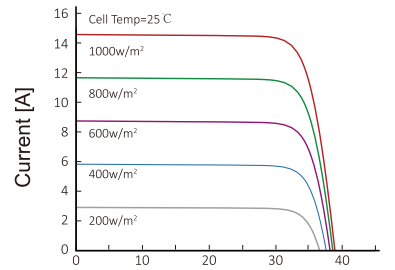
MECHANICAL CHARACTERISTICS

Front Glass	2.0mm high transmittance, AR semi-tempered glass
Rear Glass	2.0mm semi-tempered glass
Cell (Quantity / Material / Dimensions)	108(6x18) / monocrystalline silicon
Frame (Material / Color)	aluminum hollow-chamber frame on each side anodized aluminum alloy / Black
Junction Box (Protection Degree)	≥IP68
Cables & Plug Connectors	4mm², 300mm in length,length can be customized
Module Dimensions (L / W / H)	1762(±2)x1134(±2)x30(±1)mm
Module Weight	22.5 kg
Application Class	Class A
Electrical Protection Class	Class II
Fire Safety Class	Class A

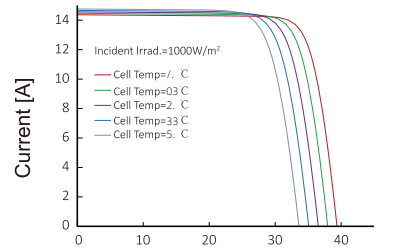
PACKING

Container Size	Units/Pallet (PCS)	Weight/Pallet (KG)	Pallet Measurement (mm)	Units/Container (PCS)
40HQ	36	845	1790x1120x1260	936

CURRENT-VOLTAGE CURVES:



Module characteristics at constant module temperatures of 25°C and variable levels of irradiance



Module characteristics at variable module temperatures and constant module irradiance of 1.000 W/m²

MODULE DIAGRAM:

