

# 460W MBB

## Mono Crystalline

### Half-cell Bifacial Module







#### RT144M-HB-445~460W



### ● M6 SERIES

Ritech Solar redefined the high-efficiency module series by integrating 166mm silicon wafers with multi-busbar and half-cut cell technologies. Ritech Solar panel combined creative technology effectively and extremely improved the module efficiency and power output.

### ● KEY FEATURES

-  New circuit design, lower internal current, less mismatch to get more power
-  Less power loss by minimizing the shading impact  
Significantly lower the risk of hot spot
-  Competitive low light performance
-  3 times EL test to ensure best quality
-  Ideal choice for utility and commercial scale projects by reduced BoS and improved ROI
-  Outstanding reliability proven by PVEL for stringent environment condition:
  - Sand, acid, salt and hail stones
  - 2400 Pa wind load and 5400 Pa snow load
  - Anti-PID

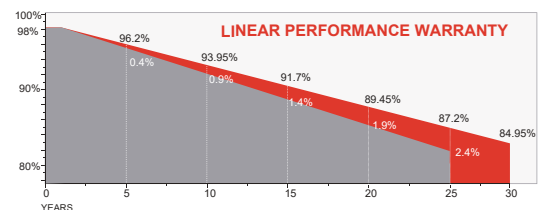
### ● QUALITY SYSTEM

ISO9001 / ISO14001 / ISO45001

### ● PRODUCT CERTIFICATION



### ● WARRANTY

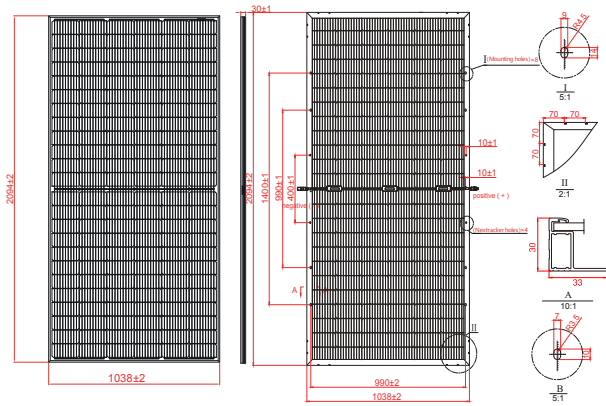


Guarantee on product material and workmanship



Linear power output warranty

### Technical Drawing



### Mechanical Specifications

External Dimension	2094 x 1038 x 30 mm
Weight	28.0 kg
Solar Cells	PERC Mono 166 x 83 mm (144 pcs)
Front / Back Glass	2.0mm AR coating semi-tempered glass, low iron
Frame	Anodized aluminium alloy
Junction Box	IP68, 3 diodes
Output Cables	4.0mm <sup>2</sup> , 300mm(+)/300mm(-) or Customized Length

### Packing Configuration

Container	20'GP	40'HQ
Pieces per Pallet	36	36
Pallets per Container	5	22
Pieces per Container	180	792

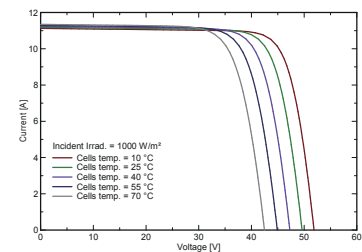
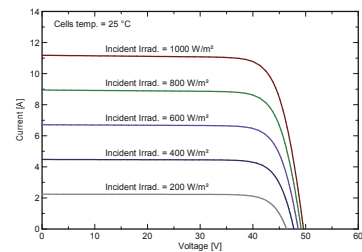
Module Type	RT144M-HB-440			RT144M-HB-445			RT144M-HB-450			RT144M-HB-455		
	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC
Maximum Power -P <sub>mp</sub> (W)	440	330	308	445	334	312	450	338	315	455	342	319
Open Circuit Voltage -V <sub>oc</sub> (V)	49.7	46.4	49.4	49.9	46.6	49.6	50.1	46.8	49.8	50.3	47.0	50.0
Short Circuit Current -I <sub>sc</sub> (A)	11.27	9.11	7.95	11.34	9.17	8.00	11.41	9.22	8.04	11.48	9.28	8.09
Maximum Power Voltage -V <sub>mp</sub> (V)	41.4	38.3	41.5	41.6	38.5	41.7	41.8	37.7	41.9	42.0	38.9	42.1
Maximum Power Current -I <sub>mp</sub> (A)	10.63	8.62	7.43	10.70	8.68	7.49	10.77	8.73	7.52	10.84	8.80	7.58
Module Efficiency STC-η <sub>m</sub> (%)	20.24			20.47			20.70			20.93		
Power Tolerance (W)	(0, +4.99)											
Pmax Temperature Coefficient	-0.34 %/°C											
Voc Temperature Coefficient	-0.26 %/°C											
Isc Temperature Coefficient	+0.05 %/°C											

STC: Irradiance 1000 W/m<sup>2</sup> module temperature 25°C AM=1.5  
 Power measurement tolerance: +/-3%

### Rear Side Power Gain(RT144M-HB-445)

Power Gain	10%	15%	20%	25%	30%
Maximum Power -P <sub>mp</sub> (W)	490	512	534	556	579
Open Circuit Voltage -V <sub>oc</sub> (V)	49.9	49.9	49.9	49.9	49.9
Short Circuit Current -I <sub>sc</sub> (A)	12.47	13.04	13.61	14.18	14.74
Maximum Power Voltage -V <sub>mp</sub> (V)	41.6	41.6	41.6	41.6	41.6
Maximum Power Current -I <sub>mp</sub> (A)	11.77	12.31	12.84	13.38	13.91

### I-V Curve



### Application Conditions

Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	20 A
Operating Temperature	-40~+85 °C
Nominal Operating Cell Temperature	45±2 °C
Bifaciality	70%±10%
Mechanical Load	Front side 5400 Pa / Rear side 2400 Pa