

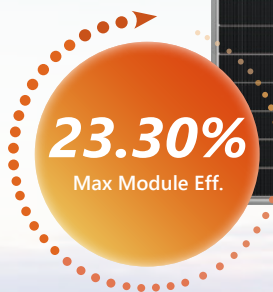
UNI T

UE650T-78HBD

630~650W

N-type TOPCon Bifacial Dual Glass Solar Module

TOPCon 2.0



N-Type MBB Cell

New circuit design N-type cells, can increase the output power of 10~20W.



Low Light Features

Higher performance under low light environment.



Bifacial with dual glass

Module adopts 182*182mm half cells, bifacial module provide an additional 5%~25% output.



PID Protection

Ensure the attenuation probability caused by PID phenomenon is minimized.



Harsh Environmental Adaptability

Strict salt spray and ammonia corrosion test by TUV Nord.



Load Capacity

Mechanical load tests including wind load 2400 Pa and snow load 5400 Pa done by TUV Nord.



Quality Management System and Product Certification

IEC 61215, IEC 61730, UL 61730

ISO9001: 2015: ISO Quality Management System.

ISO14001: 2015: ISO Environmental Management System.

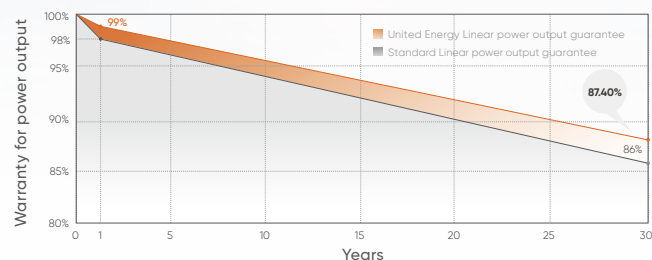
ISO45001: 2018: Occupation Health and Safety.

IEC62941: Guideline for module design qualification and type approval.

Quality Guarantee

15 year Materials Warranty

30 year Power Warranty



Electrical Parameters(STC*)

Module Type	630	635	640	645	650
Maximum power (Pmax/W)	630	635	640	645	650
Open Circuit Voltage (Voc/V)	57.30	57.50	57.70	57.90	58.10
Short Circuit Current (Isc/A)	14.04	14.09	14.14	14.19	14.24
Voltage at Maximum power (Vmp/V)	47.48	47.67	47.86	48.05	48.24
Current at Maximum Power (Imp/A)	13.29	13.34	13.39	13.44	13.49
Module Efficiency(%)	22.50	22.70	22.90	23.10	23.30

1. Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

Electrical Parameters(NMOT*)

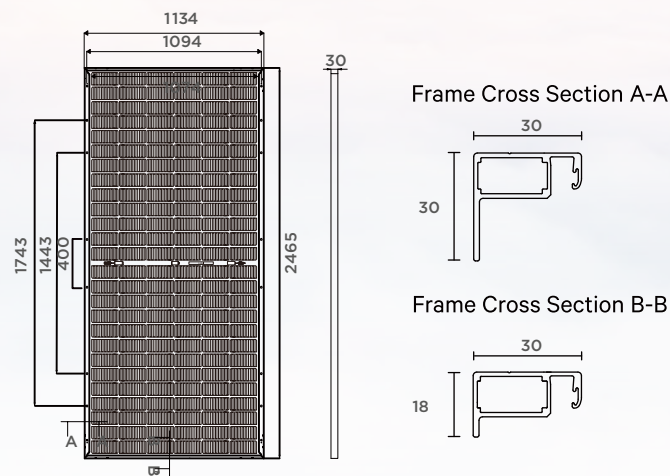
Power (Pmax/W)	474	478	482	485	489
Open Circuit Voltage (Voc/V)	53.95	54.14	54.33	54.52	54.71
Short Circuit Current (Isc/A)	11.38	11.42	11.46	11.50	11.54
Maximum power Voltage (Vmp/V)	44.40	44.58	44.75	44.93	45.11
Maximum power Current (Imp/A)	10.68	10.72	10.76	11.50	10.84

1. Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

Electrical Parameters(At 10% Bifacial Power Output)

Output Power (Pmax/W)	696	702	707	713	717
Open Circuit Voltage (Voc/V)	57.31	57.51	57.71	57.91	58.08
Short Circuit Current (Isc/A)	15.45	15.51	15.56	15.62	15.64
Maximum power Voltage (Vmp/V)	47.54	47.73	47.92	48.11	48.19
Maximum power Current (Imp/A)	14.67	14.72	14.78	14.83	14.87

Design(mm)



Design(mm)

Solar Cells	N-type Mono
No. of Cells	78*2 pcs
Dimensions	2465*1134*30mm
Weight	33.5kg
Glass	Double glass, 2.0mm/1.6mm
Frame	Anodized aluminium alloy
Junction Box	Ip68 rated (3 Bypass Diodes)
Output Cables	4mm ² , 300mm (+) / 300mm (-), Length can be customized
Connectors	Mc4 compatible
Mechanical load test	5400Pa
Packaging	36pcs/box, 648pcs/40'HQ

Operating Characteristics

Operating Module Temperature	-40°C to +85°C
Maximum System Voltage	1500V DC (IEC)
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W

Temperature Characteristics

Nominal Operating Temperature (NMOT)	45±2°C
Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	+0.045%/°C