

TY-132N-HBD

N-type-TOPCon210

Bifacial Dual Glass Module

685-720W

Quality Assurance

12-year	30-year
Product Warranty	Linear Power Warranty
1%	0.4%
First-year Degradation	Annual Degredation Over 30 Years

Product and Quality Certifications



- IEC61215(2021) IEC61730(2023)
- ISO9001:2015 Quality Management System
- ISO14001:2015 Environmental Management System
- ISO45001:2018 Occupational Health and Safety Management System

Key Features



Bifaciality up to 85%
More power generation from the rear side



Low temperature coefficient (P_{max}): -0.29°C
Higher power generation



Excellent temperature coefficient (P_{max}): -0.29°C
Ensures higher power output in high-temperature environments



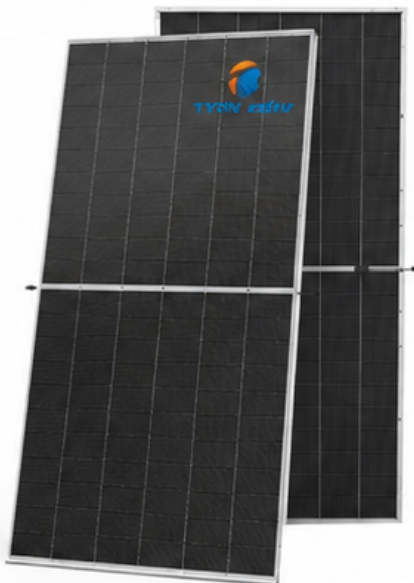
Enhanced light trapping and current collection for higher module power and reliability



Innovative non-destructive cutting technology
Reduces microcrack risk



Front side up to 5400Pa snow load
Back side up to 2400Pa wind load
Certified to withstand extreme weather conditions



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Electrical Characteristics

Test Condition	STC	NOCT	STC	MOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (P _{max} /W)	685	521	600	526	685	530	700	534	700	534	700	534	700	534
Maximum Power Voltage (V _{mp} /V)	39.8	37.3	40.1	37.7	39.8	37.3	40.1	37.7	39.8	37.3	40.1	37.7	39.8	37.3
Maximum Power Current (I _{mp} /A)	17.19	13.94	17.25	13.96	17.25	13.96	17.25	13.96	17.25	13.96	17.25	13.96	17.25	13.96
Open-circuit Voltage (V _{oc} /V)	47.7	45.2	47.9	45.4	48.5	46.6	48.8	46.2	48.0	46.4	48.8	46.6	49.04	46.8
Short-circuit Current (I _{sc} /A)	18.21	14.67	18.25	14.71	18.28	14.73	18.32	14.76	18.36	14.80	18.40	14.83	18.60	14.89
Module Efficiency (%)	22.1	22.2	22.4	22.5	22.7	22.9	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7
Power Tolerance	0~+5													

Electrical Characteristics with Different Rear Side Power Gain (Reference to 5% & 10%)

Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Maximum Power (P _{max} /W)	719	754	725	759	765	797	740	765	786	770	750	787	756	792
Maximum Power Voltage (V _{mp} /V)	39.8	39.5	40.1	40.1	40.5	40.5	40.7	40.7	40.9	40.9	40.77	40.77	41.3	40.9
Maximum Power Current (I _{mp} /A)	18.05	18.91	18.05	18.91	18.96	18.15	18.20	18.8	18.22	19.02	18.62	19.06	18.29	19.11
Open-circuit Voltage (V _{oc} /V)	47.7	47.7	47.9	47.9	48.3	48.6	48.8	48.8	49.0	49.0	49.2	49.9	49.4	49.1
Short-circuit Current (I _{sc} /A)	19.32	20.03	19.16	20.08	19.15	19.24	19.28	20.11	19.22	20.15	19.36	20.19	19.4	20.21

Mechanical Characteristics

Cell Type	N-type Monocrystalline Silicon
Number of Cells	132 (66x2)
Dimensions	2384 x 1303 x 33/35 mm (93.86 x 51.30 x 1.30/1.38 inches)
Weight	38.3 kg (84.4 lbs)
Front Glass	2.0 mm, Anti-reflection Coating, High Transmittance, Tempered Glass
Back Glass	2.0 mm, Heat-strengthened Glass (White Mesh Glass)
Frame	33/35mm (1.30/1.38 inches) Anodized Aluminum Alloy
Junction Box	IP68 Rated
Cable	4.0 mm ² (IEC), 12 AWG (UL) Portrait: 280mm (11.02 inches) / Landscape: 350mm (13.78 inches)
Connector	Compatible with MC4

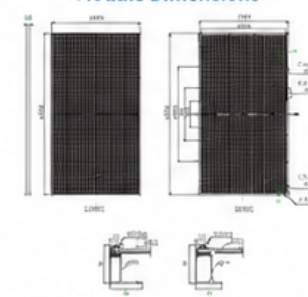
Packaging Configuration

Container	3331 Pallets
Pieces per Pallet	726/682 pcs
Pieces per Container (40' HQ)	594/558 pcs

Operating Conditions

Maximum System Voltage	1500V DC (IEC)
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	15A
Application Class	Class A

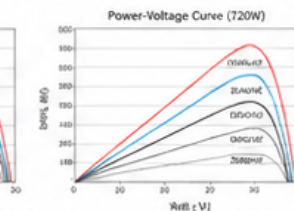
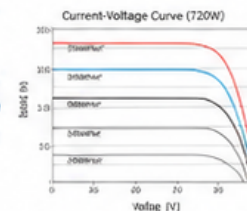
Module Dimensions



Temperature Ratings

NOCT (Nominal Operating Cell Temperature)	43±2°C
Temperature Coefficient (P _{max})	-0.30%/°C
Temperature Coefficient (V _{oc})	-0.24%/°C
Temperature Coefficient (I _{sc})	0.04%/°C

I-V Curve



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