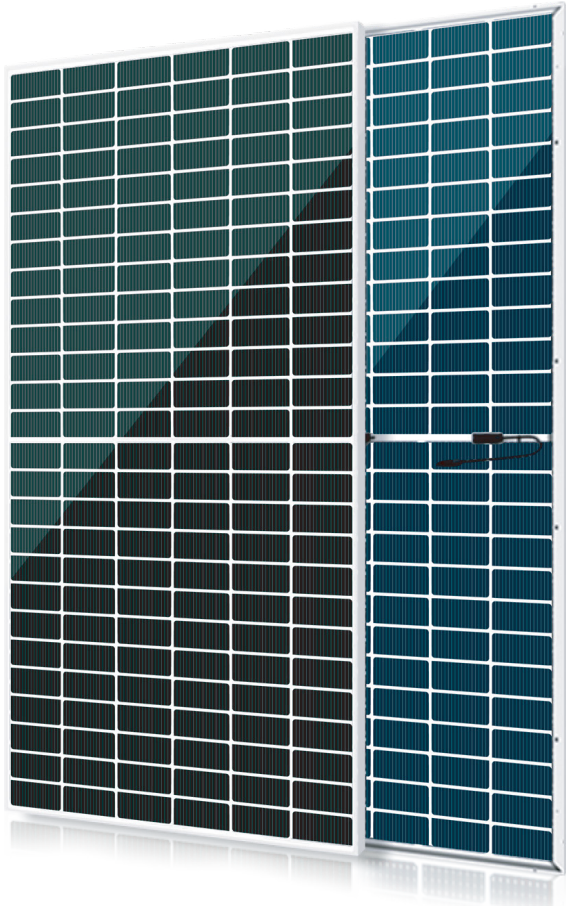


630~650W HY650-N156BDD



Hyper N78

N-TOPCon, Bi-facial
156-cell, MBB
0~+3% positive tolerance

KEY FEATURES



Mbb half cell design

Half-cut cells brings lower cell connection loss and lower thermal coefficients to ensures higher power output



More Power

Industry leading N-TOPCon technology applied to generate ultra-high power up to 650Wp with optimized temperature coefficient and lower working temperature



High Reliability

Strict outsourcing BOM materials quality control and 100% in-house wafer and the TOPCon cell performance boost the power warranty to 30 Year



Excellent Low-light Performance

Advanced N-TOPCon solar cell technology allows for excellent performance in low-light environments



Highly Strengthened Design

Certified to withstand 5400Pa snow load and 2400Pa wind load



PID Resistant

Excellent PID resistance performance optimized by unique cell process design and BOM material control



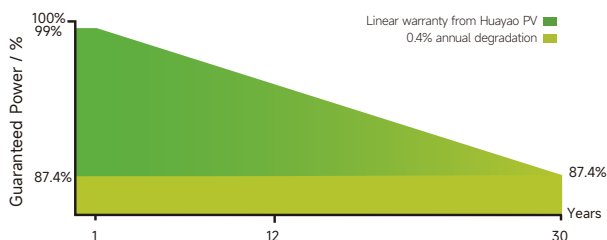
Fire resistance

Class of reaction to Class A

LINEAR PERFORMANCE WARRANTY

15 Year Product Warranty

30 Year Linear Power Warranty



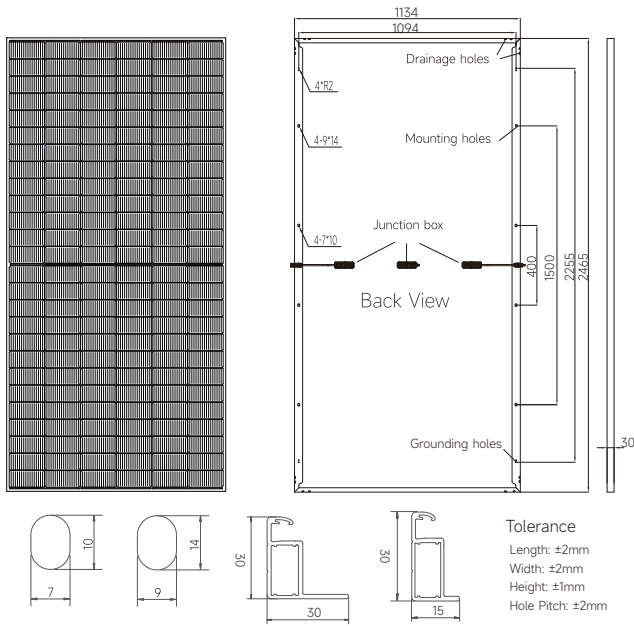
IEC 61215 (2016), IEC 61730 (2016)



IEC 61215
IEC 61730
Regular Production
Surveillance
www.tuv.com
ID 111258804



Engineering Drawings



Electrical Characteristics

	HY630-N156BDD	HY635-N156BDD	HY640-N156BDD	HY645-N156BDD	HY650-N156BDD
Pmax(W)	630	635	640	645	650
Vmp(V)	46.33	46.50	46.66	46.83	47.00
Imp(A)	13.60	13.66	13.72	13.79	13.85
Voc (V)	56.26	56.46	56.66	56.86	57.06
Isc(A)	14.23	14.29	14.35	14.41	14.47
Module efficiency(%)	22.54	22.71	22.89	23.07	23.25
Maximum system voltage(V)	1500				
Fuse Rating(A)	30				
Temperature coefficient Pmax(%°C)	-0.30				
Temperature coefficient Isc(%°C)	0.046				
Temperature coefficient Voc(%°C)	-0.25				

STC: Irradiance 1000W/m², module temperature 25°C, AM=1.5

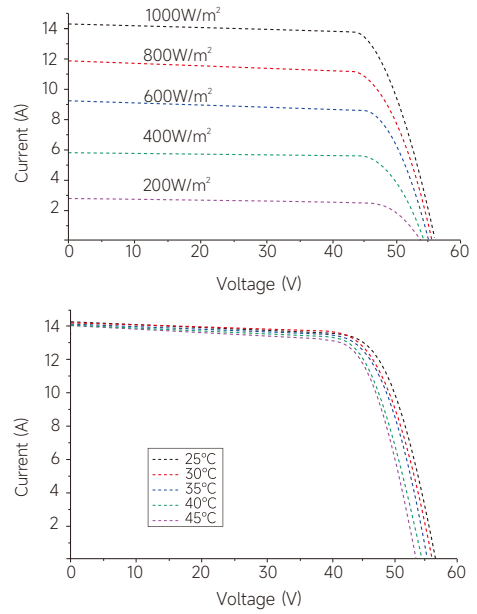
Bifacial Output-Backside Power Gain

	Pmax(W)	693	698.5	704	709.5	715
10%	Module efficiency(%)	24.79	24.99	25.18	25.38	25.58
20%	Pmax(W)	756	762	768	774	780
	Module efficiency(%)	27.04	27.26	27.47	27.69	27.90

Packing Configuration

Pieces per pallet	36
Size of packing (mm)	2490*1120*1247
Weight of packing (kg)	1243
Pieces per container	576
Size of container	40' HQ

I-V Curves



Working Characteristics

	HY630-N156BDD	HY635-N156BDD	HY640-N156BDD	HY645-N156BDD	HY650-N156BDD
Pmax(W)	480	484	488	491	495
Vmp(V)	43.33	43.50	43.67	43.72	43.89
Imp(A)	11.08	11.13	11.18	11.23	11.28
Voc(V)	53.22	53.40	53.68	53.72	54.01
Isc(A)	11.48	11.53	11.58	11.63	11.68
Power tolerance(%)	0~+3				
NOCT(°C)	44±2				

NOCT: Conditions: Irradiance 800W/m², ambient temperature 20°C, wind speed 1m/s

Mechanical Characteristics

Number of cells	156 pcs
Size of cell (mm)	182*91
Type of cell	N type Mono
Thickness of glass (mm)	2.0
Type of frame	Anodized aluminum alloy
Junction box	IP68
Size of module (mm)	2465*1134*30
Weight (kg)	33.5
Cables/connectors	4mm ² , MC4 compatible
Length of Cable	Portrait: +300mm/-300mm

Maximum Ratings

Operating Temperature(°C)	-40~85
Operating humidity(%)	5~85
Allowable Hail Load	25mm ice-ball with velocity of 23m/s

