



182 Series

445-460W

MBB Mono Half-cell Module

POWER OUTPUT RANGE

445-460W

MAXIMUM MODULE EFFICIENCY

21.3%

POWER WARRANTY

30 years

Characteristic



Higher Power Output

1500V system voltage, reduce the



Guaranteed Output Power



Half-cell and Lower Power Loss Design



Best Solution to Harsh Conditions

Pass the mechanical load test, front 5400Pa and back 2400Pa



Excellent PID Resistance

Excellent Anti-PID Performance, guarantee less power degradation



High Reliability Based On Strict Quantity.Control

Over 100 internal tests including ultraviolet irrtadiation, heat-recycling, damp heat(DH) test, humidity-freeze(HF) test and etc.







TOENERGY Technical Parameter

░ Electrical Data @STC				
Peak power-Pmax(Wp)	445	450	455	460
Power tolerance(W)		±3	3%	
Open circuit voltage - Voc(V)	40.82	40.94	41.06	41.18
Maximum power voltage - Vmpp(V)	34.74	34.86	34.98	35.10
Short circuit current - Im(A)	13. 63	13. 74	13.85	13.96
Maximum power current - Impp(A)	12.81	12.91	13.01	13.11
Module efficiency um(%)	20.6	20.9	21.1	21.3

Standard testing condition(STC): Irradiance 1000W/m², Temperature 25°C, AM 1.5

∰ Mechanical Data					
Cell size	Mono182×182mm				
NO.of cells	120 Half Cells (6×20)				
Dimension	1903*1134*35mm				
Weight	24.20kg				
Glass	3.2mm high transmission,Anti-reflectioncoating toughened glass				
Frame	Anodized aluminum alloy				
Junction box	SeparatedJunction box IP68 3 bypass diodes				
Connector	AMPHENOLH4/MC4 connector				
Cable	4.0mm ² , 300mm PV CABLE, length can be customized				

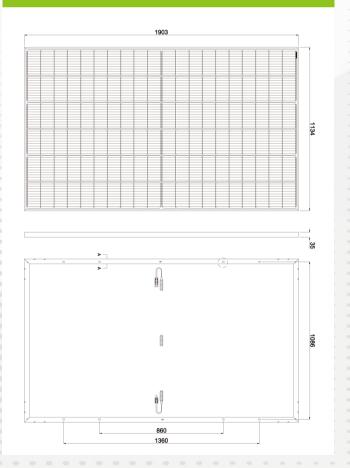
Temperature Ratings 45±2°C Nominal operating cell temperature Temperature coefficient of Pmax -0.35%/°C -0.27%/°C Temperature coefficients of Voc 0.048%/°C Temperature coefficients of Isc

Maximum Ratings				
Operating temperature	-40°Cto+85°C			
Maximum system voltage	1500v DC (IEC/UL)			
Maximum series fuse rating 25A				
Pass hail test	Diameter 25mm, speed 23m/s			

::: Warranty
12 Years Workmanship Warranty
30 Years Performance Warranty

Packing Data				
Modules per pallet	31 PCS			
Modules per 40HQ container	744 PCS			
Modules per 13.5m long flatcar	868 PCS			
Modules per 17.5m long flatcar	1116 PCS			

Dimension















Please refer to TOENERGY Solar product warranty for details