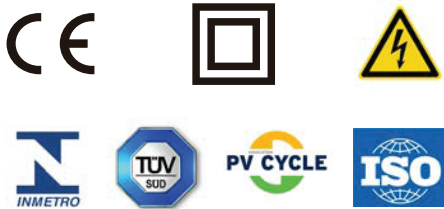


PERC Half Cut Mono Crystalline Solar Module QPM 645/650/655/660/665S

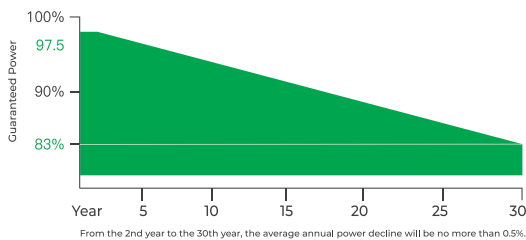
KEY FEATURES

- 
 Excellent module efficiency up to: 21.41%
- 
 IP68 junction box for long-term weather endurance
- 
 Heavy snow loading up to 5400 Pa, wind loading up to 2400 Pa
- 
 PID: selected material and stringent quality system ensure PID free
- 
 Applicable to harsh environment of deserts, farmlands and seashores
- 
 Much lower risk of Hot Spot



CERTIFICATE



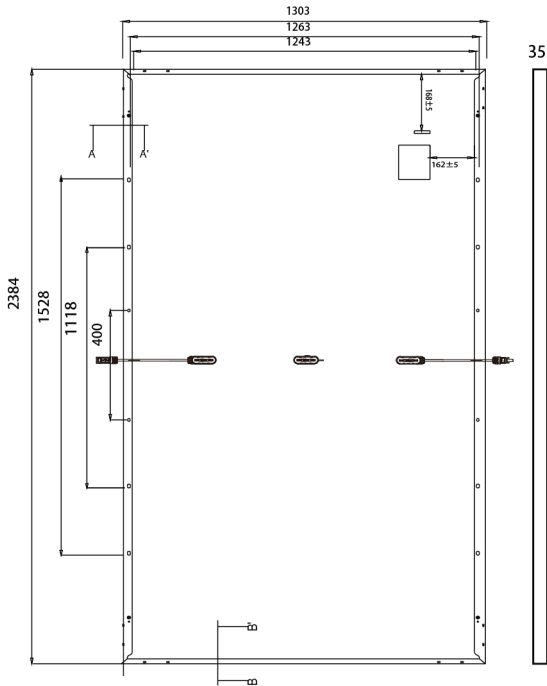
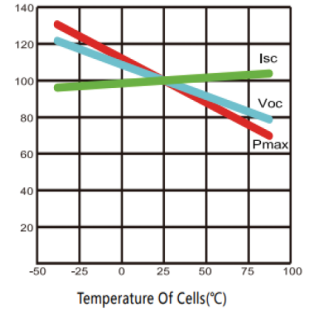
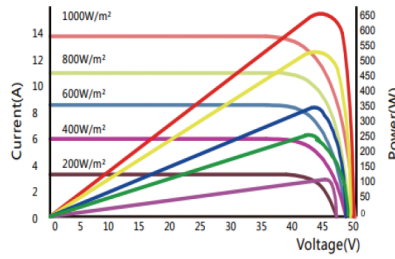
30 Years Power Output Warranty



WARRANTY

- 
 Linear power output warranty
 - 12 years minimum 92% power output
 - 30 years minimum 83% power output
- 
 Product warranty on materials and workmanship
According to the applicable QPower Limited Warranty Statement

IV CURVE



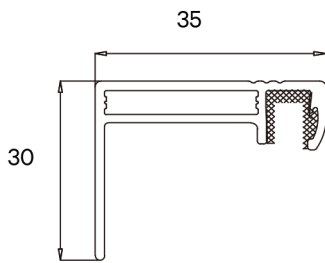
ELECTRICAL SPECIFICATION	Unit	QPM-645S	QPM-650S	QPM-655S	QPM-660S	QPM-665S
Maximum Power (Pmax)	W	645	650	655	660	665
Module Efficiency	%	20.76	20.92	21.08	21.25	21.41
Open Circuit Voltage (Voc)	V	44.80	45.00	45.21	45.39	45.59
Short Circuit Current (Isc)	A	18.25	18.38	18.44	18.47	18.51
Maximum Power Voltage (Vmp)	V	37.70	37.91	38.11	38.30	38.49
Maximum Power Current (Imp)	A	17.11	17.15	17.19	17.24	17.28
Maximum System Voltage	V	ICE 1500VDC				

STC: Irradiance: 1000W/m², Module Temperature: 25°, Air Mass: 1.5

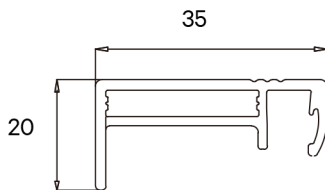
ELECTRICAL DATA@NOCT	QPM-645S	QPM-650S	QPM-655S	QPM-660S	QPM-665S
Pmax [W]	480	483	487	491	494
Vmp [V]	34.47	34.67	34.83	35.01	35.19
Imp [A]	13.92	13.94	13.99	14.02	14.05
Pmax [V]	41.65	41.83	42.02	42.19	42.37
Isc [A]	14.82	14.85	14.89	14.92	15.90

NOCT: Irradiance: 800W/m², Ambient Temperature: 20°, Air Mass: 1.5, Wind Speed: 1 m/s

Frame Cross Section A-A



Frame Cross Section B-B



MECHANICAL SPECIFICATIONS	
Solar Cell Type	Mono Crystalline 210x105 mm
Number of Cells	132 pcs
Module Size	2384x1303x35 mm (±1 mm)
Weight	34.4 kg (±3%)
Glass	3.2 mm tempered glass
Back Sheet	White or Black
Frame	Anodized Aluminium alloy, silver or black
Junction Box	IP68
Quantity of Diodes	3 pcs
Cable	4.0 mm ² 1100 mm
Connector	MC4 Compatible
Wind/Snow Load	2400pa/5400pa

TEMPERATURE CHARACTERISTIC	
NMOT (Nominal Module Operating Temperature)	45°C (±2°C)
Temperature Coefficient of P _{max}	-0.36%/°C
Temperature Coefficient of U _{oc}	-0.26%/°C
Temperature Coefficient of I _{sc}	0.04%/°C

MAXIMUM RATINGS	
Operational Temperature	-40 to +85°C
Maximum System Voltage	1500VDC(IEC)
Max Series Fuse Rating	30A
Protection Class	Class II
Snow Loading	5400 Pa
Wind Loading	2400 Pa
Hailstone Test	25 mm hailstone at the speed of 23 m/s

PACKAGING CONFIGURATION	
Modules per box:	31 pieces
Modules per 20GP:	124 pieces
Modules per 40' HQ:	558 pieces

*design load with safety factor 1.5
(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)