



QUANTUM N-Type High-Efficiency Module Specification

Monocrystalline 6X20 Solar Modules

475Wp~505Wp



Zero light-induced degradation



Better low light response



Additional power gain



The highest Mechanical Load Test in PV Industry



Better temperature coefficient



Lower LCOE



The toughest Salt Mist Test in PV Industry

Green Energy

Made in Taiwan



Sustainable Development



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475-505Wp



Electrical Data								General Data	
Model Name		TS60-CMH-475 H1	TS60-CMH-480 H1	TS60-CMH-485 H1	TS60-CMH-490 H1	TS60-CMH-495 H1	TS60-CMH-500 H1	TS60-CMH-505 H1	
Max. power at STC	P _{max} W	475	480	485	490	495	500	505	Cell type
Max. power voltage	V _{mp} V	36.12	36.26	36.45	36.64	36.83	37.02	37.2	Monocrystalline N-Type solar cell
Max. power current	I _{mp} A	13.16	13.24	13.32	13.40	13.48	13.56	13.64	Cell per module
Open circuit voltage	V _{oc} V	42.54	42.73	42.92	43.11	43.3	43.49	43.68	Mono-crystalline silicon N-Type solar cell (120 pcs)
Short circuit current	I _{sc} A	13.83	13.92	14.01	14.1	14.19	14.28	14.37	Front
Module Conversion Eff.	%	22.0%	22.2%	22.4%	22.7%	22.9%	23.1%	23.4%	PV Coated glass
									Encapsulant Film
									Low water vapor transmission rate (WVTR) material
									Rear
									Backsheet (Inner side foil black)
									Frame
									Composites material frame
									Junction Box
									IP68
									
									Connector
									EVO-2 Compatible
									Cable
									1500mm / 12 AWG / 4mm ²

* Under Standard Test Condition(1,000W/m²,25°C,AM 1.5): Power Tolerance ±3%, Voc Tolerance ±3%, Isc Tolerance ±3%
* Module Conversion Eff. (%) = [Max power at STC(w) / ((Solar Module Area(m²) x 1000 (w/m²))] x 100%

Temperature Coefficient				Operation Conditions		Module Dimensions and Weight	
Nominal Operating	NOCT	°C	45±2	Max. system voltage	1500V	Dimension	1908 x 1134 x 35 mm
Cell Temperature				Module fire resistance class	Class C	Weight	23.5 Kg
TC Isc	α	%/ °C	0.045	Protection Class (IEC 61140)	Class II		
TC Voc	β	%/ °C	- 0.25	Series fuse rating	30 A		
TC Pmax	γ	%/ °C	- 0.29	Number of bypass diodes	3		
				Temperature range	-40 to +85°C		
				Max. mechanical load	5400 pa		
				* Please follow installation manual provided by TSEC			

IV Curve

Certifications

- IEC 61215:2021、IEC 61730-1:2021 & IEC 61730-2:2021、UL 61730
- ISO 9001:2015 Quality management system
- ISO 14001:2015 Environmental management system
- ISO 45001:2018 Occupational health and safety management system

Engineering Drawing(mm)

Warranty

- 12-year materials and workmanship warranty
- 30-year linear power warranty

% Warranted Power