



ALPHA 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

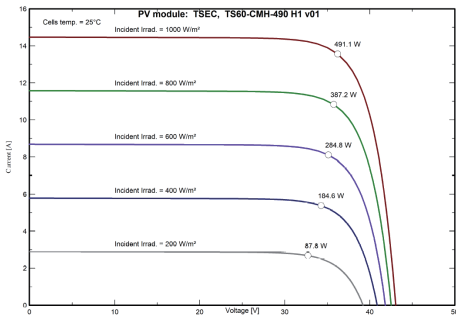


Electrical Data									General Data	
Model Name		TS60-CMH-475 H1	TS60-CMH-480 H1	TS60-CMH-485 H1	TS60-CMH-490 H1	TS60-CMH-495 H1	TS60-CMH-500 H1	TS60-CMH-505 H1	Cell type	Monocrystalline N-Type solar cell
Max. power at STC	P _{max} W	475	480	485	490	495	500	505	Cell per module	Mono-crystalline silicon N-Type solar cell (120 pcs)
Max. power voltage	V _{mp} V	36.12	36.26	36.45	36.64	36.83	37.02	37.2	Front	PV Coated glass
Max. power current	I _{mp} A	13.16	13.24	13.32	13.40	13.48	13.56	13.64	Encapsulant Film	Low water vapor transmission rate (WVTR) material
Open circuit voltage	V _{oc} V	42.54	42.73	42.92	43.11	43.3	43.49	43.68	Rear	Backsheet (Inner side foil black)
Short circuit current	I _{sc} A	13.83	13.92	14.01	14.1	14.19	14.28	14.37	Frame	Anodized aluminum black
Module Conversion Eff.	%	22.0%	22.2%	22.4%	22.7%	22.9%	23.1%	23.4%	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		
TC Isc	α	%/ °C	0.045	Protection Class (IEC 61140)	Class II	Weight	23.5 Kg
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

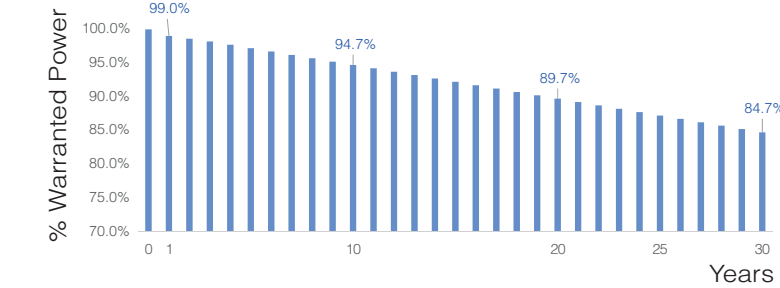
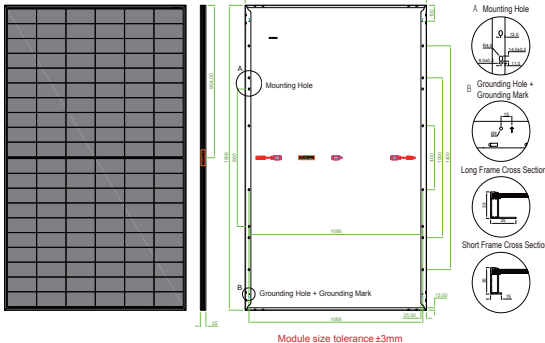


Certifications

- 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

Made in Taiwan

* The information in this document is subject to change without notice

* TSEC reserves the rights of final interpretation and revision of datasheet

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