



QUANTUM N-Type High-Efficiency Module Specification

Monocrystalline 6X18 Solar Modules

425Wp~455Wp



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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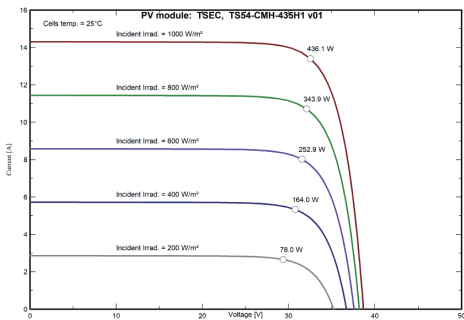
425-455Wp



Electrical Data										General Data	
Model Name			TS54-CMH-425 H1	TS54-CMH-430 H1	TS54-CMH-435 H1	TS54-CMH-440 H1	TS54-CMH-445 H1	TS54-CMH-450 H1	TS54-CMH-455 H1	Cell type	Monocrystalline N-Type solar cell
Max. power at STC	Pmax	W	425	430	435	440	445	450	455	Cell per module	Mono-crystalline silicon N-Type solar cell (108 pcs)
Max. power voltage	Vmp	V	33.01	33.16	33.35	33.52	33.71	33.89	34.04	Front	PV Coated glass
Max. power current	Imp	A	12.90	12.98	13.06	13.14	13.22	13.30	13.38	Encapsulant Film	Low water vapor transmission rate (WVTR) material
Open circuit voltage	Voc	V	38.87	39.06	39.25	39.44	39.63	39.82	40.01	Rear	Backsheet (Inner side foil black)
Short circuit current	Isc	A	13.48	13.57	13.66	13.75	13.84	13.93	14.02	Frame	Composites material frame
Module Conversion Eff.		%	21.8%	22.0%	22.3%	22.5%	22.8%	23.0%	23.3%	Junction Box	IP68
											
* 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%											
Connector		EVO-2 Compatible									
Cable		1500mm / 12 AWG / 4mm²									

Temperature Coefficient				Operation Conditions		Module Dimensions and Weight	
Nominal Operating	NOCT	°C	45±2	Max. system voltage	1500V	Dimension	1723 x 1134 x 35 mm
Cell Temperature				Module fire resistance class	Class C	Weight	21.5 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

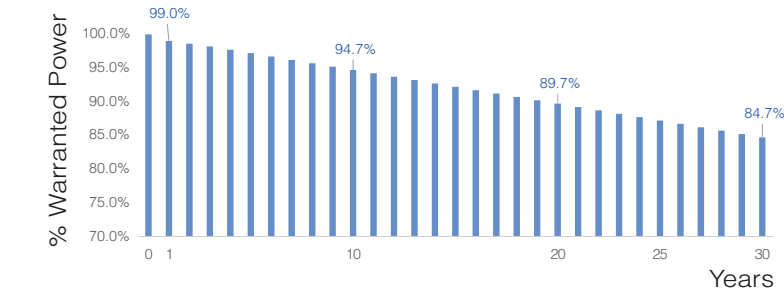
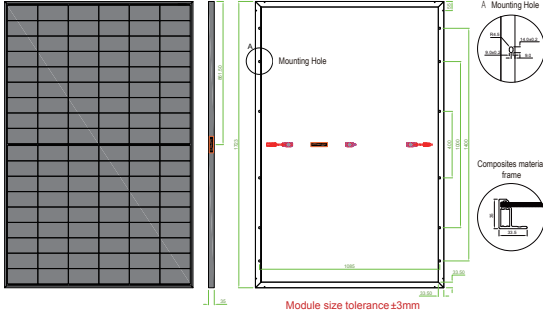


Certifications

- 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

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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