



## ALPHA TOPCon Module Specification

Monocrystalline 6X18 Solar Modules

182mm Solar Cell

# 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



# ALPHA TOPCon Module Specification(182mm Solar Cell)

## Monocrystalline 6X18 Solar Modules

### 425-455Wp



Electrical 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		
Max. power at STC	Pmax	W	425	430	435	440	445	450	455
Max. power voltage	Vmp	V	33.01	33.16	33.35	33.52	33.71	33.89	34.04
Max. power current	Imp	A	12.90	12.98	13.06	13.14	13.22	13.30	13.38
Open circuit voltage	Voc	V	38.87	39.06	39.25	39.44	39.63	39.82	40.01
Short circuit current	Isc	A	13.48	13.57	13.66	13.75	13.84	13.93	14.02
Module Conversion Eff.	%		21.8%	22.0%	22.3%	22.5%	22.8%	23.0%	23.3%

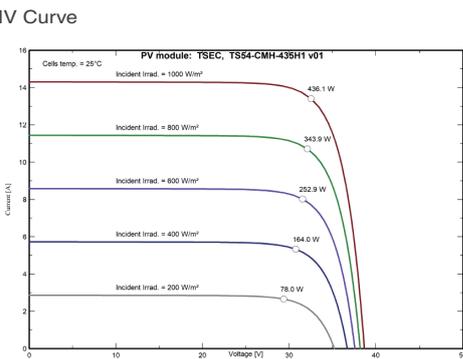
\* Under Standard Test Condition(1,000W/m<sup>2</sup>,25°C,AM 1.5): Power Tolerance ±3%  
 \* Module Conversion Eff. (%) = [Max power at STC(w) / ((Solar Module Area(m<sup>2</sup>) x 1000 (w/m<sup>2</sup>))] x 100%  
 \* Product specifications and data are subject to change without prior notice.

General Data	
Cell type	Monocrystalline TOPCon solar cell
Cell per module	Mono-crystalline silicon TOPCon solar cell (108 pcs)
Front	PV Coated glass
Encapsulant Film	Low water vapor transmission rate (WVTR) material
Rear	Backsheet
Frame	Anti-Salt Mist frame
Junction Box	IP68
Connector	EVO-2 Compatible
Cable	1500mm / 12 AWG / 4mm <sup>2</sup>

Temperature Coefficient			
Nominal Operating	NOCT	°C	45±2
Cell Temperature			
TC Isc	α	%/°C	+0.045
TC Voc	β	%/°C	-0.25
TC Pmax	γ	%/°C	-0.29

Operation Conditions	
Max. system voltage	1500V
Module fire resistance class	Class C
Protection Class (IEC 61140)	Class II
Series fuse rating	25 A
Number of bypass diodes	3
Temperature range	-40 to +85°C
Max. mechanical load	5400 pa
* Please follow installation manual provided by TSEC	

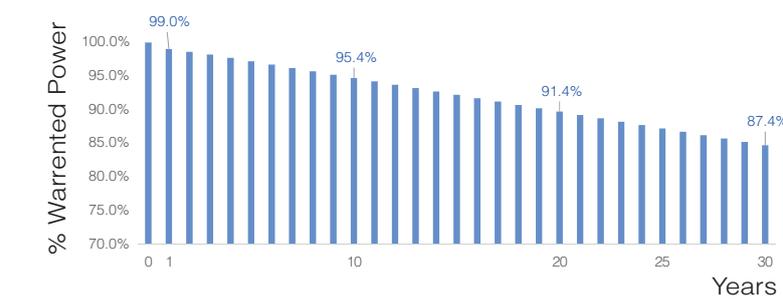
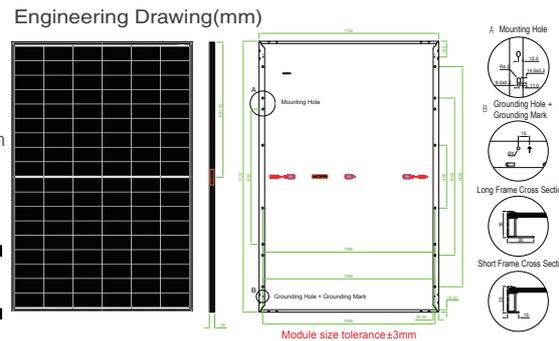
Module Dimensions and Weight	
Dimension	1723 x 1134 x 35 mm
Weight	21.5 Kg



- ### 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



★ Certification is in progress



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

★ The temporary data sheet is still under development.

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