# **Thales**

# TOPCON G12 Series 680-700W

132-cell Bifacial TOPCon Half Cell Double-glass Solar Module





#### TOPCon Cell Technology

N-type with very Lower LID, Better low irradiance response



#### SMBB design with Half-Cut Technology

Shorter current transmission distance, less resistive loss and higher cell efficiency.



#### Up to 90% Bifaciality

Natrual symmetrical bifacial structure bringing more energy yield from the backside.



#### Sealing with PIB based sealant

Stronger water resistance, greater air impermeability to extent module lifespan.



#### Higher reliability

Industrial leading product and performance warranty, ensuring modules' consistent outstanding performance.



#### Suitable for Utility project

Lower BOS cost, lower LCOE.

## WARRANTY

Product Warranty **30** years



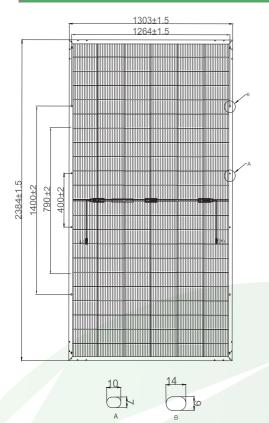


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# TOPCon G12 Series 680-700W

132-cell Bifacial TOPCON Half Cell Module

## Engineering Drawings



**Temperature Characteristics** 

43°C ± 2°C

-0.30%/°C

-0.26%/°C

0.046%/°C

Class II

Nominal Operating Cell Temp.(NOCT)

Safety & Warranty

Temperature Coefficient of Pmax

Temperature Coefficient of Voc

Temperature Coefficient of lsc

Safety Class

### **Electrical Characteristics (STC\*)**

THS-D66HND	680W	685W	690W	695W	700W	
Maximum Power (Pmax)	680W	685W	690W	695W	700W	
Module Efficiency (%)	21.9%	22.1%	22.2%	22.4%	22.5%	
Optimum Operating Voltage(Vmp)	39.92V	40.12V	40.32V	40.52V	40.72V	
Optimum Operating Current (Imp)	17.04A	17.08A	17.12A	17.16A	17.20A	
Open Circuit Voltage (Voc)	47.90V	48.14V	48.38V	48.82V	48.86V	
Short Circuit Current (Isc)	17.80A	17.84A	17.88A	17.93A	17.97A	
Operating Module Temperature	-40 to +85°C					
Maximum System Voltage	DC1500V (IEC)					
Maximum Series Fuse	35A					
Power Tolerance	0~+5W					
Bifaciality	80%±10%					

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\*STC: Irradiance 1000 W/m², cell temperature 25  $^\circ C$ , AM=1.5. Tolerance of Pmax is within +/- 3%.

BSTC*						
Maximum Power	(Pmax)	742W	759W	765W	770W	776W
Optimum Operating Voltag	ge(Vmp)	39.92V	40.12V	40.32V	40.52V	40.72V
Optimum Operating Curre	nt (Imp)	18.88A	18.92A	18.97A	19.01A	19.06A
Open Circuit Voltage	(Voc)	47.90V	48.14V	48.38V	48.82V	48.86V
Short Circuit Current	(Isc)	19.72A	18.92A	18.97A	19.87A	19.91A

\*\*BSTC: Front side irradiation 1000W/m², back side reflection iradiation 135W/m²,AM=1.5, ambient temperature 25°C.

# **Mechanical Characteristics**

Cell Type	TOPCon Mono 210X105mm				
Cell Connection	132(6X24)				
Module Dimension	2384X1303X33mm				
Weight	38.3kg				
Junction Box	IP68				
Output Cable	4mm <sup>2</sup> , 300mm in length, length can be customized/UV resistant				
Connectors Type	MC4 original/MC4 compatible				
Frame	Anodised aluminum alloy				
Encapsulant	POE/EPE				
Front Load	5400Pa				
Rear Load	2400Pa				
Glass Thickness	Double solar glass 2.0mm				

# **Shipping Configurations**

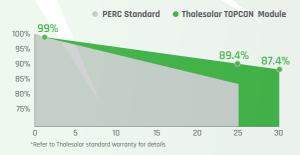
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Container Type		нс	)	
Container Size		40	,	
Pallets Per Container		18		
Modules Per Pallet	(pcs)	33	3	
Modules Per Container	(pcs)	59	4	

 Product Warranty
 30 yrs Workmanship

 Performance Warranty
 30 yrs Linear Warranty\*

\*Less than 1% attenuation in the 1st year, the annual attenuation from the 2nd year is no more than 0.4%, and the power is no less than 87.4% until the 30th year.



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