# **Thales**

### **TOPCon G10 Series** 415-435W

**108-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 80% Bifaciality

Natrual symmetrical bifacial structure bringing more energy



#### Sealing with PIB based sealant

Stronger water resistance, greater air impermeability to extent



#### **Higher reliability**

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



#### Suitable for Utility project

Lower BOS cost, lower LCOE.

#### WARRANTY

Product Product **30** years







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## **TOPCon G10 Series 415-435W**

Unit: mm

 $43^{\circ}C \pm 2^{\circ}C$ 

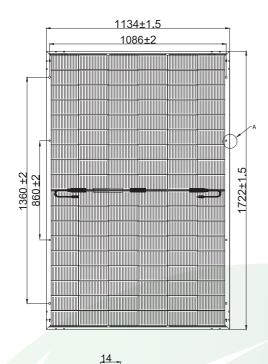
-0.30%/°C

-0.26%/°C

0.046%/°C

108-cell Bifacial TOPCon Half Cell Module

#### **Engineering Drawings**



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

THS-D54HND		415W	420W	425W	430W	435W
Maximum Power	(Pmax)	415W	420W	425W	430W	435W
Module Efficiency	(%)	21.25%	21.51%	21.76%	22.02%	22.28%
Optimum Operating Volta	ge(Vmp)	31.30V	31.50V	31.70V	31.90V	32.05V
Optimum Operating Curre	nt (Imp)	13.26A	13.34A	13.42A	13.50A	13.58A
Open Circuit Voltage	(Voc)	38.00V	38.10V	38.20V	38.30V	38.40V
Short Circuit Current	(Isc)	13.99A	14.07A	14.15A	14.23A	14.31A
Operating Module Temperature		-40 to +85°C				
Maximum System Voltage		DC1500V (IEC)				
Maximum Series Fuse		25A				
Power Tolerance		0~+5W				
Bifaciality		80%±5%				

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

Optimum Operating Current (Imp) 13.95A 14.01A 14.06A 14.12A 14.18A   Open Circuit Voltage (Voc) 38.00V 38.28V 38.56V 38.84V 39.11V	BSTC*						
Optimum Operating Current (Imp) 13.95A 14.01A 14.06A 14.12A 14.18A   Open Circuit Voltage (Voc) 38.00V 38.28V 38.56V 38.84V 39.11V	Maximum Power	(Pmax)	448W	454W	459W	464W	470W
Open Circuit Voltage (Voc) 38.00V 38.28V 38.56V 38.84V 39.11V	Optimum Operating Voltage(Vmp)		32.13V	32.38V	32.64V	32.88V	33.13V
	Optimum Operating Currer	nt (Imp)	13.95A	14.01A	14.06A	14.12A	14.18A
Short Circuit Current (Isc) 14.69A 14.74A 14.80A 14.85A 14.90A	Open Circuit Voltage	(Voc)	38.00V	38.28V	38.56V	38.84V	39.11V
	Short Circuit Current	(lsc)	14.69A	14.74A	14.80A	14.85A	14.90A

\*\*BSTC: Front side irradiation 1000W/m<sup>2</sup>, back side reflection iradiation 135W/m<sup>2</sup>,AM=1.5, ambient temperature 25°C.

#### **Mechanical Characteristics**

Cell Type	TOPCon Mono 182X91mm
Cell Connection	108(6X18)
Module Dimension	1722X1134X30mm
Weight	24.2kg/22.5kg
Junction Box	IP68
Output Cable	4mm <sup>2</sup> , 1200mm in length, length can be customized/UV resistant
Connectors Type	MC4 original/MC4 compatible
Frame	Anodised aluminum alloy(Black)
Encapsulant	POE/EPE
Front Load	5400Pa
Rear Load	2400Pa
Glass Thickness	Double solar glass 2.0mm/1.6mm

#### **Shipping Configurations**

Container Type	HC	
Container Size	40'	
Pallets Per Container	26	
Modules Per Pallet (pcs)	36	
Modules Per Container (pcs)	936	

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Safety & Warranty

Nominal Operating Cell Temp.(NOCT)

Temperature Coefficient of Pmax

Temperature Coefficient of Voc

Temperature Coefficient of lsc

Safety Class	Class II
Product Warranty	30 yrs Workmanship
Performance Warranty	30 yrs Linear Warranty*

**Temperature Characteristics** 

\*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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