TCL 210R

TCL-MI590~615DT210RP-66NS

TOPCon Shingled Bifacial High Efficiency PV Module

PRODUCT FEATURES

HIGH ENERGY YIELD

- High-density cell package, increasing 2% cells
- Lower temperature coefficient (Pmax): -0.29%/°C
- Up to 80% power bifaciality

INDUSTRY-LEADING G12R WAFER

- <1% degradation in the first year
- Smaller wafer chamfer, larger light receiving area
- Wafer:210R ,Thickness:⩽130um

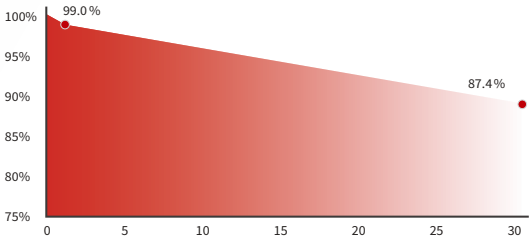
SUPERIOR CUSTOMER VALUE

- Integrated technology: TOPCon + Shingling
- Optimized dimension design for all scenarios
- More artistic beauty with no-gap design

LONG-TERM RELIABILITY

- 1/3 cell technology, lower current loss and hot spot risk
- Harsh environment resistance
- Damage-free laser cutting, lower micro-crack risk
- Mechanical load: Front 5400 Pa, Back 2400 Pa

LINEAR PERFORMANCE WARRANTY



15 YEARS product warranty

30 YEARS linear power warranty

0.40 % Linear attenuation of 0.40% per year within 30 years

CERTIFICATES

- IEC 61215/IEC 61730
- IS0 9001:2015
- IS0 45001:2018
- IS0 14001:2015

Electrical Parameters (STC*)

Maximum Power	Pmax (W)	590	595	600	605	610	615
Open Circuit Voltage	Voc (V)	47.30	47.50	47.70	47.90	48.10	48.30
Short Circuit Current	Isc (A)	15.70	15.73	15.76	15.79	15.82	15.85
Maximum Power Voltage	Vmp (V)	39.75	40.00	40.25	40.50	40.75	41.00
Maximum Power Current	Imp (A)	14.85	14.88	14.91	14.94	14.97	15.00
Module Efficiency	(%)	21.8	22.0	22.2	22.4	22.6	22.8

* STC: Irradiance 1000Wim2, Cell Temperature 25'C,AM1.5, Measuring Tolerance: +2%

Electrical Characteristics with 10% Bifacial Gain*

Maximum Power	Pmax (W)	649	655	660	666	671	677
Open Circuit Voltage	Voc (V)	47.30	47.50	47.70	47.90	48.10	48.30
Short Circuit Current	Isc (A)	17.27	17.30	17.34	17.37	17.40	17.44
Maximum Power Voltage	Vmp (V)	39.75	40.00	40.25	40.50	40.75	41.00
Maximum Power Current	Imp (A)	16.34	16.37	16.40	16.43	16.47	16.50

* The additional gain from the back side depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

Mechanical Data

No.of Cells	198pcs (6×33)
Dimension	2382×1134×30mm
Weight	33.2kg
Front Glass	2.0mm High Transmission, Heat Strengthened Glass
Back Glass	2.0mm Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
J-Box	IP68
Cables	4.0mm², +350mm, -280mm/±1400mm (can be customized)
Diodes	3
Maximum Static Load	Front: 5400Pa/Back: 2400Pa*
Connector	MC4 EVO2 & Compatible

Temperature Coefficient

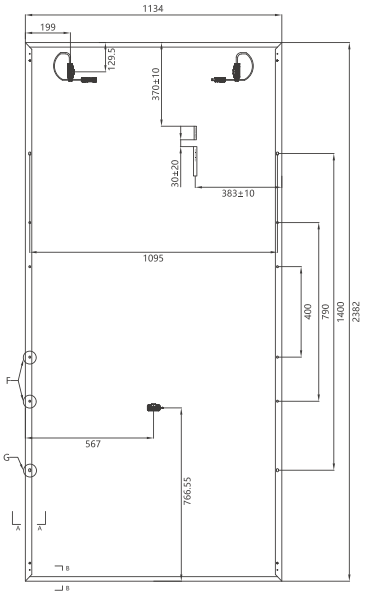
Nominal Module Operating Temperature*	43±2°C
Temperature Coefficient of Isc	+0.045%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Pmax	-0.29%/°C
Operating Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Bifaciality	80±5%

* NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s

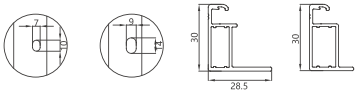
Packaging Configuration

Modules per Pallet	36pcs
Modules per 40'HQ Container	720pcs
Pallets per 40'HQ Container	20plt

Module Dimensions (mm)



Back



F-Installation Hole | G-Installation Hole | A-A | B-B

I-V Curves