

TCL Solar Back Contact Home Solar Panel

HSM-BD54-LA445~470
G10LD-54P

470W

Maximum Power Output

23.6%

Maximum Efficiency



Higher energy density;
lower operating temperature



Lower hotspot temperature;
reduce risk of micro-cracks



Refined design,
Busbar-free front side



Full-black modules,
harmonized integration with rooftops



Comprehensive supply chain integration,
redefining BC standards

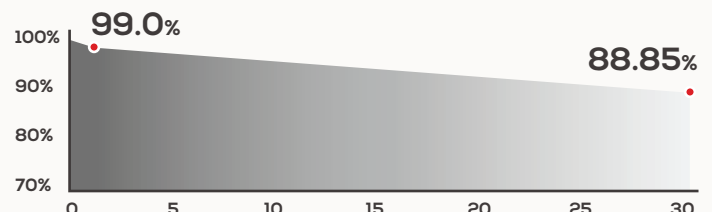
Linear Performance Warranty



25 Years
Product Warranty



30 Years Linear
Performance Warranty



Comprehensive Products and System Certificates



IEC 61215 / IEC 61730 ISO 9001:2015 ISO 45001:2018 ISO 14001:2015

HSM-BD54-LAxxx, where xxx = Pmax at STC
 Measurement Tolerance: Pmax (W) $\pm 3\%$; Voc (V) $\pm 3\%$; Isc (A) $\pm 3\%$
 * STC: Irradiance 1000W/m², Cell Temperature 25°C, AM1.5

Electrical Parameters (STC*)

Maximum Power	Pmax (W)	445	450	455	460	465	470
Open Circuit Voltage	Voc (V)	40.88	40.94	41.00	41.06	41.12	41.18
Short Circuit Current	Isc (A)	14.02	14.12	14.22	14.25	14.29	14.32
Maximum Power Voltage	Vmp (V)	34.44	34.50	34.56	34.62	34.68	34.74
Maximum Power Current	Imp (A)	12.93	13.05	13.17	13.29	13.41	13.54
Module Efficiency	(%)	22.3	22.6	22.8	23.1	23.3	23.6

Temperature Coefficient

Nominal Module Operating Temperature* 43 $\pm$ 2°C

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

Temperature Coefficient of Isc +0.05%/°C

Temperature Coefficient of Voc -0.22%/°C

Temperature Coefficient of Pmax -0.26%/°C

Operating Parameters

Operating Temperature -40~+85°C

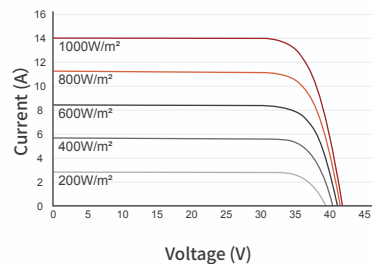
Module [T98] max 70°C

Maximum System Voltage 1500V DC

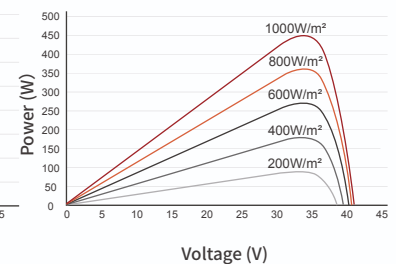
Maximum Series Fuse Rating 25A

Curve Graph

I-V Curves (455W)



P-V Curves (455W)



Mechanical Data

* Please refer to installation manual for details

No. of Cells	108pcs (6 $\times$ 18)
Dimension	1757 $\times$ 1134 $\times$ 30 mm
Weight	21.5kg $\pm$ 3%
Front Glass	3.2mm, Heat Strengthened, AR coating Glass
Back Sheet	Black
Frame	Anodized Aluminium Alloy
J-Box	IP68, three diodes
Cables	4.0mm ² , +1200mm, -1200mm (can be customized)
Maximum Static Load	Front: +5400Pa/Back: -2400Pa*
Fire Rating	IEC Class C
Connectors:	Staubli Electrical Connectors AG, PV-KST4-EVO 2/xy_UR; PV-KBT4-EVO 2/xy_UR

Packaging Configuration

Modules per Pallet	36pcs
Modules per 40'HQ Container	936pcs
Pallets per 40'HQ Container	26pcs

Engineering Drawing

[Unit: mm]

