SunPower

M Class Solar Panel

Product: SPR-BD54-DC

490–505 W | Up to 24.7% efficient

PRELIMINARY

Ideal for residential applications

Framed glass-glass

Back contact technology

Bifacial energy generation

Maximum energy creation

- Record efficiency[1]
- Leading back contact technology
- Industry's lowest degradation rate[2]
- Optimized for partial shading

Superior aesthetics & design

- Sleek panel technology
- Resistance to micro-crack, soiling, heat, wind and hail
- Extended certification scope

Unrivalled sustainability and service

- Part of TCL SOLAR ecosystem
- 40 years service coverage

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40 YEAR WARRANTY
Power | Product | Service

Backed by a comprehensive 40-year warranty

Product, power, service coverage	40 years
Year 1 minimum warranted output	99.0%
Maximum annual degradation	0.25%

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Learn more about SunPower M Class panels
www.sunpowerglobal.com

M Class POWER: 490–505 W | EFFICIENCY: Up to 24.7%

Electrical Data, Front STC Characteristics[3]				
	SPR-BD54-DC490	SPR-BD54-DC495	SPR-BD54-DC500	SPR-BD54-DC505
Nominal Power (Pnom)[4]	490 W	495 W	500 W	505 W
Power Binning	+3/0%	+3/0%	+3/0%	+3/0%
Panel Efficiency	24.0%	24.3%	24.5%	24.7%
Rated Voltage (Vmpp)	34.07 V	34.17 V	34.27 V	34.37 V
Rated Current (Impp)	14.38 A	14.49 A	14.59 A	14.69 A
Open-Circuit Voltage (Voc)[4]	41.25 V	41.35 V	41.45 V	41.55 V
Short-Circuit Current (Isc)[4]	15.04 A	15.15 A	15.26 A	15.37 A

BNPI Data[5]				
Nominal Power (Pmax)[4]	529 W	535 W	540 W	546 W
Open-Circuit Voltage (Voc)[4]	41.25 V	41.35 V	41.45 V	41.55 V
Short-Circuit Current (Isc)[4]	16.26 A	16.38 A	16.50 A	16.61 A

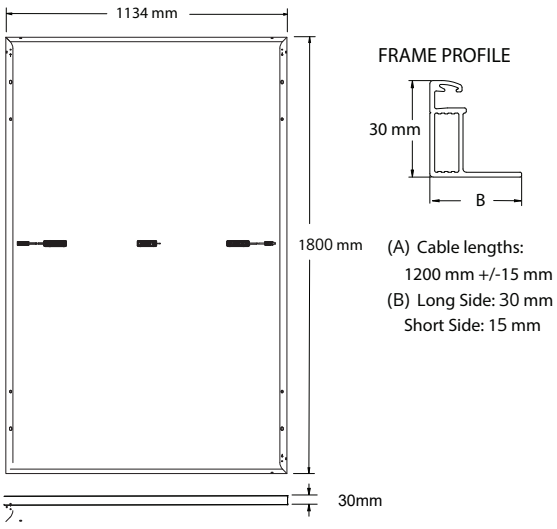
Bifacial Gain[6]				
Pmax with 5% Bifacial Gain	515 W	520 W	525 W	530 W
Isc with 5% Bifacial Gain	15.79 A	15.91 A	16.02 A	16.14 A
Pmax with 10% Bifacial Gain	539 W	545 W	550 W	556 W
Isc with 10% Bifacial Gain	16.54 A	16.67 A	16.79 A	16.91 A

Electrical Data	
Bifaciality (φPmax/φIsc)	60% +/–5%
Maximum System Voltage	1500 V IEC
Testing Temperature	–40°C to +85°C
Operation Temperature	–40°C to +70°C (IEC TS 63126)
Maximum Series Fuse	30 A
Power Temp. Coef.	–0.24% / °C
Voltage Temp. Coef.	–0.21% / °C
Current Temp. Coef.	0.05% / °C

Packaging Configuration	
Number of modules per pallet	36
Number of pallets per 40ft HQ container	24
Number of modules per container	864

Tests And Certifications	
Standard Tests	IEC 61215, IEC 61730
Fire Rating	Class C (IEC 61730-2 / UL 790)
Protection Class	Class II (IEC 61140)
Quality Certs	ISO 9001:2015, ISO 14001:2015
EHS Compliance	ISO 45001-2018, ISO 50001:2018, Recycling Scheme
Ammonia Test	IEC 62716
Dust and Sand	IEC 60068-2-68
Salt spray test	IEC 61701

Mechanical Data	
Solar Cells	N-Type Back Contact
Glass	2.0 mm + 1.6 mm, semi tempered glass, AR coating on front glass
Junction Box	IP-68, 3 bypass diodes
Connector	Stäubli MC4-EVO2A
Weight	23.5 kg
Max. Load[7]	Wind: 2400 Pa, 245 kg/m² front & back Snow: 5400 Pa, 550 kg/m² front
Impact Resistance	25 mm diameter hail at 23 m/s
Frame	Black anodized aluminum alloy



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1 Based on https://taiyangnews.info/topmodules/top-solar-modules-listing-january-2026.
2 Based on 2024 review of published efficiency and warranty data on manufacturer websites for top 20 manufacturers per IHS 2023.
3 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25° C). NREL calibration Standard: SOMS current, LACCS FF and Voltage.
4 Measurements tolerance +/-3%.
5 BNPI Test Condition (front 1000 W/m², rear 135W/m² irradiance, AM 1.5, 25° C).
6 The additional gain from the back side of the panel compared to the power of the front side of the panel at the standard test conditions. It depends on mounting (structure, height, tilt angle etc.) and albedo of the underlying surface.
7 Test load as per IEC 61215-2 is equal to design load with safety factor = 1.5. See "Safety and Installation Instructions" for details.

Please read the safety and installation instructions.
Visit www.sunpowerglobal.com/PVInstallGuide.
Paper version can be requested through techsupport.EN@sunpowerglobal.com

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