

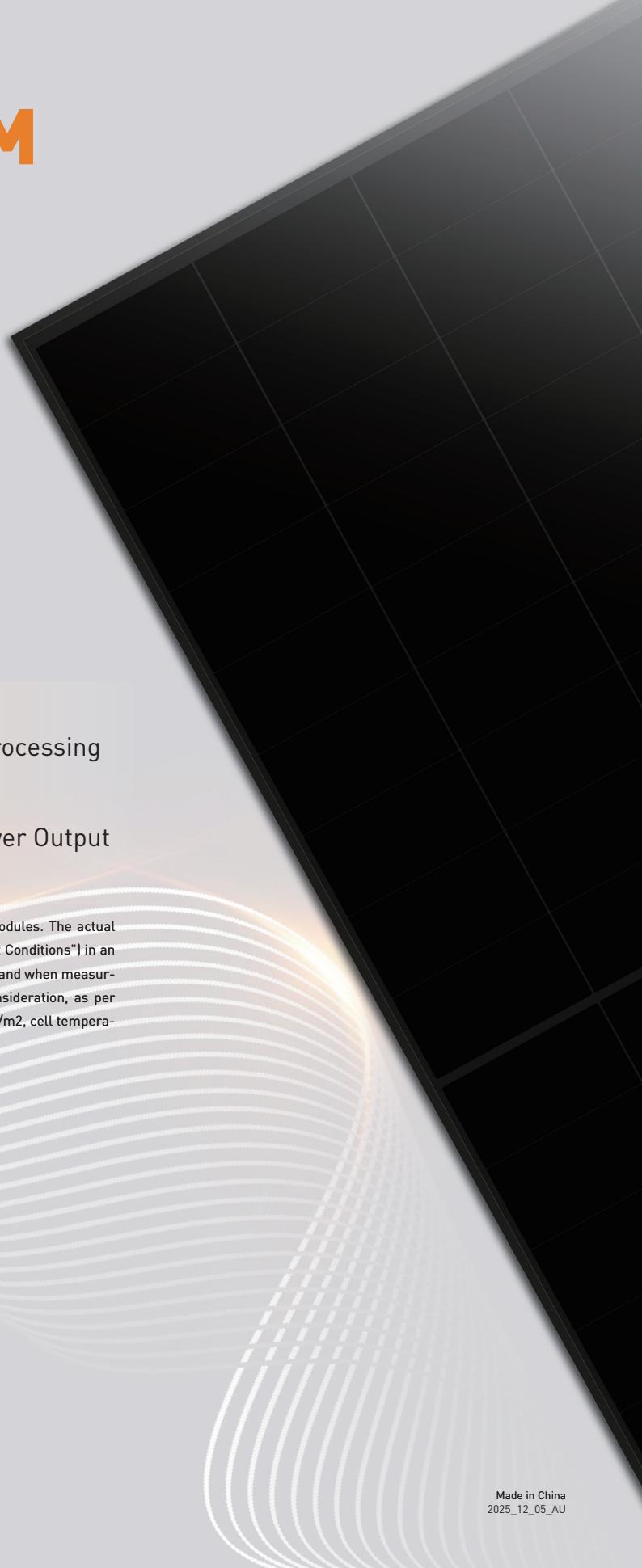


# CIPRO-TM9C54M

## 470 - 500W

Dual Glass  
Full Black

- Partial Shading Optimisation
- Better Temperature Coefficient
- High Temperature Restriction
- Micro-crack Resistance
- More Aesthetic Values



25

25-year Warranty for Materials and Processing

30

30-year Warranty for ExtraLinear Power Output

The "30-year warranty for extra linear power output" only applies to the front side of modules. The actual power output is to be measured under standard testing condition ("STC" or "Standard Test Conditions") in an independent testing lab accepted by the Supplier or previously designated by the Supplier, and when measuring the actual power output, measurement equipment tolerance is to be taken into consideration, as per IEC60904. Standard Test Conditions are: Air mass 1.5, wind speed 0m/s, irradiance 1000W/m<sup>2</sup>, cell temperature 25°C.

IEC 61215:2021 / IEC 61730:2023

ISO 9001: 2015 Quality Management System

ISO 14001: 2015 Environment Management System

ISO 45001: 2018 Occupational Health and Safety Management Systems



Made in China  
2025\_12\_05\_AU

500W

Output

24.5%

Efficiency

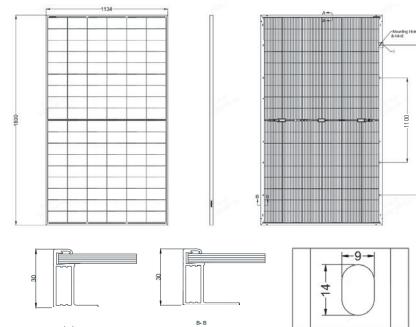
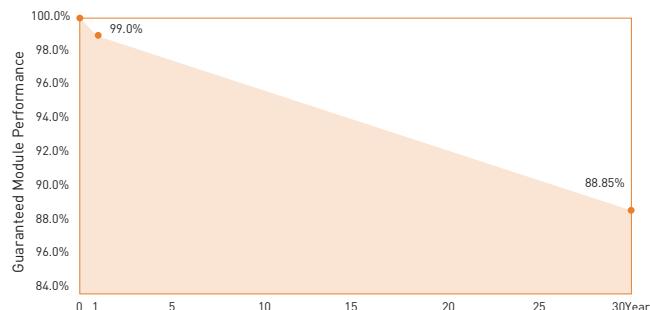
≤ 1%

First-year Degradation

≤ 0.35%

Annual Degradation from Year 2-30

30 - year Linear Performance Warranty



Tolerance  
L: ±2mm  
W: ±2mm  
Unit: mm

### Electrical Characteristics

Test Conditions	STC	BNPI										
Pmax[W]	470	510	475	515	480	520	485	525	490	530	495	535
Voc[V]	40.50	40.53	40.63	40.63	40.76	40.73	40.89	40.83	41.02	40.93	41.15	41.03
Vmp[V]	33.64	33.65	33.74	33.75	33.84	33.85	33.94	33.95	34.04	34.05	34.14	34.15
Isc[A]	14.82	15.96	14.89	16.06	14.96	16.16	15.03	16.26	15.10	16.36	15.17	16.46
Imp[A]	13.98	15.17	14.09	15.27	14.19	15.37	14.30	15.47	14.40	15.57	14.50	15.67
BSI [Isc]	17.64		17.72		17.80		17.88		17.96		18.04	
Module Efficiency	23.0%		23.3%		23.5%		23.8%		24.0%		24.3%	
												24.5%

STC: Irradiance 1000W/m<sup>2</sup>, Spectra at AM1.5, Module Temperature 25 °C. Power output tolerance: 0~+5W. Test uncertainty for Pmax: ±3%Tolerance of rating at BNPI (Pmpp / Isc / Voc): ±3% / ±3% / ±3%. BNPI: front-side irradiance 1000W/m<sup>2</sup>, rear-side irradiance 135W/m<sup>2</sup>, cell temperature (Tc) 25°C.BSI: front-side irradiance 1000W/m<sup>2</sup>, rear-side irradiance 300W/m<sup>2</sup>

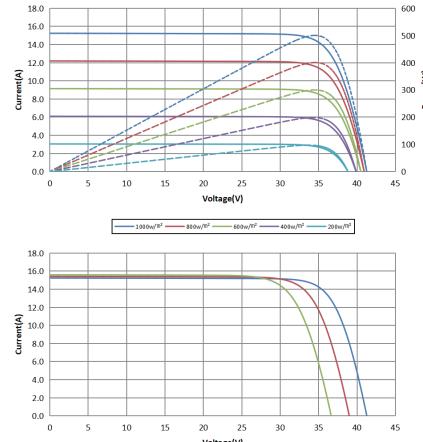
### Product Specification

Cell Type	BC (Back Contact Cell)
Glass	Dual glass, 1.6 + 1.6mm coated semi tempered glass
Frame	Black anodized aluminum
Cable	TÜV 1x4mm, (+)300mm, (-)200mm or Customized Length
No. of Cells	108 (6x18)
Junction Box	IP68, 3 bypass diodes
Connector	MC4 Compatible Staubli(PV-KST4-EV02/XY_UN,PV-KBT4-EV02/XY_UN; PV-KST4-EV02A/XY,PV-KBT4-EV02A/XY)
Weight	20.8 kg (45.86 lbs)
Dimension	1800x1134x30mm
Package Detail	37 pcs per pallet / 888 pcs per 40' HC

### Temperature Ratings (STC)

Temperature Coefficient of Isc	+ 0.05%/C
Temperature Coefficient of Voc	- 0.22%/C
Temperature Coefficient of Pmx	- 0.26%/C

### Electrical Performance



### Installation Guide

Level T <sub>98</sub> < 70 °C	-40°C ~ +70°C*
Maximum Series Fuse Rating	30A
Protection Class	Class II
Voc and Isc Tolerance	±3%
Maximum System Voltage	DC1500V
Test Mechanical load*	Front side +5400Pa, Back side -2400Pa
Hail Test	25 mm diameter hail at 23 m/s
Fire Rating	IEC Class A
Refer. Bifaciality Factor	φVoc:100±5%, φIsc: 70±5%, φPmax: 70±5%

\*Note: Test Mechanical Load = 1.5 (Safety factor) x Design load

\*Short-term operation at 85°C is permitted;  
operation at higher temperatures requires compliance with  
IEC TS 63126 testing.