

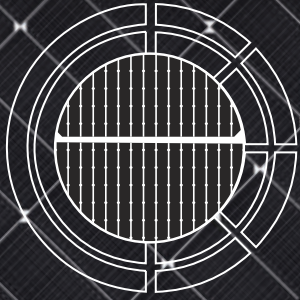


**Own
Your
Power**

N-Type TOPCon G12R Series

620wp to 640wp

**16bb Bi-Facial
cell technology**



TOPCon 640+Wp

132 Cell | 16 BB Cell

N-Type TOPCon G12R Series

Citizen Solar N-Type TOPCon G12R Series designed to maximize every ray of sunlight, deliver >23.69% efficiency with advanced TOPCon and bifacial technology for higher energy generation and superior reliability. Built to perform in extreme weather conditions with low degradation, they ensure dependable power generation and exceptional long-term value for over 30 years.

- 23.69%+ Module Efficiency
- 0~+5W Positive Power Tolerance
- 30-Year Performance Warranty
- 12-Year Product Warranty
- PID Resistance Technology
- Premium Bifacial Design



Extra
Power



Extra
Life



Double Sided
Power Generation



Anti-LeTID &
Anti-PID Performance



Lower Temperature
Coefficient

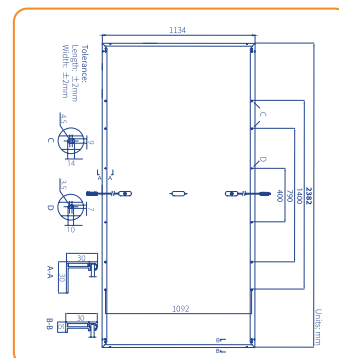


Lower LCOE &
System Cost

TECHNICAL DATA

Electrical Data: All data refers to STC (1000 W/m², AM1.5G, 25°C) and NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec.

Product Model Number	CSPL-132G12R-GF-620		CSPL-132G12R-GF-625		CSPL-132G12R-GF-630		CSPL-132G12R-GF-635		CSPL-132G12R-GF-640	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Nominal Wattage (P _{max}) Wp	620	455.94	625	459.63	630	463.65	635	467.07	640	475.52
No's of Cut Cells	132	132	132	132	132	132	132	132	132	132
Matrix Configuration	11×6 II 11×6		11×6 II 11×6		11×6 II 11×6		11×6 II 11×6		11×6 II 11×6	
Maximum Voltage (V _{mp}) V	41.45	37.60	41.55	37.73	41.63	37.85	41.74	37.97	41.94	38.03
Open Circuit Voltage (V _{oc}) V	48.61	43.72	48.72	43.85	48.83	43.97	48.95	44.09	49.30	45.85
Maximum Current (I _{mp}) A	14.98	12.13	15.07	12.18	15.16	12.25	15.24	12.30	15.64	12.70
Short Circuit Current (I _{sc}) A	15.65	12.60	15.68	12.61	15.71	12.62	15.74	12.63	16.35	13.28
Fill Factor (F.F.) in %	80±5%		80±5%		80±5%		80±5%		80±5%	
Module Efficiency (%)	22.95		23.14		23.32		23.51		23.69	
Power Tolerance	0~+5Wp		0~+5Wp		0~+5Wp		0~+5Wp		0~+5Wp	



STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5G spectrum according to EN 60904-3
Average relative efficiency reduction of <5% at 200W/m² according to EN 60904-1

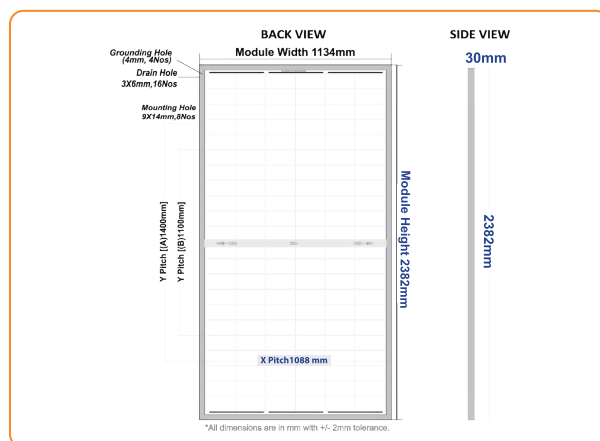
BIFACIAL OUTPUT - BACKSIDE POWER GAIN @STC (Bifaciality Factor: 80%±10%)*

5%	Nominal Maximum Power (P _{max})	650.81	656.08	661.81	666.70	699
10%	Nominal Maximum Power (P _{max})	681.80	687.33	693.33	698.45	704
20%	Nominal Maximum Power (P _{max})	743.78	749.81	756.36	761.95	736
30%	Nominal Maximum Power (P _{max})	805.76	812.29	819.39	825.44	768

[Note]: The bifacial gain depends on the power plant design and site conditions.
Electrical component ratings should be selected as per actual bifacial gain at site.

TEMPERATURE COEFFICIENTS (TC) PERMISSIBLE OPERATING CONDITIONS

Operating Temperature (°C)	-40°C to +85°C
Temperature coefficients of P _{max}	-0.29%/°C
Temperature coefficients of V _{oc}	-0.23%/°C
Temperature coefficients of I _{sc}	0.04%/°C
Nominal operating cell temperature (NOCT)	45 ± 2°C



MECHANICAL SPECIFICATIONS

Dimensions	2382(L) × 1134(W) × 30(T)
Weight	33.5 kg
Cell type / No Of Cell	132 Half-cut N-type TOPCon Bifacial Solar cells
Cell Size	16BB TOPCon G12R — 210 mm × 182.3 mm (105 × 182 + 105 × 182)
Frame	Anodized Aluminum Alloy (6005, Temper T6, Silver colour)
Front Cover	Low Iron semi-Tempered AR coated Glass (2 mm thick)
Encapsulate	PID resistant and UV resistant Polymeric Film
Back Cover	Low Iron semi-Tempered Glass (2 mm thick)
Junction Box	35A Split Junction Box (3 nos. with individual Bypass Diode) — Weatherproof (IP68)
Bypass Diode	50 A, 45 V, 200°C max. junction temperature
Cable	4 sq. mm, 300 mm length (Customised cable length available on request)
Connectors	MC4 compatible (MC4 original available on request)
Application Class Rating	Class A
Safety Class Rating	Class II
Mechanical Load Test	5400 Pa — Front; 2400 Pa — Back (as per IEC & UL)
Mounting Holes Pitch (Y)-mm	[A] 1400, [B] 790 (Holes at 400 mm Y-pitch for tracker can be provided on customer request)
Mounting Holes Pitch (X)-mm	1088

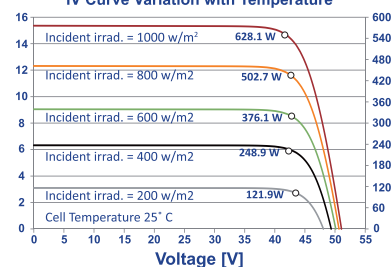
WARRANTY AND CERTIFICATIONS

Performance Warranty**	Linear Power Warranty for 30 years, 90% for 12 years and 87.4% for 30 years.
Approvals & Certificates	Products: IS:14286 / IEC:61215:2005-ED2, IEC:61730-Ed.1 & ED.2

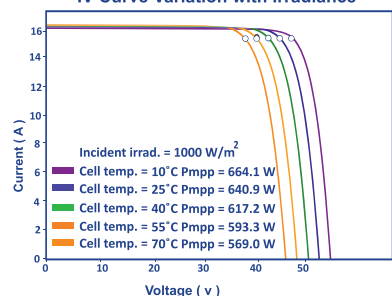
STACKING STANDARD

	No. of Modules	No. of Pallets	Modules Per Pallet / Pallet Weight	Pallet Dimensions
19FT	256 Nos.	8 Pallets	32 Nos. / 1130 Kgs.	2400 × 1010 × 1300
32FT	384 Nos.	12 Pallets	32 Nos. / 1130 Kgs.	2400 × 1010 × 1300
40FT	704 Nos.	22 Pallets	32 Nos. / 1130 Kgs.	2400 × 1010 × 1300
20 GP Container	320 Nos.	10 Pallets	32 Nos. / 1130 Kgs.	2400 × 1010 × 1300
40 HC Container	640 Nos.	20 Pallets	32 Nos. / 1130 Kgs.	2400 × 1010 × 1300

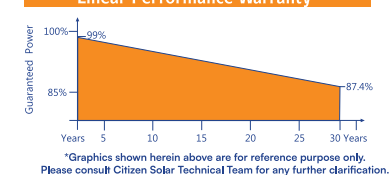
IV Curve Variation with Temperature



IV Curve Variation with Irradiance



Linear Performance Warranty



Declaration: With the technical progress and product updates, there exists a deviation between the technical parameters of the CITIZEN SOLAR future products and the technical parameters in this specification. CITIZEN SOLAR reserves the right to adjust the technical parameters at any time without notifying customers. CITIZEN SOLAR reserves the final right of interpretation.



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Corporate Office :

411, Sakar-2,
Ellisbridge Corner,
Ashram Road, Ahmedabad,
Gujarat - 380006, India.

Manufacturing Unit 1:

New Survey No. 966,
Village: Indrad,
Chhatral Kadi Road,
Ta. Kadi, Dist. Mehsana,
Gujarat - 384440, India.

Manufacturing Unit 2:

Survey No. 96/1,
Village: Ankhol,
Chhatral Kadi Road,
Ta. Kadi, District Mehsana,
Gujarat - 384440, India.

☎: +91 8000 111 222 | ✉: info@citizensolar.com

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