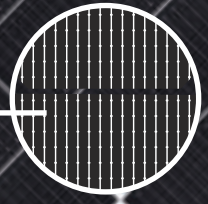




132 Cell | 16 BB Cell  
**N-Type TOPCon**  
**G12R Series**  
 620wp to 640wp



G12R  
 SERIES



16bb Bi-Facial  
 cell technology

**TOPCon 640+Wp**



**Extra Power**



**Extra Life**



**Double-Sided Power Generation**



**Excellent anti-LeTID & anti-PID performance**



**Lower temperature coefficient**



**Lower LCOE & system cost**

N-type Citizen TOPCON Bi-facial Modules have the best efficiency >23.69% with higher power generation and reliable characteristic resistance. These panels provide efficient production under extreme weather conditions along with bifaciality with lower degradation. N-type Citizen TOPCON Bi-facial Modules generate significantly more power per watt(kwh/kw) over 30 years(Long life) of use compared to PERC panels.

**Module Efficiency**  
 >23.69%

**Positive Power Tolerance upto**  
 0~+5wp

**30 Years Performance Warranty**

**12 Years Product Warranty**

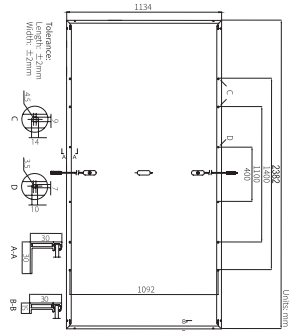
**PID Resistant**

**Outstanding Aesthetic Design**

## TECHNICAL DATA

Electrical Data : All Data refers to STC (1000W/m<sup>2</sup>, AM1.5G, 25°C) and NOCT irradiance 800 W/m<sup>2</sup>, 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 (Pmax) 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	11x6 II 11x6		11x6 II 11x6		11x6 II 11x6		11x6 II 11x6		11x6 II 11x6	
Maximum Voltage (Vmp) V	41.45	37.60	41.55	37.73	41.63	37.85	41.74	37.97	41.94	38.03
Open Circuit Voltage (Voc) V	48.61	43.72	48.72	43.85	48.83	43.97	48.95	44.09	49.30	45.85
Maximum Current (Imp) A	14.98	12.13	15.07	12.18	15.16	12.25	15.24	12.30	15.64	12.70
Short Circuit Current (Isc) 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	



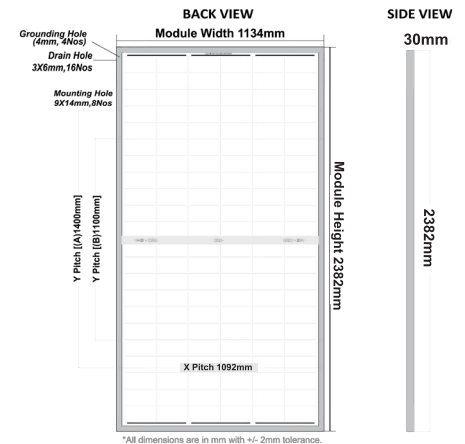
STC : 1000W/m<sup>2</sup> irradiance, 25°C cell temperature, AM1.5G spectrum according to EN 60904-3  
Average relative efficiency reduction of <5% at 200W/m<sup>2</sup> according to EN 60904-1

BIFACIAL OUTPUT - BACKSIDE POWER GAIN @STC*[ Bifaciality Factor: 80%±10%]						
5%	Nominal Maximum Power (Pmax)	650.81	656.08	661.81	666.70	699
10%	Nominal Maximum Power (Pmax)	681.80	687.33	693.33	698.45	704
20%	Nominal Maximum Power (Pmax)	743.78	749.81	756.36	761.95	736
30%	Nominal Maximum Power (Pmax)	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.

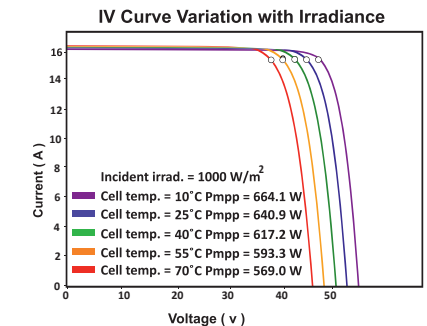
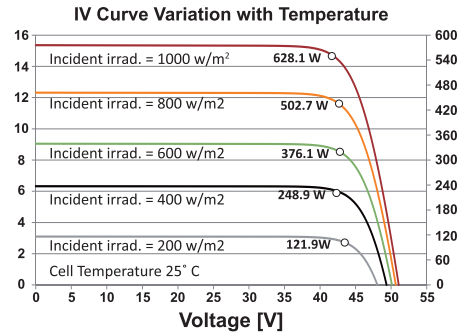
### Temperature Coefficients (Tc) permissible operating conditions

Operating Temperature (°C)	-40°C to +85°C
Temperature coefficients of Pmax	-0.29%/°C
Temperature coefficients of Voc	-0.23%/°C
Temperature coefficients of Isc	0.04%/°C
Nominal operating cell temperature (NOCT)	45±2°C



### MECHANICAL SPECIFICATIONS

Dimensions	2382(L) x 1134(W) x 30(T)
Weight	34.5 kg
Cell type / No Of Cell	132 Half-cut N-type TOPCon Bifacial Solar cells
Cell Size	16BB TOPCon G12R - 210mm x 182.3mm (105 x 182 + 105 x 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] 1100, (Holes at 400 mm Y-pitch for tracker can be provided on customer request)
Mounting Holes Pitch (X)-mm	1092



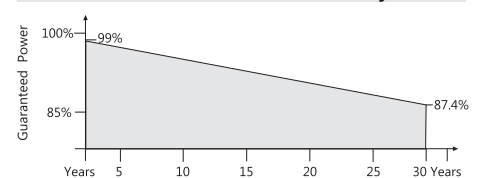
### WARRANTY AND CERTIFICATIONS

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 x 1000 x 1300
32FT	384 Nos.	12 Pallets	32 Nos. / 1130 Kgs.	2400 x 1000 x 1300
40FT	704 Nos.	22 Pallets	32 Nos. / 1130 Kgs.	2400 x 1000 x 1300
20 GP Container	320 Nos.	10 Pallets	32 Nos. / 1130 Kgs.	2400 x 1000 x 1300
40 HC Container	640 Nos.	20 Pallets	32 Nos. / 1130 Kgs.	2400 x 1000 x 1300

### Linear Performance Warranty



\*graphics shown herein above are reference purpose only. please consult Citizen Solar Technical Team for any further clarification.

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