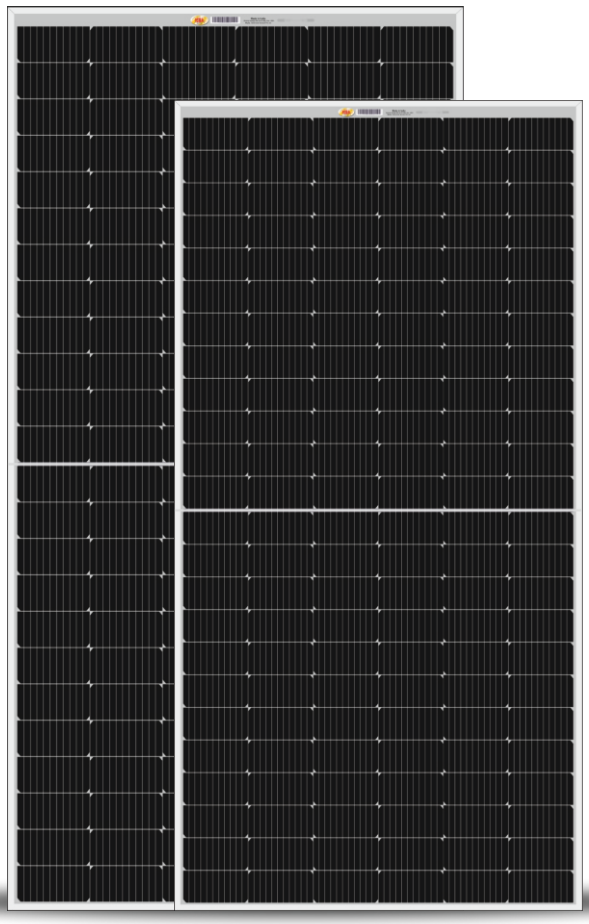
OSWAL
RENEWABLE ENERGY
Greener | Cleaner | Smarter
True Partner !



600 Wp - 640 Wp

N-type TOPCon Dual Glass Module Technology

G12R 16BB TOPCon Bifacial Module

PRODUCT CERTIFICATES

IECEE CB Scheme	IEC 61215	IEC 61730-1 / 2	IS 14286	QUALITY APPROVED
IEC CB Scheme	Design Qualification	Safety Qualification	BIS Qualification	Better Performance
ISO 9000	ISO 14000	M10 - Cell	Split type - JB	Better Performance
Certified Mfg. Process	Environmental Mgt. System			

MADE IN INDIA

30 YEARS — 30 Years Warranty for Linear Performance

12 YEARS — 12 Years Product warranty on Materials and Workmanship

PRODUCT | KEY FEATURES

OSWAL SOLAR

- Advanced N-type TOPCon Technology
- Bifacial Dual Glass Design (Up to 30% Gain)
- Better Output in Low Irradiance
- Excellent anti-LID, anti-LeTID & anti-PID Performance
- Low Temperature Coefficient
- Bifaciality Factor 80 ± 10 %
- Robust Performance (<1% first year degradation)

Comprehensive System Certifications

ISO 9001:2015: Quality Management system

ISO 14001:2015: Environment Management system

ISO 45001:2018: Occupational health and safety



TECHNICAL DATA

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ELECTRICAL CHARACTERISTICS*

	STC	STC	STC	STC	STC	STC	STC	STC	STC
Maximum Power (Pmax) (W)	600	605	610	615	620	625	630	635	640
Optimum Operating Voltage (Vmp)	39.964	40.104	40.244	40.384	40.524	40.664	40.804	40.944	41.084
Optimum Operating Current (Imp) (A)	15.025	15.095	15.165	15.235	15.305	15.375	15.445	15.515	15.585
Open Circuit Voltage (Voc) (V)	47.337	47.537	47.737	47.937	48.137	48.337	48.537	48.737	48.937
Short Circuit Current (Isc) (A)	15.920	15.980	16.040	16.100	16.160	16.220	16.280	16.340	16.400
Module Efficiency	22.19%	22.38%	22.56%	22.75%	22.93%	23.12%	23.30%	23.49%	23.67%

Note: STC: Irradiance 1000W/m², Cell Temperature 25°C, AM 1.5 according to EN/IEC 60904. Power tolerance 0 ~ +4.99W. Measurement uncertainty ≤3%. Except Pmax, all other above parameters have tolerance ±3%.

ELECTRICAL CHARACTERISTICS WITH BIFACIAL POWER GAIN AT STC* [Bifaciality Factor: 80% ± 10%]

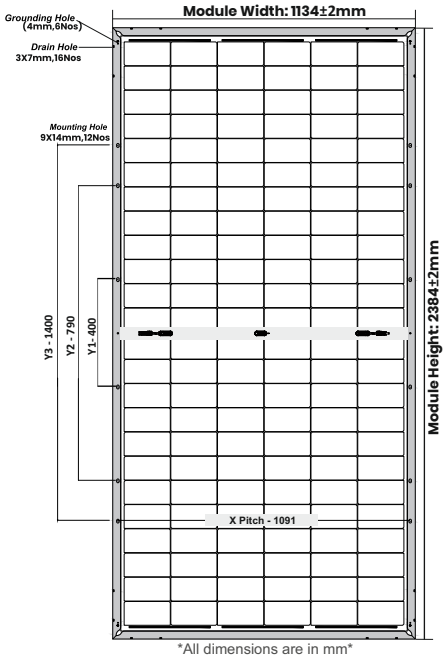
05%	Pmax (W)	630	635	641	646	651	656	662	667	672
	Efficiency	23.30%	23.50%	23.69%	23.89 %	24.08%	24.27%	24.47%	24.66%	24.86 %
10%	Pmax (W)	660	666	671	677	682	688	693	699	704
	Efficiency	24.41%	24.62%	24.82%	25.02%	25.23%	25.43%	25.63%	25.84%	26.04%
20%	Pmax (W)	720	726	732	738	744	750	756	762	768
	Efficiency	26.63%	26.85%	27.08%	27.30%	27.52%	27.74%	27.96%	28.19%	28.41%
25%	Pmax (W)	750	756	763	769	775	781	788	794	800
	Efficiency	27.74%	27.97%	28.20%	28.44%	28.67%	28.90%	29.13%	29.36%	29.59%
30%	Pmax (W)	780	787	793	800	806	813	819	826	832
	Efficiency	28.85%	29.09%	29.33%	29.57%	29.81%	30.05%	30.29%	30.53%	30.78%

Note: The bifacial gain depends on the power plant design, ground reflectance (Albedo), bifaciality factor and cconditions. Electral component raratings should be sel ed based on the actual bifacial gain at the site.

Mechanical Specifications	
Dimensions	2384± 2 mm x 1134 ± 2 mm x 30 ± 1 mm
Weight	33.8 Kg
Cell Type	132 Half-cut, G12R N-type TOPCon Bifacial Solar cells
Frame	Anodized Aluminum Alloy (6005, Temper T6, Silver colour)
Front Cover	Low Iron semi-Tempered AR coated Glass (2 mm thick)
Encapsulant	PID resistant and UV resistant Polymeric Film
Back Cover	Low Iron semi-Tempered Glass (2 mm thick)
Junction Box	IP68, 3 Bypass Diode
Cable	4 sq. mm, 300 mm length (As per customer requirement)
Connectors	MC4 compatible (MC4 original available on request)
Mounting Holes Pitch (Y)-mm	400, 790, 1400
Mounting Holes Pitch (X)-mm	1091± 2 mm

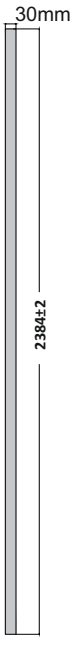
Operating Condition	
Maximum System Voltage	1500 VDC
Operating Temperature	-40°C to +85°C
Maximum Series Fuse Rating	30A
Mechanical Load	5400 Pa (Front) / 2400 Pa (Back)
Application Class Rating	Class A
Safety Class Rating	Class II
Temperature Characteristics	
Tc of Current (α) Isc (%/°C)	0.0452%± 0.01
Tc of Voltage (β) Voc (%/°C)	-0.2505% ± 0.02
Tc of Power (γ) Pmax (%/°C)	-0.2991% ± 0.02
NOCT	45°C (±2°C)

BACK VIEW

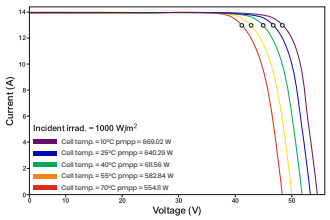


All dimensions are in mm

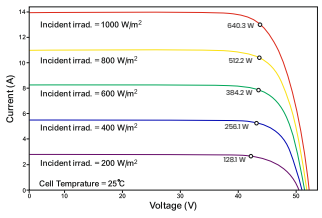
SIDE VIEW



IV Curve Variation with Temperature

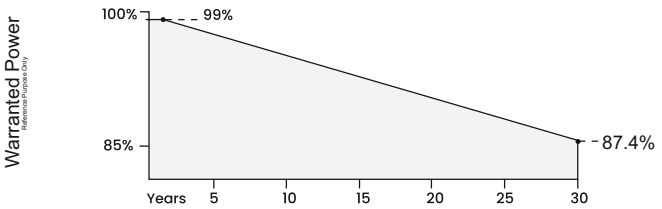


IV Curve Variation with Irradiance



IV Curves for Front-Side Illumination of 640 Wp Module

LINEAR PERFORMANCE WARRANTY



PACKING STANDARD	40FT
No. of Modules :	704 Nos
No of Pallets:	22 Pallets
Modules per Pallet / Weight :	32 Nos/1120 Kg.
Pallet dimensions :	2400*980*1275

Caution: Please read the safety and installation instructions before using this product.
Warranty: Linear power warranty for 30 years, with degradation of up to 1.0% in the first year and 0.45% per year from year 2 to year 30. Please read the Oswal warranty documents thoroughly.
Disclaimer: Specifications included in this datasheet are subject to change without prior notice due to ongoing innovation in product development and R&D activities. OSWAL SOLAR reserves the right to make any adjustments to the information described here. The data contained in this specification do not represent the performance of an individual module. T&C apply.