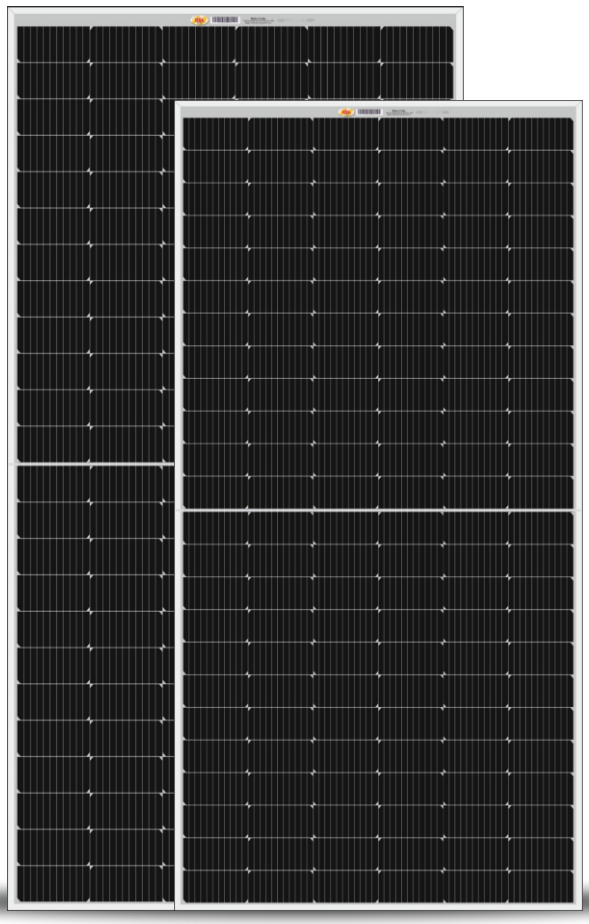
OSWAL
RENEWABLE ENERGY
Greener | Cleaner | Smarter
True Partner !



OSWAL SOLAR MODULES MONO PERC HALF-CUT 505 Wp - 560 Wp

Monofacial Modules

Oswal Solar Monofacial Modules deliver high efficiency, reliable performance, and long-term savings. Manufactured under stringent quality standards, they feature 10-busbar cells for reduced energy loss and enhanced durability, withstanding mechanical loads up to 5400 Pa for dependable performance in extreme weather conditions.

PRODUCT CERTIFICATES

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

MADE IN INDIA

27 YEARS — 27 Years Warranty for linear performance

12 YEAR — Product warranty on materials and workmanship

PRODUCT | KEY FEATURES

OSWAL SOLAR

- Anti-Reflective (AR) coated glass to enhance solar energy
- Excellent module efficiency with Passivated Emitter Rear Cell (PERC) to achieve higher energy conversion efficiency
- Positive power tolerance with current binning to prevent mismatch losses
- Pre- and post-lamination electroluminescence (EL) inspection with high-resolution cameras to detect hidden defects such as cell cracks and diode failures
- IP68 Junction Box ensures long-term endurance, even in harsh environmental conditions
- Hi-Pot testing verifies insulation strength for electrical safety and quality
- 10-busbar (10BB) half-cut cell technology brings stronger resistance to shade and lower risk of hot spots



TECHNICAL DATA

PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC) (Irradiance of 1000 W/m², spectrum AM 1.5, and cell temperature of 25°C)

Nominal Maximum Power (Pmax)	520 W	540 W	545 W	550 W
Optimum Operating Voltage (Vmp)	41.02 V	42.34 V	42.65 V	42.984 V
Optimum Operating Current (Imp)	12.68 A	12.76 A	12.78 A	12.8 A
Open Circuit Voltage (Voc)	47.858 V	48.97 V	49.24 V	49.60 V
Short Circuit Current (Isc)	13.33 A	13.45 A	13.48 A	13.52 A
Module Efficiency	20.13 %	20.90 %	21.10 %	21.29 %
Fill Factor	80.53 %	80.03 %	82.11 %	82.03 %

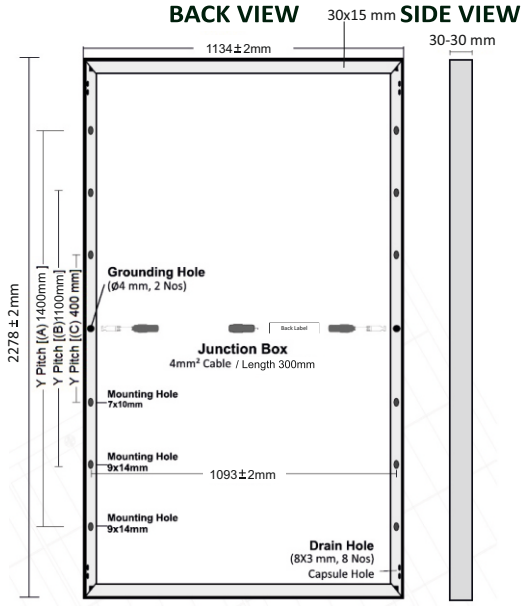
Note: Power measurement uncertainty: <±3%

PERFORMANCE UNDER NOCT (NOCT irradiance of 800 W/m² , ambient temperature of 20°C, Wind speed 1m/s, Average NOCT = 45°C)

Maximum Power (Pmax)	389 W	412 W	410.4 W	412 W
Optimum Operating Voltage (Vmp)	38.895 V	40.147 V	38.70 V	40.757 V
Optimum Operating Current (Imp)	10.227 A	10.292 A	10.59 A	10.324 A
Open Circuit Voltage (Voc)	45.379 V	46.433 V	46.70 V	47.038 V
Short Circuit Current (Isc)	10.751 A	10.848 A	11.22 A	10.905 A

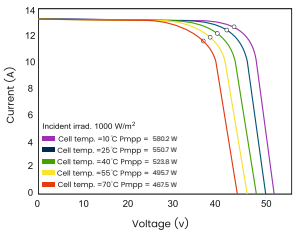
Mechanical Specifications

Dimensions (L x W x T in mm)	2278 x 1134 x 30
Weight (Kg)	26.5 kg ± 0.4 kg
Cell Type / No. of Cells	Mono PERC Half-Cut / 144 Cell (12*6, 12*6)
Frame	Silver Anodized Aluminum Alloy (6005, Temper T6, Silver Colour)
Front Cover	ARC Coated Low-Iron Tempered Glass (3.2 mm Thick)
Encapsulant	Ethylene Vinyl Acetate (EVA) Sheet - PID free and UV Resistant
Back Sheet	Fluoro-polymer Based Composite Film / Polymer Based Composite Film
Junction Box	Split Junction Box (3 units with bypass diode) - Weatherproof (IP68), MC4 Compatible Connectors
Cable	4 sq. mm, 300 mm. / 400 mm. Length (As per Customer Requirement)
Application Class Rating	Class A
Safety Class Rating	Class II
Mechanical Load Test (as per IEC & UL)	5400 Pa-front, 2400 Pa-back
Mounting Holes Pitch (Y)-mm	[A] 1400, [B] 1100, [C] 400
Mounting Holes Pitch (X)-mm	1093 ± 2 mm

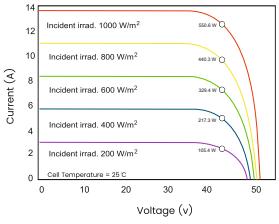


*All dimensions are in mm with ± 2 mm tolerance

IV Curve Varies with Temperature

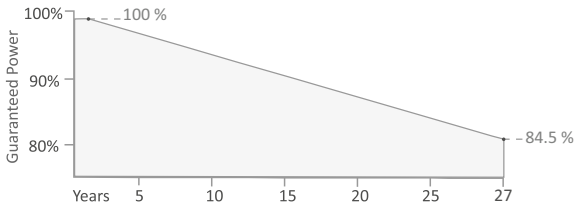


IV Curve Varies with Irradiance



* IV curves shown for front-side illumination of 550 Wp panel

LINEAR PERFORMANCE WARRANTY



Graphics shown above are for reference purposes only.

MAXIMUM OPERATING CONDITIONS

Operating Temperature:	-40°C to +85°C
Maximum System Voltage:	1500V
Maximum Series Fuse Rating:	25A

TEMPERATURE COEFFICIENTS

Current α(Isc) :	0.041%/°C
Voltage β(Voc) :	-0.259%/°C
Power ϒ(Pmax) :	-0.320%/°C

STACKING STANDARD

	19FT	32FT	40FT
No. of Modules	256 Nos	512 Nos	704 Nos
No of Pallets	8 Pallets	16 Pallets	22 Pallets
Modules per Pallet / Weight	32 Nos/886 Kgs.	32 Nos/886 Kgs.	32 Nos/886 Kgs.
Pallet dimensions	2300*1010*1210	2300*1010*1210	2300*1010*1210

Caution: Please read the safety and installation instructions before using this product.
Warranty: Linear power warranty for 27 years, with degradation of up to 2.5% in the first year and 0.5% per year from year 2 to year 27. 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.