

# OSWAL SOLAR MODULES MONO PERC HALF-CUT 500 Wp - 555 Wp

**Mono Bifacial (Non-DCR) Series**

## THE INDUSTRY'S BENCHMARK

Oswal Solar is an internationally renowned leading solar energy cost effective befitting solutions provider having core competency in high efficiency PV module manufacturing and providing wide range EPC solutions. PV modules are the best in class in terms of power output and long-term reliability.

## PRODUCT CERTIFICATES



MADE IN INDIA

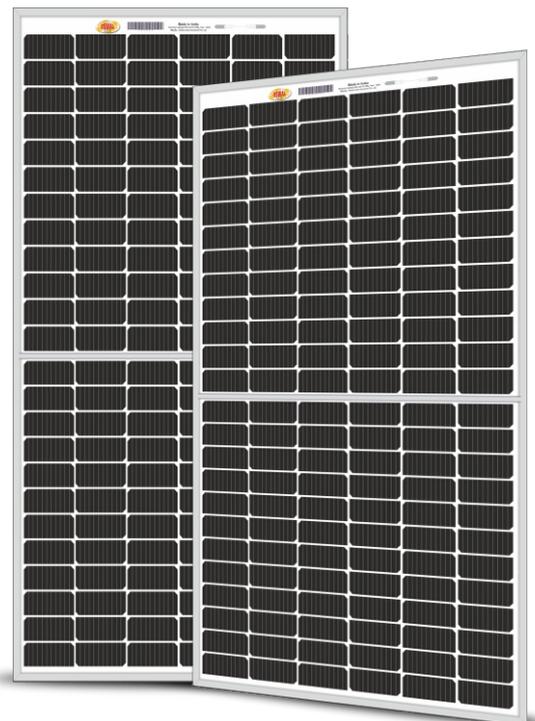
**30 YEAR** 30 Years Warranty for linear performance

**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-&Post electroluminescence (EL) High-Resolution Camera to detect hidden defects in the structure of PV Panels such as cell cracks and diode failures
-  IP68 Junction Box ensures long-term endurance, even in harsh environmental conditions
-  Hi-Pot test requires to assess the stress on electrical equipment for safety and quality considerations
-  Multi-Busbar (MBB) half-cut cell technology brings stronger resistance to shade and lower risk of hot spot



# TECHNICAL DATA

ELECTRICAL PERFORMANCE [Note: Power tolerance: 0 ~ +4.99 W. Power measurement uncertainty: <math>\pm 3\%</math>. Average value of NOCT: 44.28  $\pm 2^{\circ}\text{C}$ ]

ELECTRICAL CHARACTERISTICS*	OSWAL540MPN144TB		OSWAL545MPN144TB		OSWAL550MPN144TB	
	STC	NOCT	STC	NOCT	STC	NOCT
Nominal Maximum Power (Pmax)	540 W	406.7 W	545 W	410.4 W	550 W	412.20 W
Optimum Operating Voltage (Vmp)	41.86 V	38.50 V	42.01 V	38.70 V	42.14 V	38.94 V
Optimum Operating Current (Imp)	12.91 A	10.56 A	12.98 A	10.59 A	13.07 A	10.62 A
Open Circuit Voltage (Voc)	49.78 V	46.50 V	49.91 V	46.70 V	50.06 V	46.83 V
Short Circuit Current (Isc)	13.53 A	11.16 A	13.59 A	11.22 A	13.65 A	11.15 A
Module Efficiency	20.94 %		21.13 %		21.32 %	
Fill Factor	80.17 %		80.35 %		80.48 %	

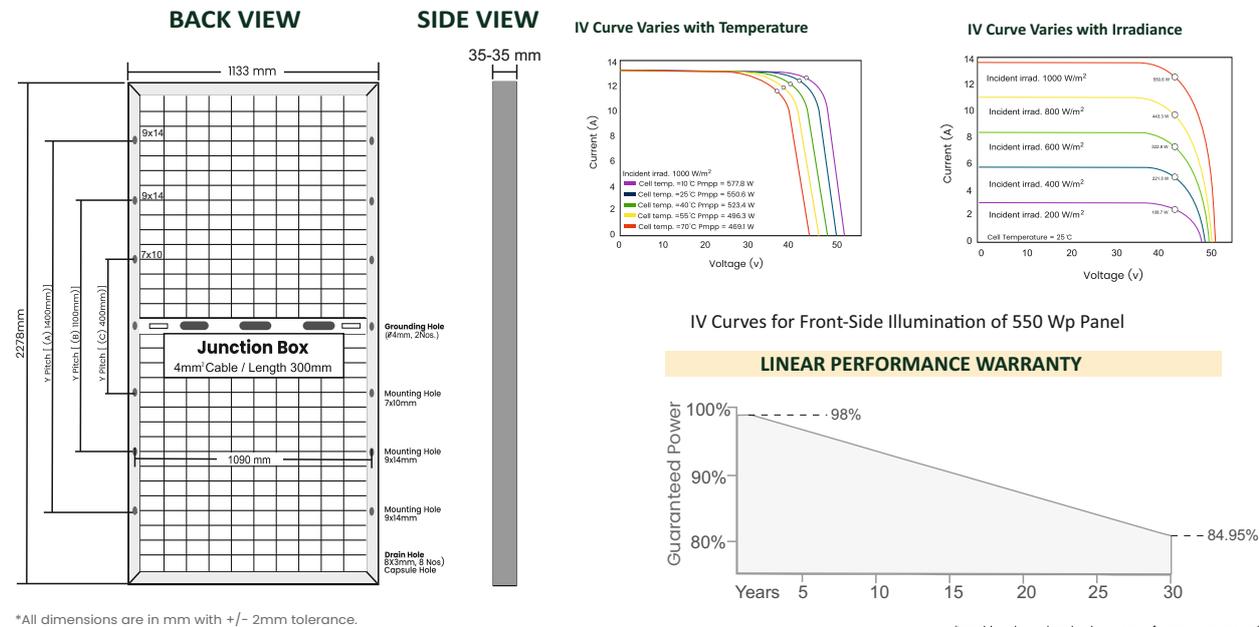
## BIFACIAL OUTPUT – BACKSIDE POWER GAIN @ STC\* [Bifaciality Factor: 75% $\pm$ 10%]

[Note: The bifacial gain depends on the power plant design and conditions. Electrical component ratings should be selected based on the actual bifacial gain at the site (module currents indicated below.)]

Bifaciality (%)	OSWAL540MPN144TB		OSWAL545MPN144TB		OSWAL550MPN144TB	
	Nominal Maximum Power (Pmax)	Module Short-Circuit Current / Efficiency	Nominal Maximum Power (Pmax)	Module Short-Circuit Current / Efficiency	Nominal Maximum Power (Pmax)	Module Short-Circuit Current / Efficiency
15%	621 W	24.12 %	627 W	24.35 %	632 W	24.56 %
20%	648 W	25.17 %	654 W	25.41 %	660 W	25.63 %
25%	675 W	26.22 %	681 W	26.46 %	687 W	26.70 %

## Mechanical Specifications

Dimensions (L x W x T in mm)	2278 x 1133 x 35
Weight (Kg)	28.6
Cell Type / No. Of cell	Mono PERC Half-Cut Bifacial /144 Cell (12*6, 12*6)
Frame	Silver Anodized Aluminum Alloy (6063, Temper T6, Silver Colour)
Front Cover	ARC Coated Low-Iron Tempered Glass (3.2 mm Thick)
Encapsulate	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
Cable	4 sq mm, 300 mm Length
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	1095



\*All dimensions are in mm with +/- 2mm tolerance.

\*graphics shown herein above are reference purpose only.

MAXIMUM OPERATING CONDITIONS	TEMPERATURE COEFFICIENT		STACKING STANDARD			
	32FT	40FT	32FT	40FT		
Operating Temperature :	-40°C to +85°C	Current $\alpha$ (Isc) :	0.0286%/°C	No. of Modules :	434	620
Maximum System Voltage :	1500V	Voltage $\beta$ (Voc) :	-0.2488%/°C	No of Pallets :	14	20
Maximum Series Fuse Rating :	25A	Power $\gamma$ (Pmax) :	-0.3290%/°C	Modules per Pallet / Weight :	31 Nos/1070 Kg	31 Nos/1070 Kg
				Pallet dimensions :	2320*1130*1275	2320*1130*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 2% in the first year and 0.6% 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.