

COSMIC PV POWER | MULTI BUS BAR SOLAR PV MODULES | 144 CELLS | 530-550 WATT

144 HALF-CUT  
SOLAR CELLS

MODULE DATASHEET

Cosmic PV Power photovoltaic (PV) modules set the industry benchmark for reliable energy production, optimized design and environmental performance. Cosmic Modules are designed for High area efficiency suitable for roof-top and ground mounted applications.

Up TO 21.3%  
EFFICIENCY

530-550 W  
RANGE

MBB Module

## PRODUCT | KEY FEATURES



MBB Mono PERC cell technology, Bifacial Transparent Back Sheet Module with 10BB with higher output power up to 550w



Glass with anti-reflective coating to maximize sunlight potential



Excellent low light performance with high module efficiency up to 21.3



Pre and Post EL Checking to ensure defect free modules



Less shading and lower resistive loss



Excellent anti-micro cracking performance more balance interior stress



Durability against extreme environmental

## APPLICATIONS

- ◆ On-Grid large scale utility systems
- ◆ On-Grid Rooftop residential, commercial and industrial rooftop installations
- ◆ Off-Grid Residential systems

### High Reliability

Using tempered glass and back sheet, which brings higher reliability and better anti-corrosiveness to the module in weak-light conditions

### Best in Class reliability

Cosmic Modules are able to withstand wind load 2400pa and snow load 5400Pa

### Higher Generation

Excellent temperature coefficient giving higher yields in the long term

For handling & installation instructions refer Cosmic PV Power Installation Manual available on company website. Before placing order conform your requirement with our sales representative. The electrical data given here is for reference purpose only. Dispose-of the product as E-Waste after end of its working life. \*\* Refer to Cosmic PV Power warranty document for terms and conditions. Due to constant product modifications, Cosmic PV Power reserves the right to amend the above specifications without prior notice.

**CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.**

Electrical data without guarantee. Please conform your exact requirement with the company representative while placing your order.

# ELECTRICAL DATA STC

Module Type	COS-TWIN 530	COS-TWIN 535	COS-TWIN 540	COS-TWIN 545	COS-TWIN 550
Maximum Voltage $V_{mpp}$ (V)	41.30	41.47	41.70	41.90	41.93
Maximum Current $I_{mpp}$ (A)	12.85	12.92	12.95	13.01	13.14
Open Circuit Voltage $V_{oc}$ (V)	49.20	49.35	49.50	49.65	49.80
Short Circuit Current $I_{sc}$ (A)	13.71	13.78	13.85	13.92	13.98
Module Efficiency $\eta$ (%)	20.5	20.7	20.9	21.1	21.3

\*STC: Irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, Air mass AM 1.5 according to ENC60904-3. Average efficiency reduction is approx. 3% at 200 W/m<sup>2</sup> according to EN 60904-1. Except  $P_{mpp}$ , all other parameter have tolerance of +/-3%, measurement uncertainty <3%.

# ELECTRICAL DATA NOCT

Electrical Specification	Pmax gain from rear side*				
	10%	15%	20%	25%	30%
Bifaciality Gain					
Peak power: (P → 4.99 Wp) Pmax(Wp)	616	644	672	700	728
Maximum voltage, $V_{mpp}$ (V)	43.12	43.22	43.32	43.42	43.52
Maximum current, $I_{mpp}$ (A)	14.29	14.91	15.53	16.15	16.77
Open circuit voltage, $V_{oc}$ (V)	50.90	51.00	51.10	51.20	51.30
Short circuit current, $I_{sc}$ (A)	15.39	16.08	16.78	17.49	18.18
Module efficiency (%)	23.8	24.9	26.0	27.1	28.20

\* Power gain from rear side depends upon the ground reflectance (Albedo) & Bifaciality factor.

# THERMAL CHARACTERISTICS

$T_c$ of open circuit voltage ( $\beta$ )	-0.26% /°C
$T_c$ of short circuit current ( $\alpha$ )	0.046% /°C
$T_c$ of power ( $\gamma$ )	-0.31% /°C
Maximum system voltage	1500 VDC (IEC & UL)
NOCT	45°C ± 2°C
Temperature range	-40°C to + 85°C

# MECHANICAL CHARACTERISTICS

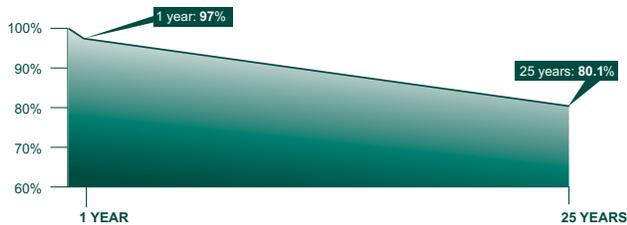
Length	2278 mm
Width	1133 mm
Height	30 mm
Weight	28 kg
Junction box	IP68
Cable and connectors	300 mm length cable, MC4 compatible connectors
Application Class	Class A (Safety class II)
Superstrate	High Transmission ARC glass 3.2 mm
Cells	N-type Bifacial 144 Half-cut cell
Encapsulation	High volume resistivity and low MVTR
Substrate	Transparent / Patterned Backsheet
Frame	Anodized Frame
Design Mechanical load	3600 Pa-downward; 1600 Pa-Upward
Safety Factor for Mechanical load	1.5
Maximum Series fuse rating	30 A

Under Standard Test Conditions (STC) of irradiance 1000 W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature of 25°C. Except  $P_{max}$ , all other parameters have a tolerance of ±3%.

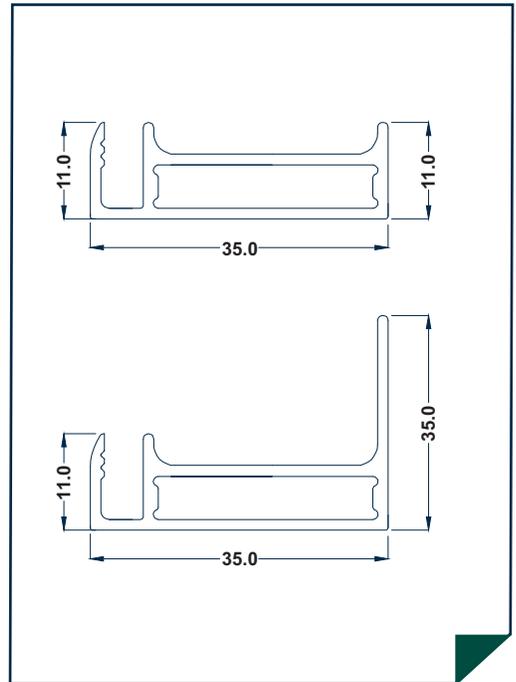
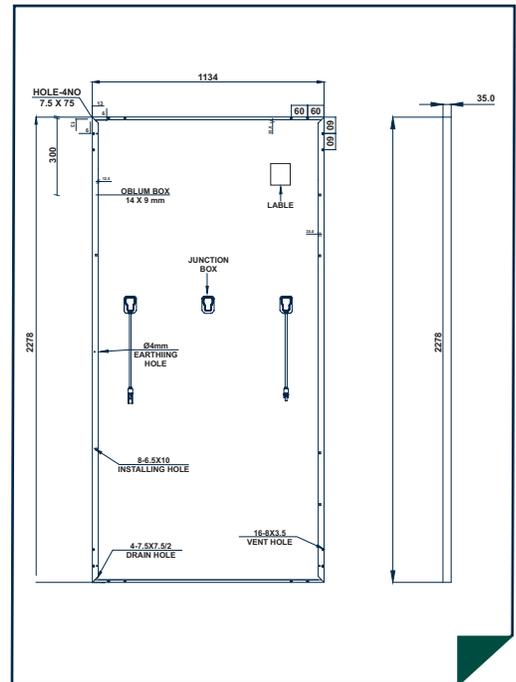
# PACKAGING CONFIGURATION

Container	40'HC		
Pallets / Container	20	Pieces / Container	720

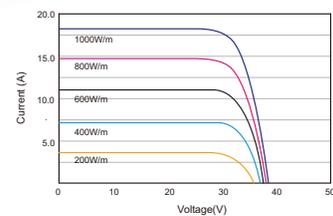
## Cosmic PV Performance Warranty



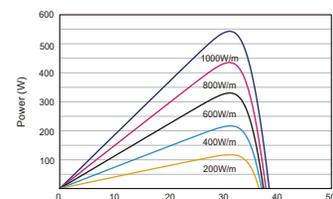
10 Years Product Warranty - 25 Years Linear Power Warranty



## I-V Curve Variation With Irradiation (545W)



## P-V Curve Variation With Irradiation (545W)



\*All dimensions are in mm with +/-1% tolerance.

# COSMIC PV POWER LIMITED

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