

COSMIC PV POWER | CUT-CELL SOLAR PV MODULES | 144 CELLS | 425-450 WATT

144 CUT-CELL  
SOLAR CELLS

MODULE DATASHEET

Up to 20.70%  
EFFICIENCY

425-450 W  
RANGE

9 BB Module

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.

## PRODUCT | KEY FEATURES



Glass with anti-reflective coating  
To maximize sunlight potential



Superior Module Efficiency



Positive Power tolerance up to  
2% Extra.



Pre and Post EL Checking  
to ensure defect free modules



IP68 Junction Box for  
Long Term Weather Endurance



Ensure safety parameters  
through Safety test



Best in-class  
Reliability & Durability



### High Reliability

Using tempered glass as 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

## APPLICATIONS

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

## Product Certifications



For handling & installation instructions refer Cosmic PV Power Installation Manual available on company website. • Before placing order confirm your requirement with our sales representative. • The electrical data given here is for reference purpose only. • Dispose-off 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.

## ELECTRICAL DATA STC

Module Type	COSPO 425	COSPO 430	COSPO 435	COSPO 440	COSPO 445	COSPO 450
Maximum Voltage $V_{mpp}$ (V)	40.4	40.6	40.80	41.0	41.2	41.4
Maximum Current $I_{mpp}$ (A)	10.54	10.60	10.67	10.74	10.81	10.82
Open Circuit Voltage $V_{oc}$ (V)	48.2	48.4	48.6	48.8	49.0	49.2
Short Circuit Current $I_{sc}$ (A)	11.25	11.33	11.40	11.47	11.54	11.67
Module Efficiency $\eta$ (%)	19.50	19.80	20.00	20.20	20.40	20.70

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

## ELECTRICAL DATA NOCT

Power (W)	318.4	322	327.7	332.7	335.8	339.4
$V@P_{max}$ (V)	37.2	37.4	37.6	37.8	38	38.2
$I@P_{max}$ (A)	8.56	8.64	8.72	8.80	8.84	8.88
$V_{oc}$ (V)	45.1	45.3	45.5	45.8	46	46.2
$I_{sc}$ (A)	9	9.15	9.2	9.25	9.31	9.347

## THERMAL CHARACTERISTICS

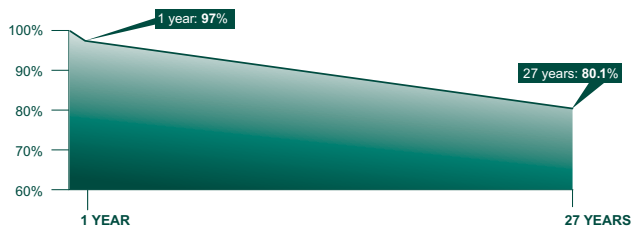
Temperature coefficient of Current ( $I_{sc}$ ), $\alpha$ (%/°C)	+0.051%/°C
Temperature coefficient of Voltage ( $V_{oc}$ ), $\beta$ (%/°C)	0.304%/°C
Temperature coefficient of Power ( $P_m$ ), $\gamma$ (%/°C)	-0.360%/°C
NOCT (°C)	46 + 2
Operating temperature range (°C)	-40°C~+85°C

## MECHANICAL CHARACTERISTICS

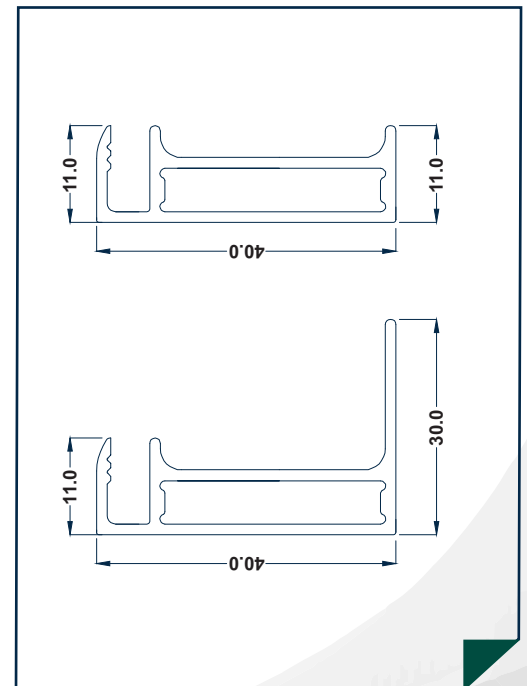
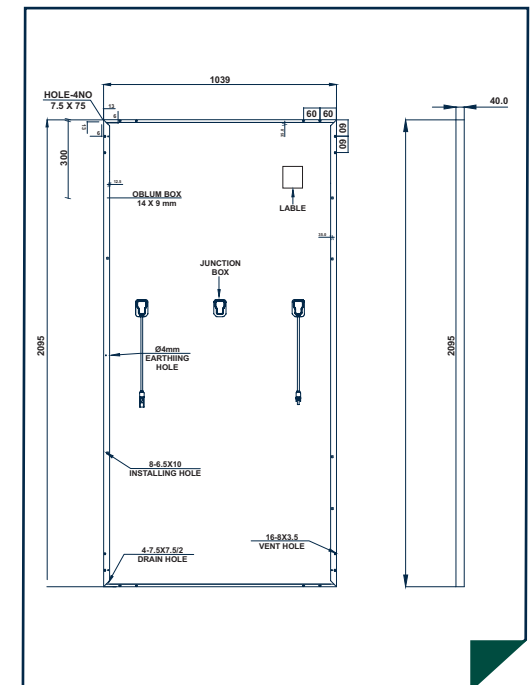
Length x Width x Thickness (L x W x T)	2095 mm (L) x 1039 mm (W) x 40 mm (T)
Weight	24.5 kgs
Solar Cells per Module (Units) / Arrangement	144 / 25 * 6
Solar Cell Type & Size	Mono Crystalline Cut Cell
Front Glass	BOROSIL
Encapsulate	RENEWSYS
Junction Box (Protection degree / Material)	1500 V/ IP68
Connector (Protection degree / Type)	Mc4 EV02, Cable 01S
Cable Cross - Section & Length	4 mm <sup>2</sup>
Frame	40 * 40 / Anodized Aluminium Alloy
Series Fuse Rating	20 A
Surface load	(snow load 5400 Pa, wind load 2400 Pa)

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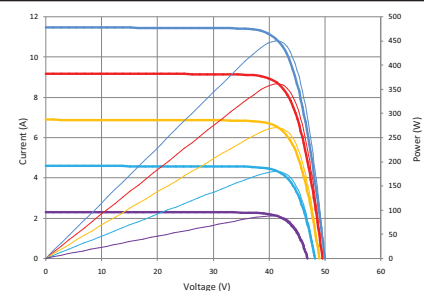
### Cosmic PV Performance Warranty



10 Years Product Warranty - 27 Years Linear Power Warranty



### I-V Curve Variation With Irradiation (450W)



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

## COSMIC PV POWER PRIVATE LIMITED

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**COSMIC**<sup>TM</sup>  
 Solar For A Better Future