

COSMIC PV POWER | MONOCRYSTALLINE SOLAR PV MODULES | 72 CELLS | 400 - 415 WATT

72 MONOCRYSTALLINE  
SOLAR CELLS

MODULE DATASHEET

Up to 20.84%  
EFFICIENCY

400-415 W  
RANGE

5 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

## 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 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

## 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                        | COSMO 400 | COSMO 405 | COSMO 410 | COSMO 415 |
|------------------------------------|-----------|-----------|-----------|-----------|
| Maximum Voltage $V_{mpp}$ (V)      | 40.40     | 40.55     | 40.73     | 40.91     |
| Maximum Current $I_{mpp}$ (A)      | 9.88      | 9.96      | 10.05     | 10.14     |
| Open Circuit Voltage $V_{oc}$ (V)  | 49.25     | 49.45     | 49.65     | 49.85     |
| Short Circuit Current $I_{sc}$ (A) | 10.2      | 10.32     | 10.44     | 10.62     |
| Module Efficiency $\eta$ (%)       | 20.09     | 20.34     | 20.59     | 20.84     |

\*Measuring uncertainty +\_3%

## ELECTRICAL DATA NOCT

|                 |        |        |        |        |
|-----------------|--------|--------|--------|--------|
| Power (W)       | 294.67 | 298.34 | 302.02 | 305.72 |
| $V@P_{max}$ (V) | 37.73  | 37.86  | 37.99  | 38.12  |
| $I@P_{max}$ (A) | 7.81   | 7.88   | 7.95   | 8.02   |
| $V_{oc}$ (V)    | 45.20  | 45.22  | 45.23  | 45.25  |
| $I_{sc}$ (A)    | 8.26   | 8.35   | 8.45   | 8.57   |

\*Measuring uncertainty +\_3%

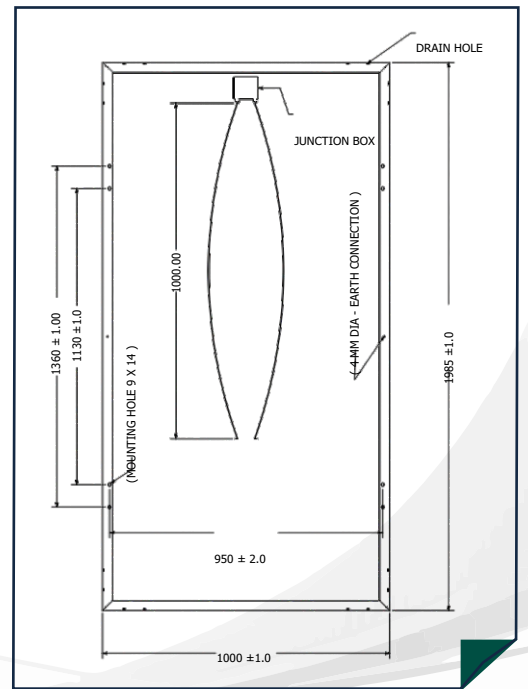
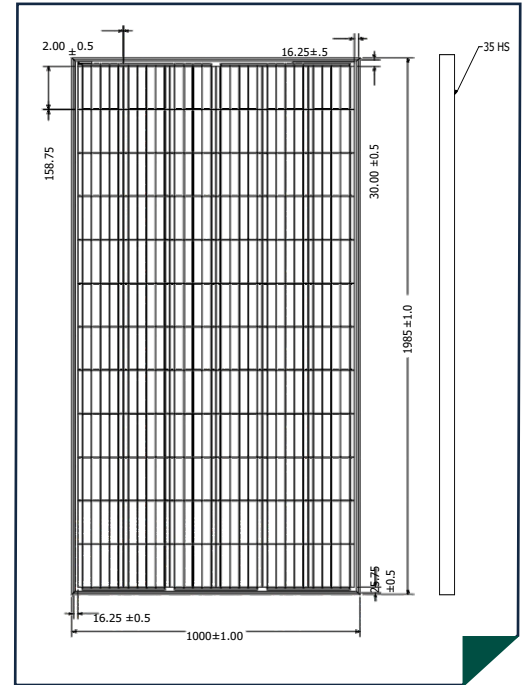
## THERMAL CHARACTERISTICS

|  |           |
|--|-----------|
| Temperature coefficient of Current ( $I_{sc}$ ), $\alpha$ (%/°C) | 0.05      |
| Temperature coefficient of Voltage ( $V_{oc}$ ), $\beta$ (%/°C)  | -0.29     |
| Temperature coefficient of Power ( $P_m$ ), $\gamma$ (%/°C)      | -0.37     |
| NOCT (°C)  | 43 + 3    |
| Operating temperature range (°C)                                 | -40 to 85 |

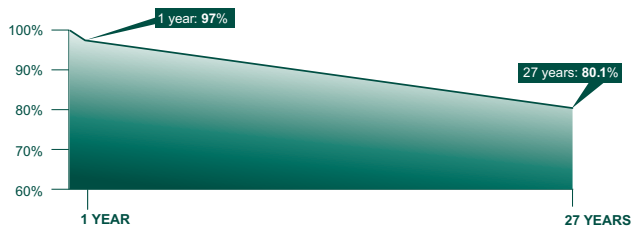
## MECHANICAL CHARACTERISTICS

|  |  |
|--|--|
| Length x Width x Thickness (L x W x T)       | 1985 mm (L) x 1003 mm (W) x 35 mm (T)        |
| Weight                                       | 22.5 kg (approx)                             |
| Solar Cells per Module (Units) / Arrangement | 72 / (12x6)                                  |
| Solar Cell Type & Size                       | Mono crystalline Silicon, 158.75 x 158.75 mm |
| Front Glass                                  | 3.2 mm tempered glass                        |
| Junction Box (Protection degree / Material)  | IP68 / Weatherproof PPO                      |
| Connector (Protection degree / Type)         | IP68 rated / MC4 compatible                  |
| Cable Cross - Section & Length               | 1000 mm/4.0 mm <sup>2</sup> (IEC)            |
| Frame  | Anodized Aluminium Alloy                     |
| Series Fuse Rating                           | 20 A   |
| Surface load                                 | (snow load 5400 Pa, wind load 2400 Pa)       |

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%.

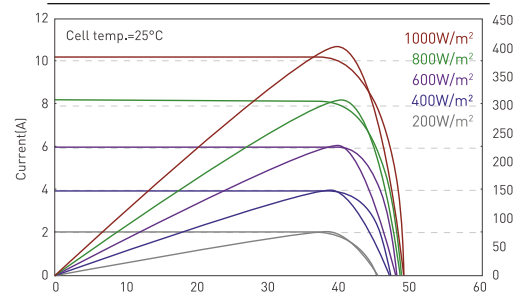


### Cosmic PV Performance Warranty



10 Years Product Warranty - 27 Years Linear Power Warranty

### I-V Curve Variation With Irradiation (415W)



\*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