

COSMIC PV POWER | MULTI BUS BAR SOLAR PV MODULES | 144 CELLS | 510-550 WATT | Bifacial

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

510-550 W
RANGE

MBB Module

PRODUCT | KEY FEATURES

-  MBB Mono Perc cell technology 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

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

APPLICATIONS

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

ELECTRICAL DATA STC

Module Type	COS-TWIN 510	COS-TWIN 515	COS-TWIN 520	COS-TWIN 525	COS-TWIN 530	COS-TWIN 535	COS-TWIN 540	COS-TWIN 545	COS-TWIN 550
Maximum Voltage $V_{mp}(V)$	40.70	40.79	41.01	41.10	41.30	41.47	41.70	41.90	41.93
Maximum Current $I_{mp}(A)$	12.55	12.65	12.70	12.78	12.85	12.92	12.95	13.01	13.14
Open Circuit Voltage $V_{oc}(V)$	48.90	48.95	49.00	49.10	49.20	49.35	49.50	49.65	49.80
Short Circuit Current $I_{sc}(A)$	13.50	13.55	13.61	13.65	13.71	13.78	13.85	13.92	13.98
Module Efficiency $\eta(\%)$	20.0	20.1	20.2	20.3	20.5	20.7	20.9	21.1	21.3

Under Standard Test Conditions (STC) of irradiance 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C. Except Pmax, all other parameters have a tolerance of ±3%.

ELECTRICAL DATA NOCT

Module Type	COS-TWIN 510	COS-TWIN 515	COS-TWIN 520	COS-TWIN 525	COS-TWIN 530	COS-TWIN 535	COS-TWIN 540	COS-TWIN 545	COS-TWIN 550
Power (W)	375.77	380.5	384.9	390.28	395.80	399.50	403.30	407.00	410.70
$V@P_{max}(V)$	38.15	38.25	38.38	38.49	38.62	38.70	38.75	38.90	39.02
$I@P_{max}(A)$	9.85	9.95	10.03	10.14	10.25	10.33	10.41	10.47	10.53
$V_{oc}(V)$	45.48	45.6	45.8	46.00	46.12	46.26	46.41	46.55	46.69
$I_{sc}(A)$	10.65	10.86	10.95	11.00	11.09	11.15	11.20	11.25	11.31

BI-FACIAL: P_{MAX} WITH REAR SIDE POWER GAIN

	COS-TWIN 510	COS-TWIN 515	COS-TWIN 520	COS-TWIN 525	COS-TWIN 530	COS-TWIN 535	COS-TWIN 540	COS-TWIN 545	COS-TWIN 550
5% Gain	535	540	546	551	556	561	567	572	577
10% Gain	561	566	572	577	583	588	593	599	604
15% Gain	586	592	598	603	609	615	621	626	632
20% Gain	612	618	624	630	636	642	648	654	660
25% Gain	637	643	650	656	662	668	675	681	687
30% Gain	663	669	676	682	689	695	702	708	715

THERMAL CHARACTERISTICS

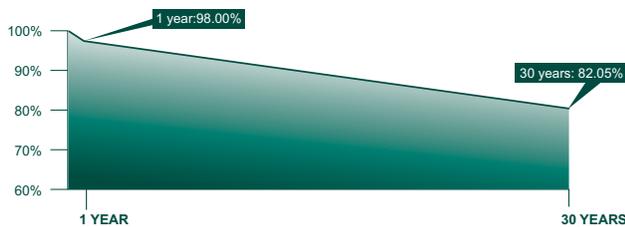
Temperature coefficient of Current (I_{sc}), α (%/°C)	+0.0614%/°C
Temperature coefficient of Voltage (V_{oc}), β (%/°C)	-0.3112%/°C
Temperature coefficient of Power (P_m), γ (%/°C)	-0.3231%/°C
NOCT (°C)	45 ± 2°C
Operating temperature range (°C)	-40°C ~ +85°C

MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2278 mm (L) x 1134 mm (W) x 35 mm (T)
Weight	29±5%Kg
Solar Cells per Module (Units) / Arrangement	144
Solar Cell Size	91x182mm (MONO PERC BIFACIAL)
Junction Box (Protection degree / Material)	1500 V/ IP68
Connector (Protection degree / Type)	MC4 EV02, Cable 01S
Cable Cross - Section & Length	4 mm ² /1200mm
Frame	35 * 33 / Anodized Aluminium Alloy
Series Fuse Rating	25 A
Mechanical load	(Test load 2400 Pa, Design load i.e. Minimum 1600 Pa at 400mm hole distance)
Back cover(Backsheet)	Transparent/White Backsheet (Composite Film), Thickness: ≥300mm, transmission rate≥90%, WVTR: <2.0g/m-day
Encapsulant	EPE-EVA Combination
Cable Length	400mm

Under Standard Test Conditions (STC) of irradiance 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C. Except Pmax, all other parameters have a tolerance of ±3%.

Cosmic PV Performance Warranty



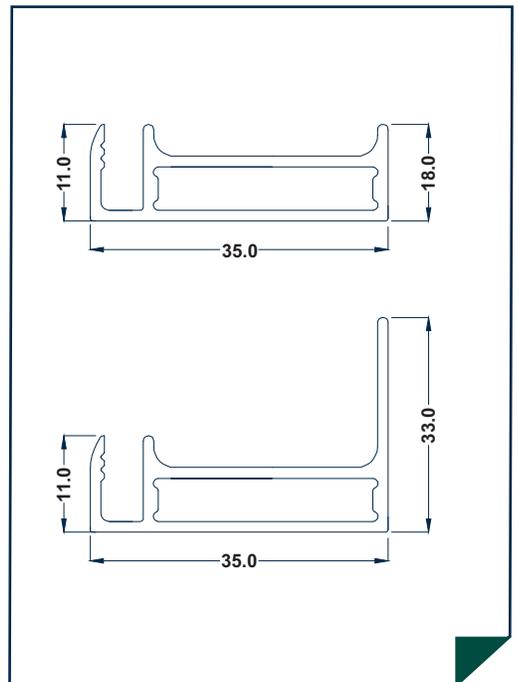
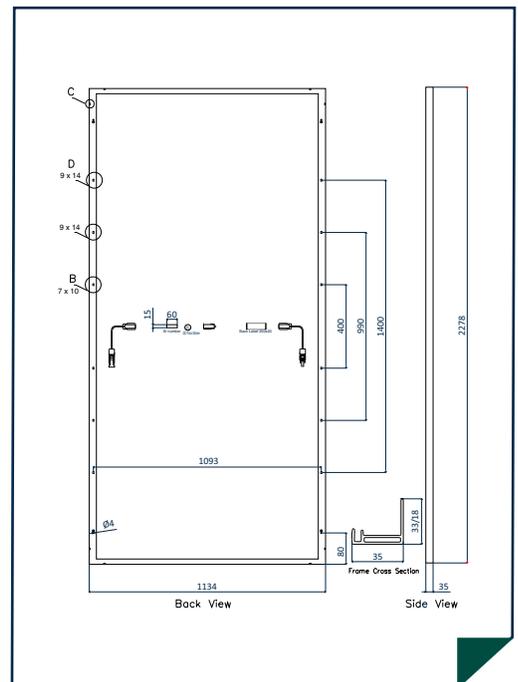
12 Years Product Warranty - 30 Years Linear Power Warranty

COSMIC PV POWER LIMITED

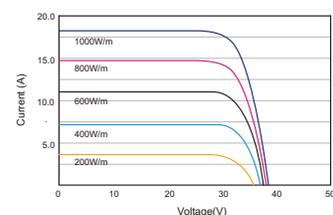
1800 891 9590
www.cosmicpvpower.com
info@cosmicpvpower.com

Corporate Address
 E-11, Ghael Compound,
 Nr. Laxminarayan temple BRTS,
 Udhna, Surat, Gujarat - 394210

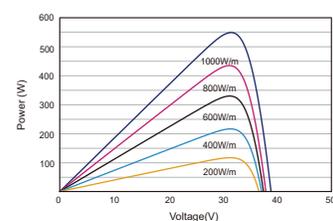
Factory Unit - II
 Survey No. 1605/1, Block No.
 2098/1/B/2, Village: Tarkeshwar,
 Taluka: Mandvi, Dist: Surat,
 Gujarat - 394170



I-V Curve Variation With Irradiation (550W)



P-V Curve Variation With Irradiation (550W)



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