

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

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

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 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 confirm your exact requirement with the company representative while placing your order.

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_{mpd} (V)	40.82	40.90	41.07	41.15	41.30	41.47	41.70	41.90	41.93
Maximum Current I_{mpd} (A)	12.70	12.72	12.77	12.81	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 η (%)	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:PMAX WITH REARSIDE 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 (Isc), α (%/°C)	+0.049%/°C
Temperature coefficient of Voltage (Voc), β (%/°C)	-0.270%/°C
Temperature coefficient of Power (Pm), γ (%/°C)	-0.340%/°C
NOCT (°C)	45 ± 2°C
Operating temperature range (°C)	-40°C ~ +85°C

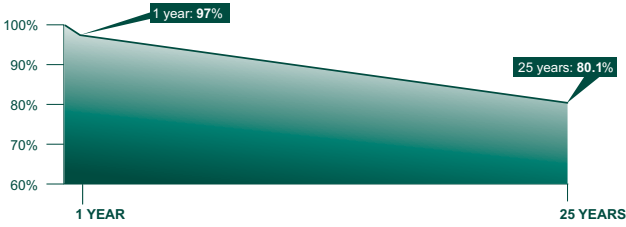
MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2278 mm (L) x 1134 mm (W) x 35 mm (T)
Weight	28 kgs
Solar Cells per Module (Units) / Arrangement	144
Solar Cell Size	91x182mm
Junction Box (Protection degree / Material)	1500 V/ IP68
Connector (Protection degree / Type)	MC4 EV02, Cable 01S
Cable Cross - Section & Length	4 mm²
Frame	35 * 35 / Anodized Aluminium Alloy
Series Fuse Rating	25 A
Surface load	(snow load 5400 Pa, wind load 2400 Pa)

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Cosmic PV Performance Warranty



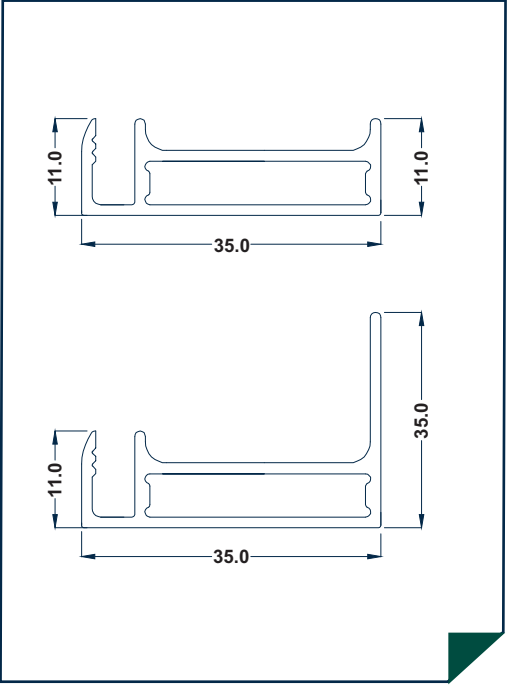
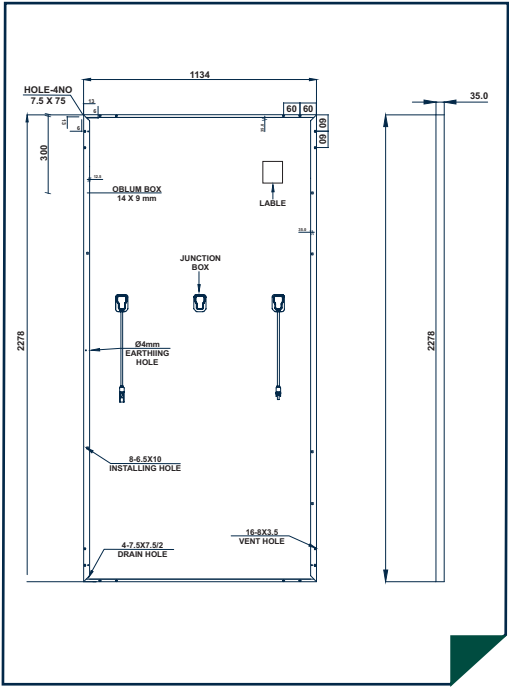
10 Years Product Warranty - 25 Years Linear Power Warranty

COSMIC PV POWER PRIVATE LIMITED

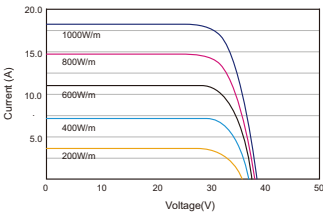
1800 891 9590
www.cosmicpvpower.com
info@cosmicpvpower.com

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

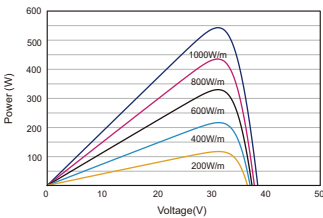
Factory Unit
Survey No. 1605/1, Block No.
2098/1/B, Village: Tarkeshwar,
Taluka: Mandvi, Dist: Surat,
Gujarat - 394170



I-V Curve Variation With Irradiation (545W)



P-V Curve Variation With Irradiation (545W)



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