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EnergyPal

Solar Panel Guide Specification Data Sheet

**Cell Solar Energy Co., Limited
Full Black Mono 300W-450W
CSM450-144**

Also available on the web at
EnergyPal.com/cell-solar-energy-co-limited-solar-panels/csm450-144

MONOCRYSTALLINE 60 CELLS
CSM300-330 WATT/BLACK

The advantages:

5BB PERC solar Cell

More busbars,the less of broken and cracking,as the narrowed cell bus bar width,the light receiving area and power are increased too

1500V System Voltage

1500V system voltage design compatible to 1000V/1500V and Reduce BOS cost greatly.

Low-Light Performance

Excellent performance in low-light environments (e.g. early morning, dusk, and cloud, etc.)

Positive Tolerance

Guaranteed Positive Tolerance up tp 5W

Withstand challenging environmental conditions

2400 Pa negative load
 5400 Pa positive load
 2400/5400 is the measured load,and the safety factor is 1.5 times

PID-Resistant

Anti-PID-Technology

Salt-resistant & Ammonia-Resistant

Passed salt mist & ammonia corrosion,
 blowing sand and hail testing

100% electroluminescence inspection

15 years manufacturer's warranty

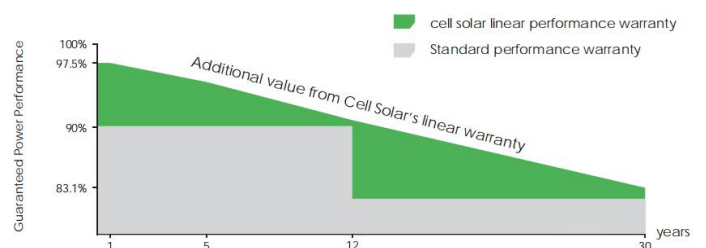


- ISO9001:2015 Quality Standards
- ISO14001:2015 Environmental Standards
- OHSAS18001 Occupational Health & Safety Standards
- IEC61215,IEC61730 certified products
- UL1703 cedified products



LINEAR PERFORMANCE WARRANTY

15 Year Product Warranty • 30 Year Linear Power



MONOCRYSTALLINE 60 CELLS

Model—CSM300-330	CSM300-60	CSM310-60	CSM315-60	CSM320-60	CSM330-60
Nominal output P _{mp}	300Wp	310Wp	315Wp	320Wp	330Wp
Nominal voltage V _{mp}	32.55V	32.95V	33.10V	33.40V	35,16V
Nominal current I _{mp}	9.23A	9.41A	9.52A	9.59A	9.77A
Short circuit current I _{sc}	9.84A	10.08A	10,10A	10.15A	10.34A
Open circuit voltage V _{oc}	39.82V	40.18V	40.50V	40.90V	41.30V
Module efficiency	18.44%	19.05%	19.36%	19.66%	20.28%

Electrical characteristics (at Standard Test Conditions (STC) STC:Irradiance 1000W/m , Cell temperature 25°C , AM1.5

MECHANICAL DATA

Solar Cells	5BB Monocrystalline PERC SOLAR CELL		
Cell Orientation	60 cells (6×10)		
Module Dimensions	1640×992×35mm		
Weight	18.68 kg		
Glass	3.2 mm (0.13 inches),High Transmission,AR Coated Heat Strengthened Glass		
Encapsulant Material	EVA (Ethylene-Vinyl-Acetate)		
Backsheet	Black Composite film		
Frame black	35 mm(1.38 inches)Anodized Aluminium Alloy		
J-Box	IP67/IP68 rated		
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²),		
Connector	MC4 /TS4 Compatible with MC4	MAXIMUM RATINGS	
TEMPERATURE RATINGS		Operational Temperature	-40~+85°C
NMOT(Nominal Moudule Operating Temperature)	41°C (±3°C)	Maximum System Voltage	1500V DC(IEC)
Temperature Coefficient of P _{MAX}	-0.37%/°C		1500V DC(DL)
Temperature Coefficient of V _{OC}	-0.29%/°C	Max Series Fuse Rating	20A
Temperature Coefficient of I _{SC}	0.05%/°C		

