

GreenWatts Solar Panels

SUPERIOR PERFORMANCE & RELIABILITY

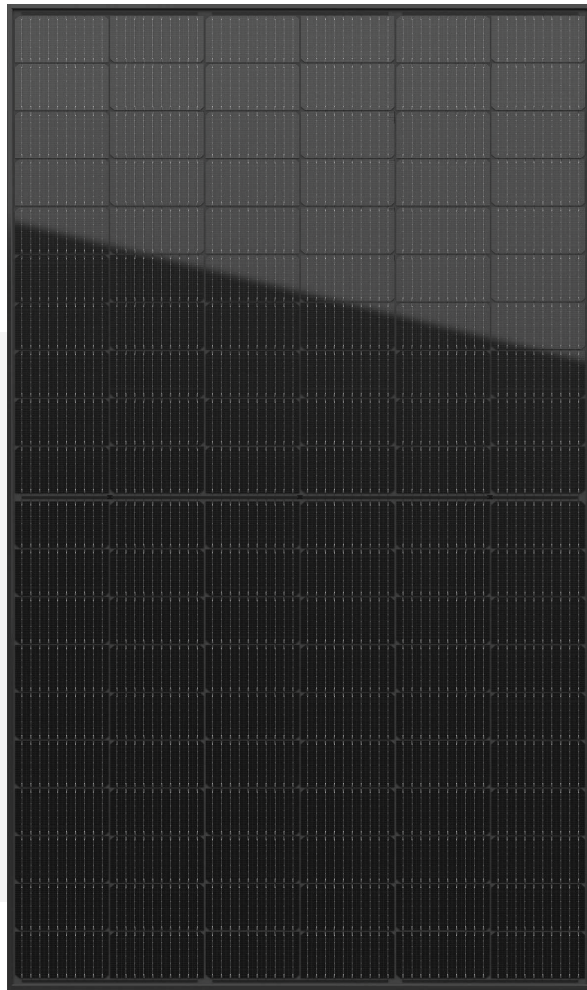
HS60-450-BOB

HT60-18X-450

Solar Panel Monocrystalline
Single Glass Perc Module

HIGHLIGHTS

- Maximum Power Output: 450W
- Maximum Efficiency: 20.8%
- Number of Cells: 120 (6x20)
- All-Black Series



Optimized for High Voltage Systems

- Specifically designed to align with advanced high voltage system requirements.
- Maximum Efficiency up to 20.8%
- Cost effective solutions designed to offer a competitive balance of system cost suitable for utility-scale projects.



Enhanced Efficiency with Half Cut Cell Technology

- Minimizes resistive losses and reduces shading impact, boosting overall efficiency.
- Ensures long term performance against Potential-Induced Degradation.



Durability in Extreme Conditions

- Engineered to endure harsh environmental conditions, such as extreme temperatures, high humidity, salt, mist, and sand.
- Supports up to 5400 Pa for snow loads and 2400 Pa for wind loads, reinforcing module reliability in diverse environmental conditions.

High Reliability



Certification:



ISO 9001
ISO 14001
ISO 45001



UL 61730



IEC 61215
IEC 61730



**GREEN
WATTS**

P: +1 (619) 354-3094
E: sales@greenwatts.solar
W: greenwatts.solar

Los Angeles
9255 Sunset Blvd, Los
Angeles, CA 90069

San Diego
1094 Cudahy Place, Suite 212,
San Diego, CA 92110

MECHANICAL CHARACTERISTICS

Solar Cell	Monocrystalline 182 x 91mm
Number of Cells	120 (6x20)
Dimensions	1909 x 1134 x 30mm 75.16 x 44.65 x 1.18 inches
Weight	23.0 kg 50,706 lb
Glass	High light transmittance coated tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 Rated
Output Cables	4mm ² 0.00620001 in ² (IEC)
Connectors	MC4
Maximum Power in STC (Pmax)	450 W
Maximum Operating Voltage (Vmp)	34.78 V
Maximum Operating Current (Imp)	12.95 A
Open Circuit Voltage (Voc)	41.33 V
Short Circuit Current (Isc)	13.90 A
Module efficiency	20.8%
Operating Temperature of the module	-40°C ~ +85°C
Maximum System Voltage	1500V DC
Power Tolerance	0 ~ +3%
STC	Irradiance 1000W/m ² , Cell Temperature 25°C, Air Mass 1.5

TEMPERATURE CHARACTERISTICS

NMOT	43 ±2 °C 109.4 ±35.6 °F
Temperature Coefficient of P _{MAX}	-0.33% /°C
Temperature Coefficient of V _{OC}	-0.26% /°C
Temperature Coefficient of I _{SC}	+0.042% /°C

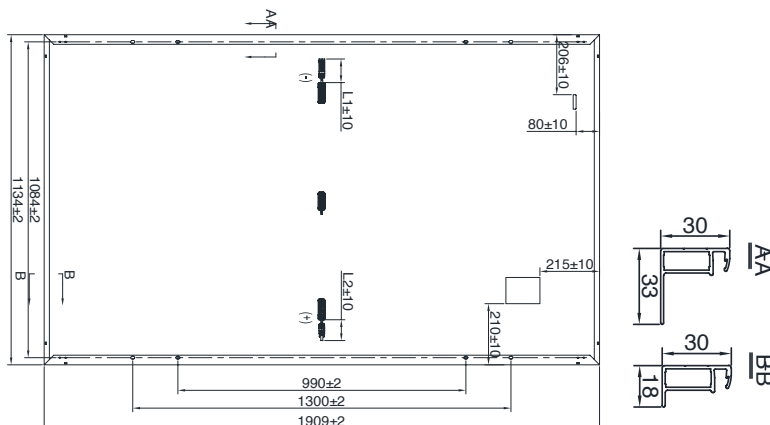
PACKING CONFIGURATION

Module per Box	36 Pieces
Module per 40' Container	864 Pieces

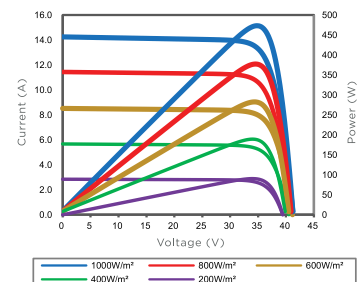
ADDITIONAL INFORMATION

Snow and wind loads	Wind - 2400Pa Snow - 5400Pa
IEC Protection Class (I, II, III)	II
Max installation altitude	2000m
Allow roof pitch/angle	Minimum 10 degrees
Max Series Fuse Rating	25A
Fire Rating	Type 1
Front Cover (material / glass thickness)	AR 3.2mm
Back Cover (material / glass thickness)	0.315mm

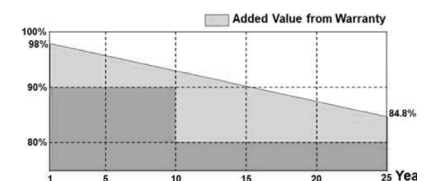
ENGINEERING DRAWING



I_xV CURVE



PERFORMANCE WARRANTY



*Specific information is referred to the product quality guarantee