

190W Black Panel Monocrystalline

Features

- Aesthetically appealing for residential and commercial systems with black backsheet and frame
- High module conversion efficiency, through superior manufacturing technology
- Guaranteed 0 to +5W Power Tolerance
- Entire module certificated to withstand high wind loads and snow loads (5400Pa)
- Anodised aluminum is mainly for improving corrosion resistance.
- Highly transparent, low-iron, tempered glass, and anti reflective coating
- Excellent performance, even under low light environments

Benefits

- 25 year warranty on power output; 5 year warranty on materials and workmanship
- Product liability insurance
- Local technical support
- Local warehousing
- 48 hour response service
- Enhanced design for easy installation and long term reliability



Electrical Specifications

Model type	190W Black Panel
Peak power (Pmax)	190W
Cell Efficiency	17.56%
Module Efficiency	14.88%
Maximum power voltage (Vmp)	37.20
Maximum power current (Imp)	5.11
Open circuit voltage (Voc)	44.85
Short circuit current (Isc)	5.62
Power Tolerance	0 to +5W
Maximum system voltage	DC 1000V (VDE) / DC 600V (UL)
Normal Operating Cell Temperature	44.4±2°C
Series fuse rating (A)	15A
Number of bypass diode	3

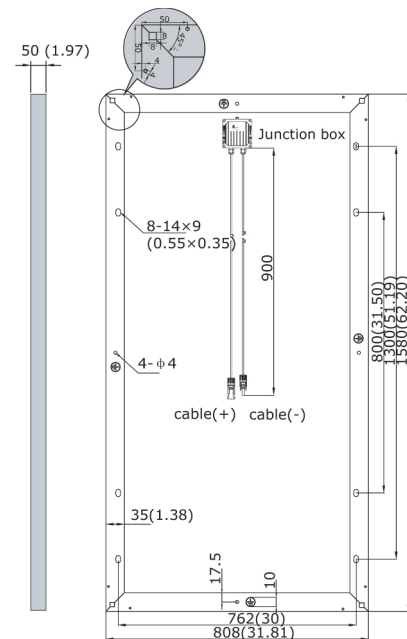
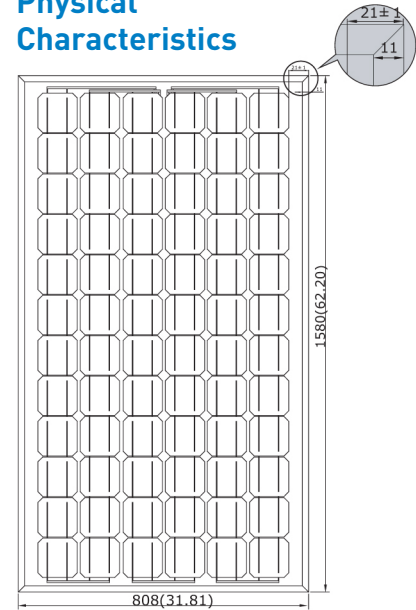
Mechanical Specifications

Cell type	125mm x 125mm
Number of cells	72 cells in series
Weight	15.9 kg (35.05 lbs)
Dimensions	1580×808×50 mm (62.20×31.81×1.97 inch)
Max Load	5400 Pascals (112 lb/ft ²)

Temperature Coefficient

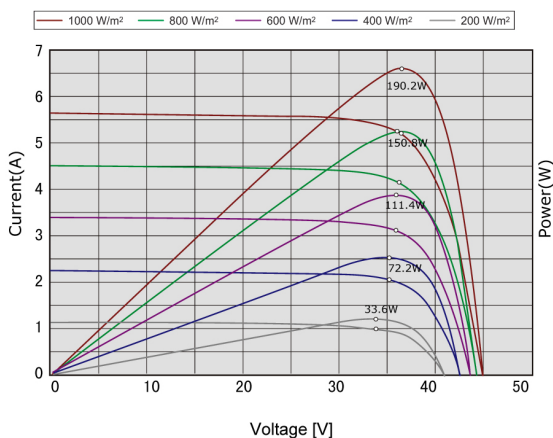
Temp. Coeff. of Isc (TK Isc)	0.042 %/°C
Temp. Coeff. of Voc	-0.336 %/°C
Temp. Coeff. of Pmax	-0.47 %/°C

Physical Characteristics

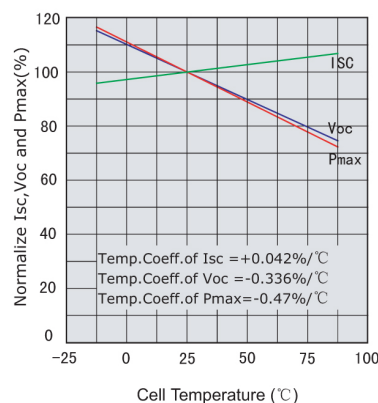


Electrical Characteristics

Electrical performance (cell temperature 25°C)



Temperature dependence of Isc, Voc and Pmax



Irradiance dependence of Isc, Voc and Pmax (cell temperature 25°C)

