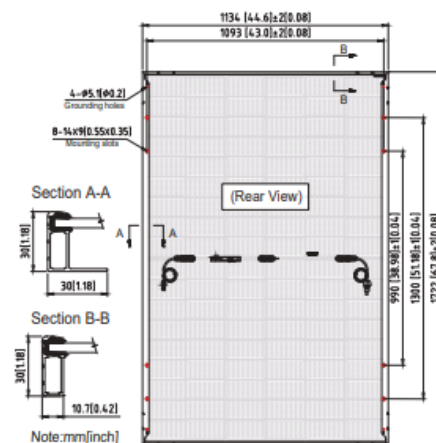


PROPOSED SOLAR PANELS TECHNICAL DETAILS

Environmental Energies : Suntech panels 420W , size : 1722 x 1134 x 30 mm

Mechanical Characteristics

Solar Cell	N-type Monocrystalline silicon 182 mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30 mm (67.8 × 44.6 × 1.2 inches)
Weight	21.0 kg (46.3 lbs.)
Front/Back Glass	1.6+1.6 mm (0.063+0.063inches) semi-tempered glass
Output Cables	4.0 mm ² , (-) 1400 mm (+) 1400 mm in length or customized length
Junction Box	IP68 rated (3 bypass diodes)
Operating Module Temperature	-40 °C to +85 °C
Maximum System Voltage	1500 V DC (IEC)
Connectors	STP-XC4 (Standard)/ MC4-EVO2(Optional)
Maximum Series Fuse Rating	25 A
Power Tolerance	0/+5 W
Refer. Bifaciality Factor	(80 ± 5)%
Frame	Anodized aluminum alloy frame
Packing Configuration	36 Pieces per pallet 936 Pieces per container /40'HC 1755×1120×1255 798kg



Electrical Characteristics

Module Type	STP440S-C54/Nshtb+		STP435S-C54/Nshtb+		STP430S-C54/Nshtb+		STP425S-C54/Nshtb+		STP420S-C54/Nshtb+	
Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	440	337.1	435	333.1	430	329.3	425	325.5	420	321.6
Optimum Operating Voltage (Vmp/V)	32.69	30.5	32.51	30.4	32.33	30.2	32.15	30.1	31.96	29.9
Optimum Operating Current (Imp/A)	13.46	11.04	13.38	10.96	13.30	10.89	13.22	10.82	13.14	10.75
Open Circuit Voltage (Voc/V)	38.98	37.1	38.85	36.9	38.72	36.8	38.59	36.7	38.46	36.6
Short Circuit Current (Isc/A)	14.41	11.62	14.33	11.55	14.25	11.49	14.17	11.42	14.09	11.36
Module Efficiency (%)	22.5		22.3		22.0		21.8		21.5	

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Measuring Tolerance is within +/- 3%;

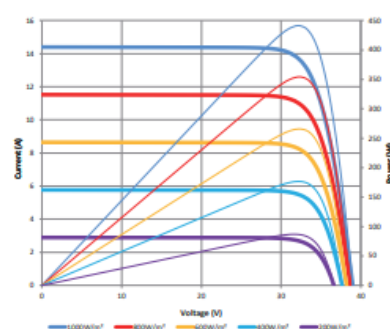
Different Rearside Power Gain

Reference to 440W Front

Rearside Power Gain	5%	15%	25%
Maximum Power at STC (Pmax)	462.0	506.0	550.0
Optimum Operating Voltage (Vmp/V)	32.7	32.7	32.8
Optimum Operating Current (Imp/A)	14.13	15.48	16.83
Open Circuit Voltage (Voc/V)	39.0	39.0	39.1
Short Circuit Current (Isc/A)	15.13	16.57	18.01
Module Efficiency (%)	23.6	25.9	28.1

Graphs

Current-Voltage & Power-Voltage (440W)



Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	+0.046%/°C

Information on how to install and operate this product is available in the Installation Instruction. All values indicated in this data sheet are subject to change without prior announcement. The specifications may vary slightly. All specifications are in accordance with standard EN 50380. Color differences of the modules relative to the figures as well as discolorations of/in the modules which do not impair their proper functioning are possible, and do not constitute a deviation from this specification.