

STAR SERIES

120 Half Cut Cell

- COMMERCIAL
- COMMUNITY SOLAR

Electrical Data (STC)

Maximum Power (Pmax) (+0 ~ 4.99 Wp)	430	435	440	445	450	455	460
Maximum Power Voltage, (Vmp)	35	35.21	35.39	35.52	35.64	35.78	35.92
Maximum Power Current (Imp)	12.31	12.37	12.45	12.55	12.65	12.74	12.86
Open-Circuit Voltage (Voc) ± 5%	41.16	41.2	41.37	41.6	41.85	42.1	42.35
Short-Circuit Current (Isc) ± 5%	12.94	13.08	13.16	13.23	13.31	13.37	13.45
Module Efficiency STC (%)	19.76	19.99	20.22	20.45	20.68	20.91	21.14

*Values without tolerance are typical numbers.

Standard Test Condition (STC): Cell Temperature 25°C, Irradiance: 1000 W/m², AM : 1

Electrical Characteristics with different rear side power gain (Reference 450 Wp Front)

Bifaciality Gain	3%	5%	10%	15%	20%
Maximum Power (Pmax)	459	466	482	497	513
Maximum, Power Voltage, Vmpp (V)	35.88	36.46	37.04	37.62	38.2
Maximum Current Impp (A)	12.79	12.78	13.01	13.21	13.43
Open Circuit Voltage, Voc (V)	39.47	40.11	40.74	41.38	42.02
Short Circuit Current, Isc (A)	13.43	13.42	13.66	13.87	14.1

Bifaciality Factor: 80 ± 20% *Back-side power gain varies depending upon the specific project albedo

Mechanical Data

Panel Type	Bi-Facial / Mono-Facial Panels
Dimensions (mm) (± 2mm)	1912 mm (L) x 1134 mm (W) x 35 mm (T)
Dimensions (inch) (± 0.079)	75.27 in (L) x 44.64 in (W) x 1.38 in (T)
Weight (kg)	24 kg ~
Weight (lbs)	52.91 lbs ~
Solar Cell	120 (12 x 10) nos. Half cut M10 cells
Frame	Anodized Aluminium Black/Silver
Junction Box	UL Approved - IP68 with 3 diodes
Cable	1200mm / 300mm Length, 4 Sq. mm, 6.3mm diameter
Connector	MC4 Connector / Stabuli Connector (optional)

Certifications

UL - 61730 - 1 & 2 (CAN/CSA),
CEC

UL Fire Class - 1
Application Class - A
Electrical safety Class - II

IEC 61215 : 2021
IEC 61730-1 & 2 : 2023

IEC 62716 : 2013
IEC 61701 : 2020
IEC TS 62804 - 1 - 1 : 2020
IEC TS 63342 : 2022

IEC 61853 -1 (PAN File "[Download](#)")

Operating Conditions

Mechanical Load (Wind/Snow)	2400 Pa Rear Load / 5400 Pa Front load
Hail Impact Resistance	35 mm dia. with 1 Inch at 51.6 mph
Maximum System Voltage	1500 V
Series Fuse Rating	25 A
Operating Temperature	-40 °C to +85 °C

Temperature Characteristics

Nominal Module Operating Temperature	45 °C ± 2 °C
Temperature Co-efficient of Isc	0.04 % / °C
Temperature Co-efficient of Voc	-0.259% / °C
Temperature Co-efficient of Pmax	-0.34% / °C

Shipping Specs

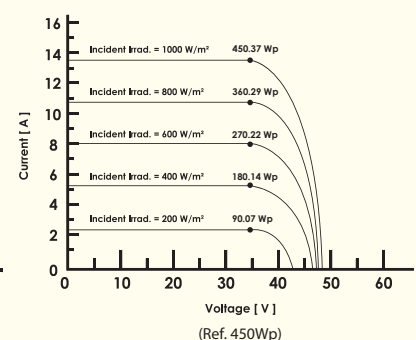
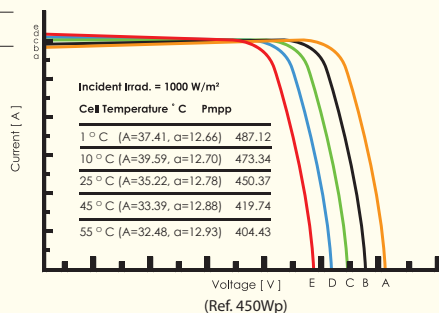
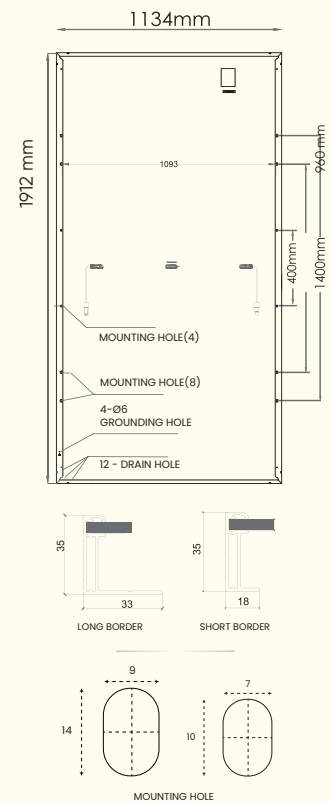
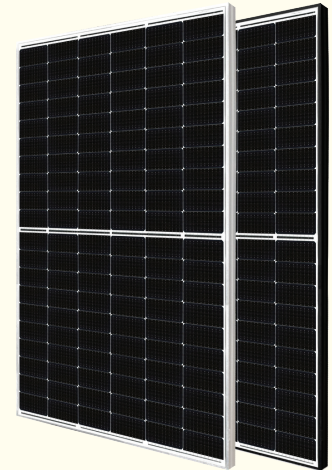
Modules / Pallet	31
Pallets / 40 ft HQ container	22

Warranty

Product Warranty	10 years
Performance Warranty	25 years
Linear Power Performance Warranty	≥ 98.00% end 1 st Year ≥ 92.33% end 10 th Year ≥ 82.88% end 25 th Year

KOSOL ENERGIE

THE ENERGIE ENGINEERS



KOSOL ENERGIE INC.

USA Office: 445 Hotel Cir S, San Diego, CA 92108, USA

+1 (619) 400-6667 globalsales@kosol.solar www.kosol.solar

CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT. Specifications included in this datasheet are subject to change without notice. Please confirm your exact requirements with the company representative before placing the order and finalizing the confirmation.

