

SP415-01

415 W

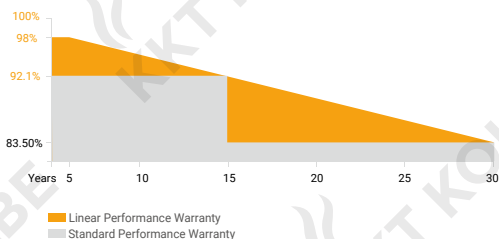
MONOFACIAL SHINGLED PERC-MODULE

PERFORMANCE WARRANTY

15 Enhanced Product Warranty on Materials and Workmanship.

30 Linear Power Performance Warranty*

0.55% Annual Degradation over 30 years no more than 0.55%



*According to the applicable KKT Kolbe Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental

ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE



THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings



Shingled Technology

Innovative structure, low-temperature adhesive bonding, high-density layout



Beautiful Appearance

Black frame, uniform layout, better aesthetic



Superior safety and Reliability

No hidden welding crack, low operating temperature, high pressure resistance



Low System Cost

High module efficiency, reducing system cost



Low Shading Loss

Full parallel arrangement brings high effective power generation hours

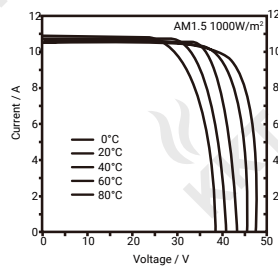
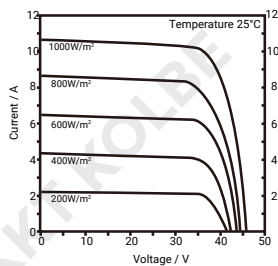
SPECIFICATIONS

Module Type	SP415-01	
	STC	NMOT
Maximum Power (Pmax / W)	415	312
Operating Voltage (Vmpp / V)	38.9	37.1
Operating Current (Impp / A)	10.67	8.43
Open-Circuit Voltage (Voc / V)	46.7	44.5
Short-Circuit Current (Isc / A)	11.12	8.97
Module Efficiency η (%)	22.2	

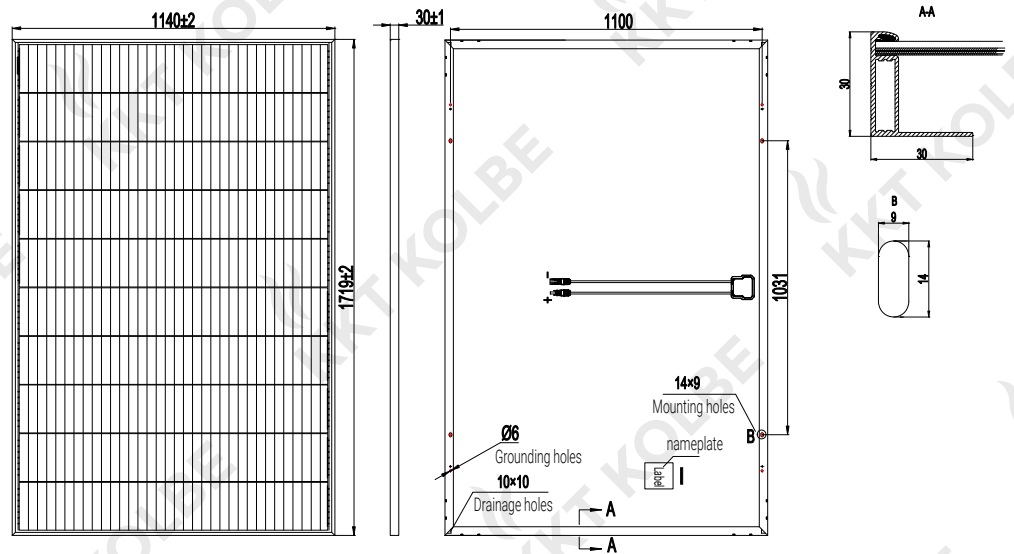
STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM 1.5

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Air Mass AM 1.5, Wind Speed 1 m/s

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	Monocrystalline Perc
Weight	21.0 kg
Module Dimensions	1719 × 1140 × 30 mm
Cable Length	1200 mm
Cable Cross Section Size	TUV: 4 mm (0.006 inches) ² / UL: 12A WG
Front Glass	3.2 mm (0.13 inches) AR Coating Tempered Glass
No. of Bypass Diodes	3
Packing Configuration	26 pcs/carton, 936 pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

OPERATING CONDITIONS

Maximum System Voltage	1500 V DC (IEC)
Operating Temperature	-40°C ~ +85°C
Maximum Series Fuse	20 A
Static Loading	Snow Loading: 5400 Pa / Wind Loading: 2400 Pa
Conductivity at Ground	≤ 0.1 Ω
Safety Class	II
Resistance	≥ 100 MΩ
Connector	T01 / LJQ-3-CSY / MC4 / MC4-EVO2

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.35 % / °C
Temperature Coefficient Voc	-0.26 % / °C
Temperature Coefficient Isc	+0.048 % / °C
NMOT	43 ± 2 °C

*Data contained in these specifications is subject to change without notice. KKT Kolbe reserves the right to final interpretation of content.