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Solar Panel Guide Specification Data Sheet

Ningbo Ulica Solar Science & Technology Co., Ltd.

UL-275-285P-60

UL-280P-60

Also available on the web at
[EnergyPal.com/ningbo-ulica-solar-science-technology-co-ltd-solar-panels/ul-280p-](http://EnergyPal.com/ningbo-ulica-solar-science-technology-co-ltd-solar-panels/ul-280p-60)

Ulica Solar is a subsidiary of Shanshan Co.,Ltd(SH.600884), Top 500 Enterprise in China. Ulica designs and manufactures high-quality solar cells and panels starting from August 2005. Its product line covers both mono and poly crystalline models, suitable for full range of projects from off-grid to on-grid, from residential to commercial.

POLY 60CELL 5BB



5 Bus bar cell design

More evenly distributed mechanical stress
Less micro cracks and resistance losses
Higher fill factor and higher performance



Outstanding mechanical load resistance

2400 Pa wind load, 5400 Pa snow load



High performance under low light

Works at cloudy, rainy days



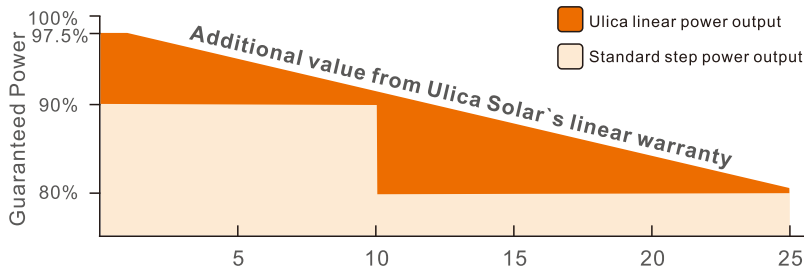
Double electroluminescence (EL) tests

Carefully inspected before and after lamination to guarantee fault-free modules



World famous insurance

Solar Insurance&Finance(Netherlands), AON(Japan)



12-year product warranty

25-year linear power warranty



ELECTRICAL PERFORMANCE

Electrical Parameters Standard Test Conditions

Module Type			UL-275P-60	UL-280P-60	UL-285P-60
Power Output	P _{max}	W	275	280	285
Power Tolerance	ΔP _{max}	W		±3%	
Module Efficiency	η _m	%	16.80	17.11	17.41
Voltage at P _{max}	V _m	V	31.1	31.2	31.3
Current at P _{max}	I _m	A	8.85	8.98	9.11
Open-Circuit Voltage	V _{oc}	V	38.3	38.4	38.5
Short-Circuit Current	I _{sc}	A	9.25	9.36	9.49

STC: 1000w/m² irradiance, 25°C module temperature, AM1.5 spectrum.

THERMAL CHARACTERISTICS

Nominal Operating Cell Temperature	NOCT	°C	45±2
Temperature Coefficient of P _{max}	γ	%/°C	-0.403
Temperature Coefficient of V _{oc}	β _{voc}	%/°C	-0.330
Temperature Coefficient of I _{sc}	α _{isc}	%/°C	+0.049

OPERATING CONDITIONS

Max. System Voltage	1000V
Max. Series Fuse Rating	15A
Operating Temperature Range	-40°C ~ 85°C
Max static snow load	5400Pa
Max static wind load	2400Pa
Safety Class	II

CONSTRUCTION MATERIALS

Front Cover(material/type/thickness)	low-iron tempered glass/3.2mm
Cell(quantity/material/type/dimension)	60/polycrystalline/156.75x156.75mm
Encapsulant(material)	ethylene vinyl acetate(EVA)
Frame(material/anodization color)	anodized aluminum alloy/silver
Junction Box(Protection degree)	IP67
Cable(length/cross-sectional area)	900mm/4mm ²
Plug Connector	DC1000,PV-ZH202/PV-JM601A/PV-JM601, Made in China

GENERAL CHARACTERISTICS

Dimension(L/W/H)	1650/992/35mm, 40mm
Weight	18.5kg/19.0kg

PACKING CONFIGURATION

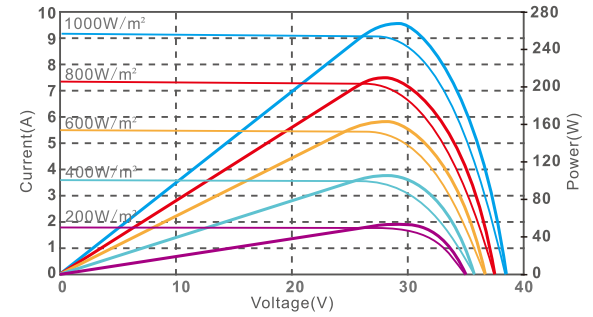
Pallet Size(L/W/H)	1690/1100/2440mm
Pallet Weight	1260kg
Pieces per Pallet	64pcs
Pieces per Container	896pcs

INTERNATIONAL CERTIFICATES

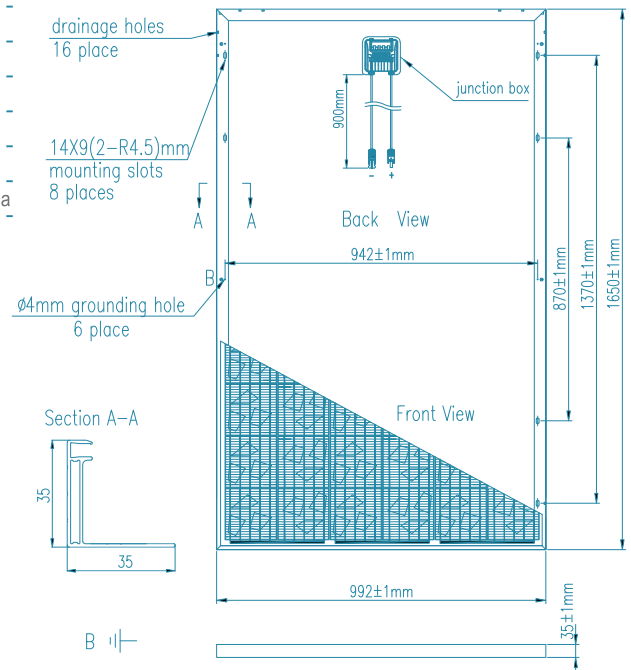
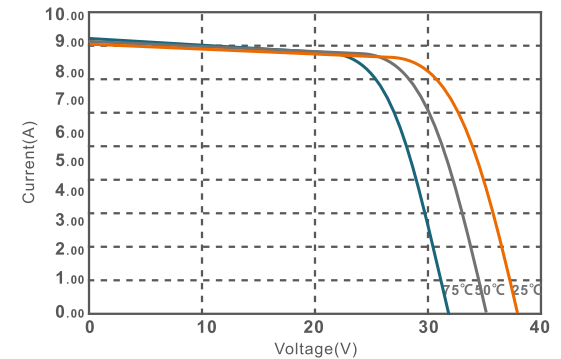
- TÜV SÜD, TÜV NORD, UL, CE, JET
MCS, CQC, IMERTRO
- ISO9001:2008
- ISO14001:2004
- BS OHSAS 18001:2007

I-V CURVE

I-V characteristics at different irradiances



I-V characteristics at different temperature



Please read the instruction entirely before handling, installing and operating Ulica Solar modules.

Due to continuous research and development, the specification is subject to change without prior notice.