

Under Shanshan Group, Top500 Enterprise in China, Ulica Solar produces our own high quality solar cells and modules starting from August 2005. Our product range covers all from off-grid panels to on-grid panels, both mono-crystalline and poly-crystalline, suitable for all types of installation from residential to commercial projects.

**MONO 60CELL PERC**



**Higher Conversion Efficiency**

With new generation of PERC technology, the average conversion efficiency of the cells could reach 21.2%



**Positive power output (0~+5W)**



**Outstanding mechanical load resistance**

Snow load 5400Pa (Frontside), and Wind load 3800Pa (Backside)



**High performance under low light conditions**

Cloudy days, Rainy days



**Anti-PID (potential induced degradation) Test**

Passed anti-PID test under Damp Heat 85°C and 85% RH 96Hours



**Durability against extreme environmental conditions**

Salt mist corrosion test, Ammonia corrosion test, Dust & Sand test, Fire test, certified by TÜV SÜD



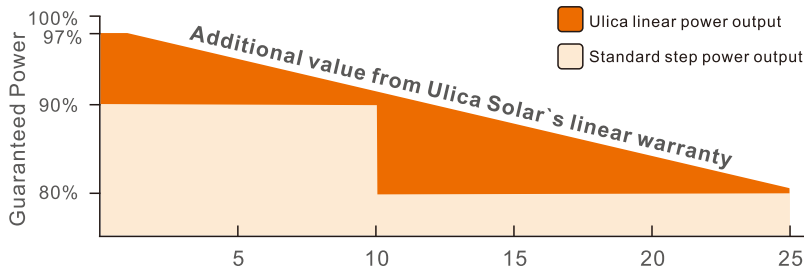
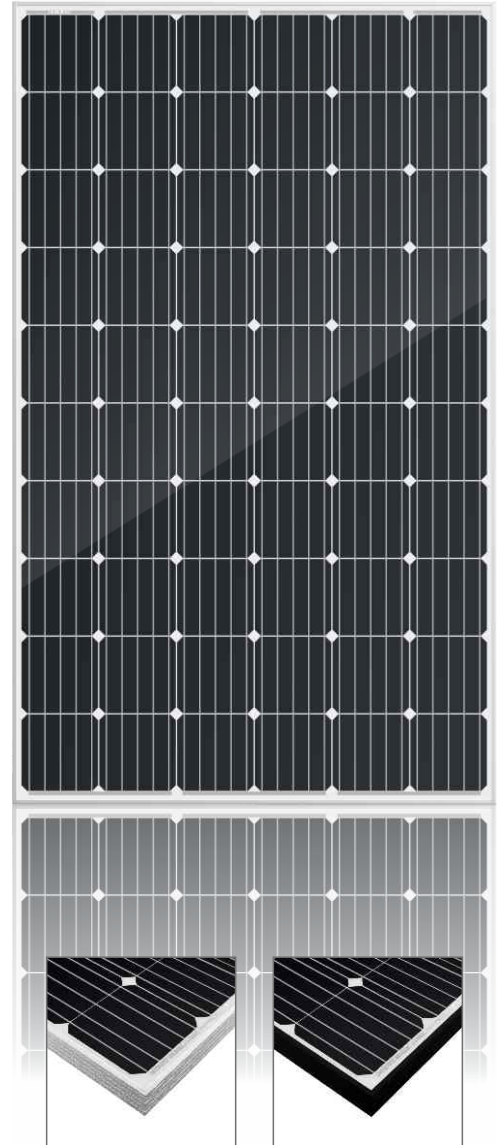
**Double EL test before and after lamination**

Highly control the micro cracks and invisible defects.



**World famous insurance**

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



**12-year product warranty**  
**25-year linear power warranty**



# MONO 300W/305W/310W/315W

## ELECTRICAL PERFORMANCE

Electrical Parameters Standard Test Conditions

Module Type			UL-300M-60	UL-305M-60	UL-310M-60	UL-315M-60
Power Output	P <sub>max</sub>	W	300	305	310	315
Power Tolerance	ΔP <sub>max</sub>	W	0/+5W			
Module Efficiency	η <sub>m</sub>	%	18.33	18.63	18.94	19.24
Voltage at P <sub>max</sub>	V <sub>m</sub>	V	32.5	32.7	32.9	33.1
Current at P <sub>max</sub>	I <sub>m</sub>	A	9.23	9.33	9.42	9.52
Open-Circuit Voltage	V <sub>oc</sub>	V	40.0	40.2	40.4	40.6
Short-Circuit Current	I <sub>sc</sub>	A	9.64	9.74	9.83	9.93

STC: 1000w/m<sup>2</sup> irradiance, 25°C module temperature, AM1.

## THERMAL CHARACTERISTICS

Nominal Operating Cell Temperature	NOCT	°C	45±2
Temperature Coefficient of P <sub>max</sub>	γ	%/°C	-0.395
Temperature Coefficient of V <sub>oc</sub>	β <sub>voc</sub>	%/°C	-0.320
Temperature Coefficient of I <sub>sc</sub>	α <sub>isc</sub>	%/°C	+0.045

## 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	3800Pa
Application Class	A

## CONSTRUCTION MATERIALS

Front Cover(material/type/thickness)	low-iron tempered glass/3.2mm
Cell(quantity/material/type/dimension)	60/monocrystalline/156.75x156.75mm
Encapsulant(material)	ethylene vinyl acetate(EVA)
Frame(material/anodization color)	anodized aluminum alloy/silver or black
Junction Box(Protection degree)	IP67
Cable(length/cross-sectional area)	900mm/4mm <sup>2</sup>
Plug Connector	MC4 compatible

## GENERAL CHARACTERISTICS

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

## PACKING CONFIGURATION

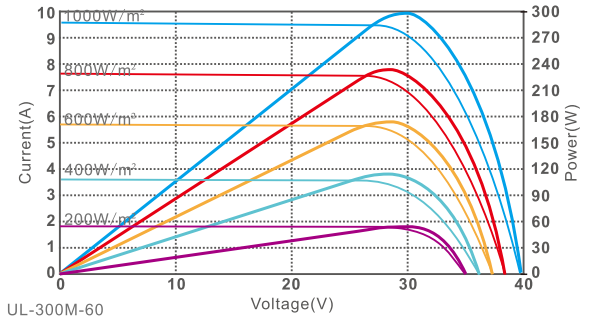
Pallet Size(L/W/H)	1690/1100/2440mm
Pallet Weight	1260kg
Pieces per Pallet	64pcs
Pieces per Container	896pcs

## INTERNATIONAL CERTIFICATES

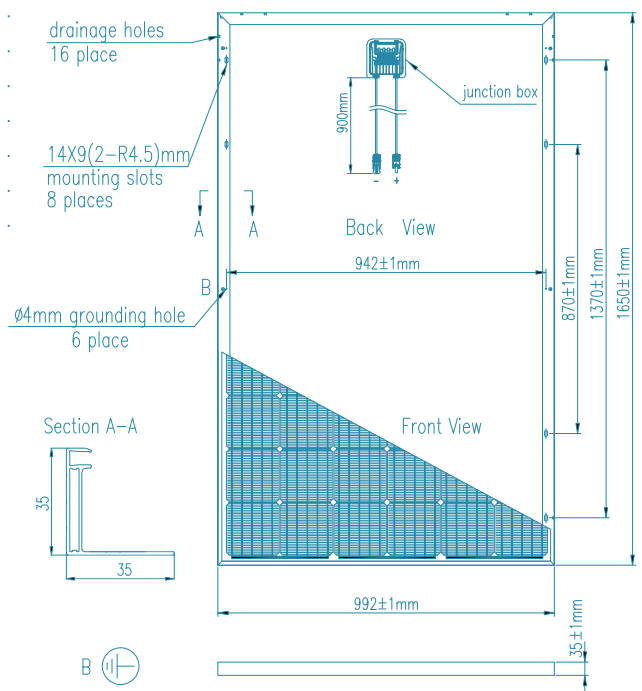
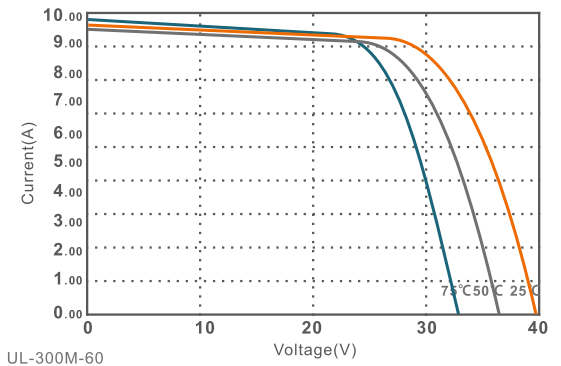
- TÜV SÜD, TÜV NORD, UL, CE, JET, CEC, MCS, CQC, IMERTRO, NRE, KS
- ISO9001:2008
- ISO14001:2004
- BS OHSAS 18001:2007

## I-V CURVE

I-V characteristics at different irradiances



I-V characteristics at different temperature



Please read the instruction manual in this entirety before handing, installing, and operating Ulica Solar modules.  
Due to continuous innovation, research and improvement, the specification is subject to change without prior notice.