

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 72CELL 5BB**



**5 Bus bar cell design**

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



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



**Outstanding mechanical load resistance**

3800 Pa wind load, 5400 Pa snow load



**High performance under low light**

Works at cloudy, rainy days



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

Passed anti-PID test under 85% damp heat,  
85% relative humidity for 96 hours



**Great Durability against extreme conditions**

Passed salt mist corrosion test, ammonia corrosion test,  
dust & sand test, fire test, all certified by TÜV



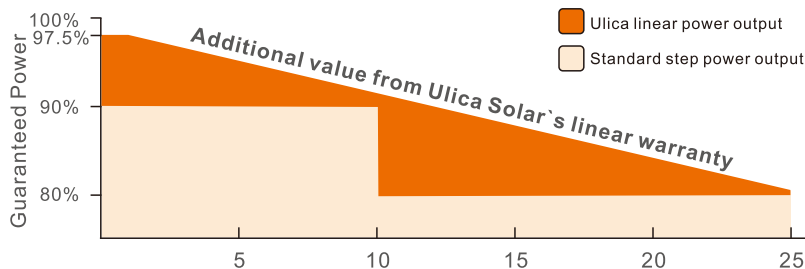
**Double electroluminescence (EL) tests**

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



**World famous insurance**

CHUBB(USA), 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-320P-72	UL-325P-72	UL-330P-72	UL-335P-72
Power Output	P <sub>max</sub>	W	320	325	330	335
Power Tolerance	ΔP <sub>max</sub>	W	0/+5W			
Module Efficiency	η <sub>m</sub>	%	16.49	16.75	17.01	17.26
Voltage at P <sub>max</sub>	V <sub>m</sub>	V	36.9	37.0	37.2	37.3
Current at P <sub>max</sub>	I <sub>m</sub>	A	8.68	8.79	8.87	8.98
Open-Circuit Voltage	V <sub>oc</sub>	V	45.8	46.0	46.2	46.3
Short-Circuit Current	I <sub>sc</sub>	A	9.07	9.16	9.24	9.35

STC: 1000w/m<sup>2</sup> irradiance, 25°C module temperature, AM1.5 spectrum.

## THERMAL CHARACTERISTICS

Nominal Operating Cell Temperature	NOCT	°C	45±2
Temperature Coefficient of P <sub>max</sub>	γ	%/°C	-0.403
Temperature Coefficient of V <sub>oc</sub>	β <sub>voc</sub>	%/°C	-0.330
Temperature Coefficient of I <sub>sc</sub>	α <sub>isc</sub>	%/°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	3800Pa
Application Class	A

## CONSTRUCTION MATERIALS

Front Cover(material/type/thickness)	low-iron tempered glass/3.2mm
Cell(quantity/material/type/dimension)	72/polycrystalline/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)	1100mm/4mm <sup>2</sup>
Plug Connector	MC4 compatible

## GENERAL CHARACTERISTICS

Dimension(L/W/H)	1956/992/40mm
Weight	22.5kg

## PACKING CONFIGURATION

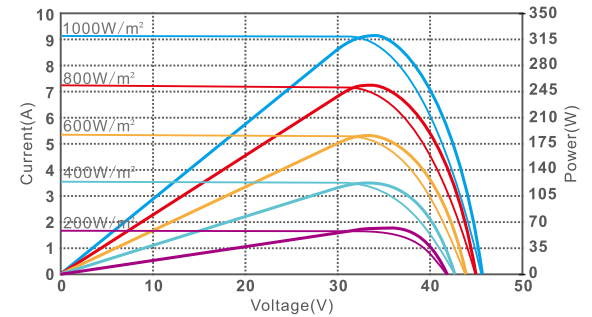
Pallet Size(L/W/H)	2000/1100/2260mm
Pallet Weight	1260kg
Pieces per Pallet	52pcs
Pieces per Container	572pcs

## INTERNATIONAL CERTIFICATES

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

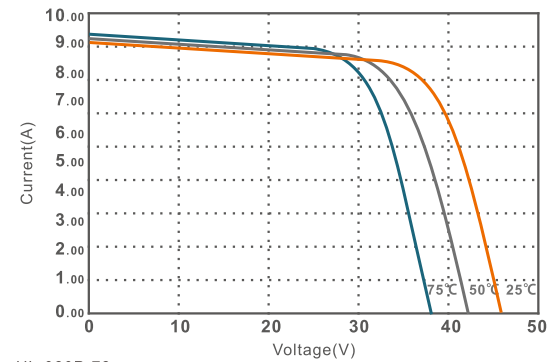
## I-V CURVE

I-V characteristics at different irradiances

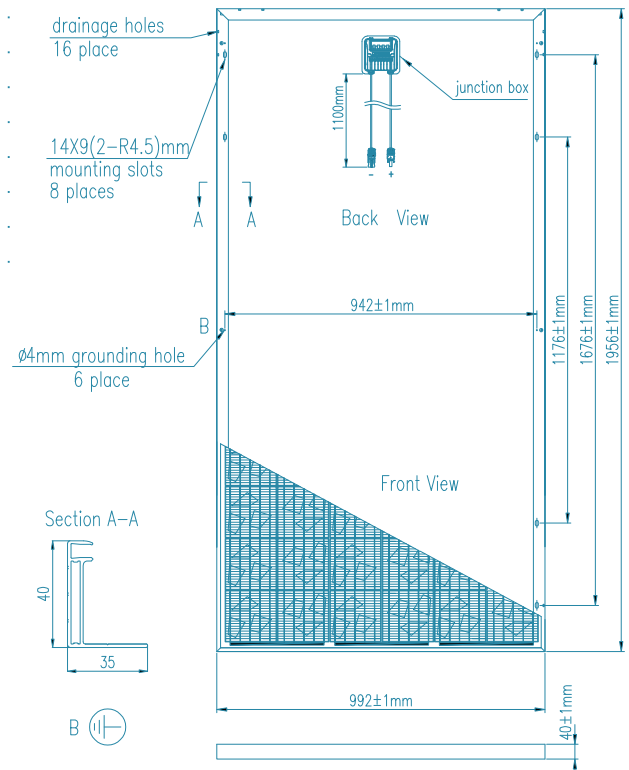


UL-320P-72

I-V characteristics at different temperature



UL-320P-72



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.