

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.

MONO HALF-CELL PERC



Mono PERC Half-cell Module
Reduced resistance between cells
Less micro cracks, higher output power



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



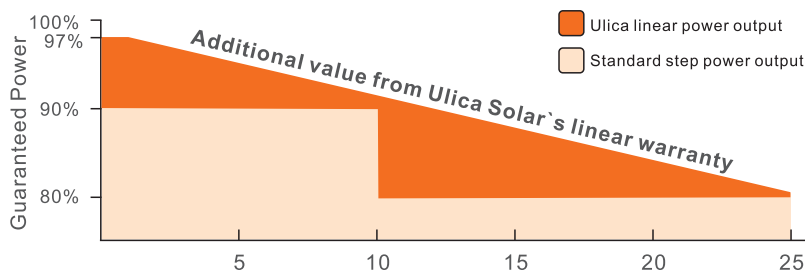
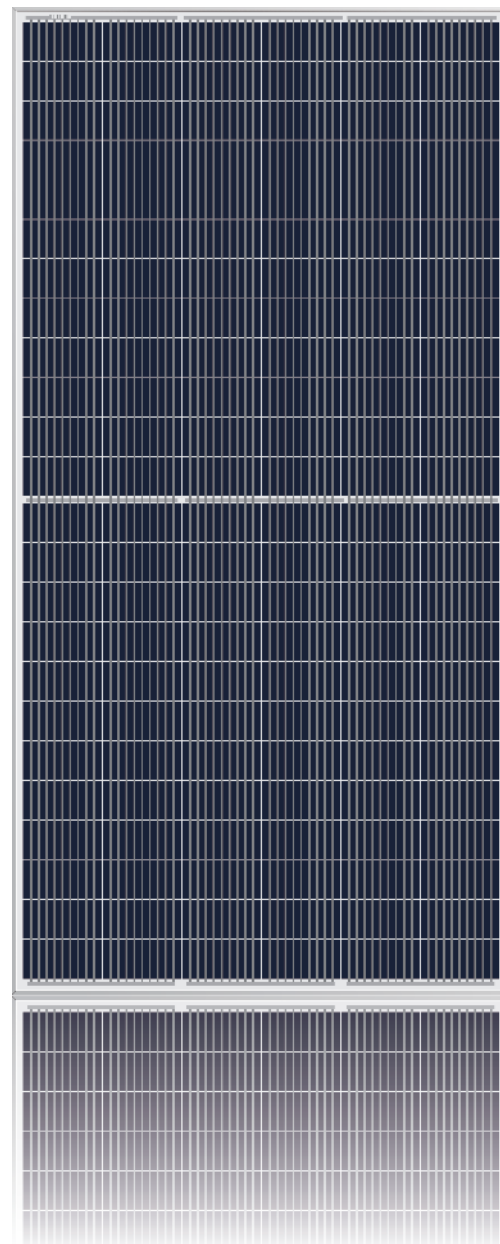
Great Durability against extreme conditions
Passed salt mist corrosion test, ammonia corrosion test,
dust & sand test, fire test, all certified by TÜV



Double electroluminescence (EL) tests
Carefully inspected before and after lamination
to guarantee fault-free modules



World famous insurance
CHUBB(USA), Solar Insurance&Finance(Netherlands)



12-year product warranty

25-year linear power warranty



MONO 400W/405W/410W

ELECTRICAL PERFORMANCE

Electrical Parameters Standard Test Conditions

Module Type			UL-400M-144	UL-405M-144	UL-410M-144
Power Output	P _{max}	W	400	405	410
Power Tolerance	ΔP _{max}	W		0/+5W	
Module Efficiency	η _m	%	19.68	19.93	20.18
Voltage at P _{max}	V _m	V	40.4	40.6	40.8
Current at P _{max}	I _m	A	9.90	9.98	10.05
Open-Circuit Voltage	V _{oc}	V	49.3	49.5	49.7
Short-Circuit Current	I _{sc}	A	10.40	10.48	10.55

STC: 1000W/m² irradiance, 25°C module temperature, AM1.

THERMAL CHARACTERISTICS

Nominal Operating Cell Temperature	NOCT	°C	45±2
Temperature Coefficient of P _{max}	γ	%/°C	-0.390
Temperature Coefficient of V _{oc}	β _{voc}	%/°C	-0.290
Temperature Coefficient of I _{sc}	α _{isc}	%/°C	+0.049

OPERATING CONDITIONS

Max. System Voltage	1000V/1500V
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)	144/monocrystalline/ 158x79mm
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)	400mm/4mm ²
Plug Connector	MC4 compatible

GENERAL CHARACTERISTICS

Dimension(L/W/H)	2024/1004/40mm
Weight	23.5kg

PACKING CONFIGURATION

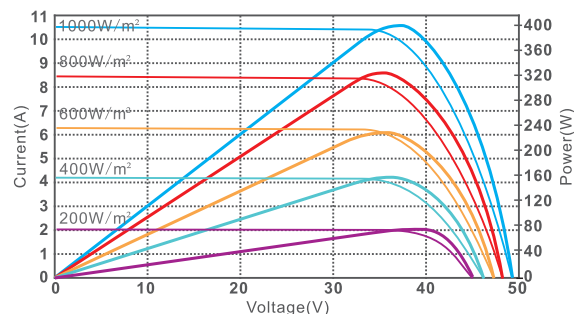
Pallet Size(L/W/H)	2065/1120/2470mm
Pallet Weight	1414kg
Pieces per Pallet	56pcs
Pieces per Container	616pcs

INTERNATIONAL CERTIFICATES

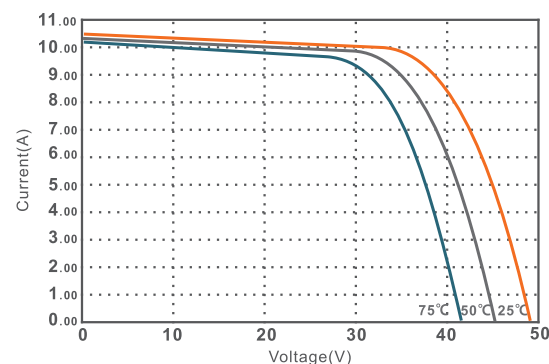
- TÜV SÜD, TÜV NORD, UL, CE, JET, CEC, MCS, CQC, IMERTRO, NRE, KS
- ISO9001:2015
- ISO14001:2015
- BS OHSAS 18001:2007

I-V CURVE

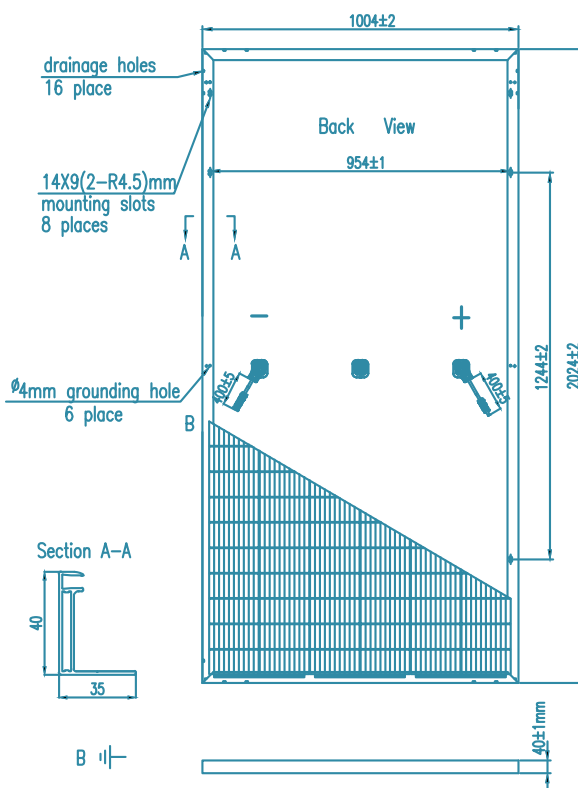
I-V characteristics at different irradiances



I-V characteristics at different temperature



Units:mm



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.