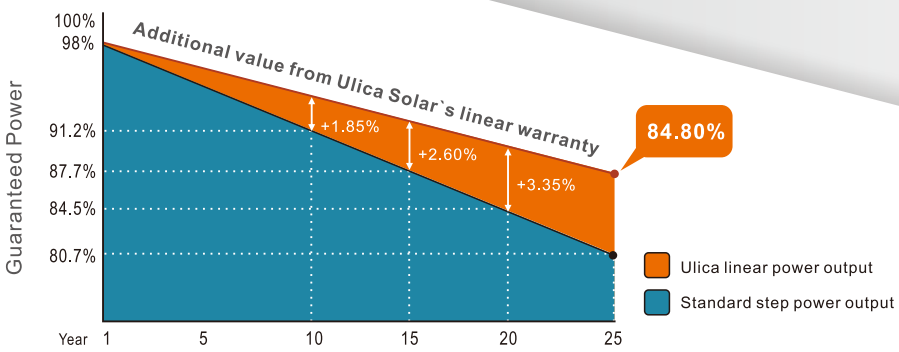
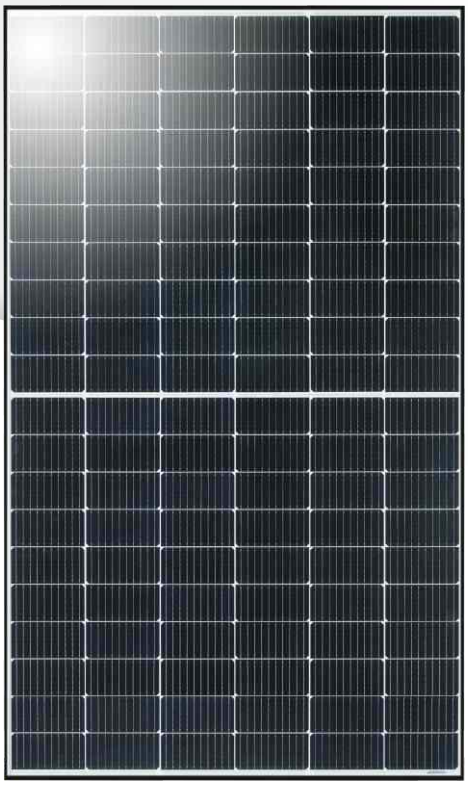
ulica solar
LEADING IN TECHNOLOGY

MONO HALF-CUT MODULE
UL-405 | 410 | 415M-108HV
405W~415W 1500V MBB 182mm cell





Global Tier 1 brand as announced by Bloomberg NEF

Lower LCOE
Lower shading and resistive loss
Lower temperature coefficient

Outstanding mechanical load resistance
2400 Pa wind load, 5400 Pa snow load

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 TUV

Tier 1 Bloomberg NEW ENERGY FINANCE

25 year product warranty

25 year linear power warranty

CE TÜV SUD KG CQC MCS CERTIFIED CEC Listed 신·재생에너지 New & Renewable Energy INMETRO

About Ulica Solar: As member of Shanshan Group (stock code: 600884) which is TOP500 Enterprise in China, Ulica Solar is the leading manufacturer of solar cells and solar panels in China since 2005,and has been continuously listed as the Tier 1 PV Module Manufacturer from Q1 2020 by Bloomberg NEF, with the annual capacity of 1.2GW, and own investment projects of 300MW.

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MONO UL-405 | 410 | 415M-108HV

ELECTRICAL PERFORMANCE

Electrical Parameters Standard Test Conditions

Module Type			UL-405M-108HV	UL-410M-108HV	UL-415M-108HV
Power Output	Pmax	W	405	410	415
Power Tolerance	△Pmax	W		0/+5W	
Module Efficiency	η m	%	20.74	21.0	21.25
Voltage at Pmax	Vm	V	31.3	31.4	31.5
Current at Pmax	Im	A	12.94	13.06	13.17
Open-Circuit Voltage	Voc	V	37.3	37.4	37.5
Short-Circuit Current	Isc	A	13.69	13.81	13.93

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

THERMAL CHARACTERISTICS

Nominal Operating Cell Temperature	NOCT	°C	43±2
Temperature Coefficient of Pmax	γ	%/°C	-0.360
Temperature Coefficient of Voc	βvoc	%/°C	-0.290
Temperature Coefficient of Isc	αisc	%/°C	+0.049

OPERATING CONDITIONS

Max.System Voltage	DC1500V
Max.Series Fuse Rating	25A
Operating Temperature Range	−40℃～85℃
Max static snow load	5400Pa
Max static wind load	2400Pa
Application Class	A

CONSTRUCTION MATERIALS

Front Cover(material/type/thickness)	low-iron tempered glass/3.2mm
Cell(quantity/material/type/dimension)	108 /monocrystalline/ 182X91mm
Encapsulant(material)	ethylene vinyl acetate(EVA)
Frame(material/anodization color)	anodized aluminum alloy/silver or black
Junction Box(protection degree)	IP68
Cable(length/cross-sectional area)	400mm(or Customized Length)/4mm²
Plug Connector	MC4 compatible

GENERAL CHARACTERISTICS

Dimension(L/W/H)	1722/1134/30mm
Weight	21.8kg

PACKING CONFIGURATION

Pallet Size(L/W/H)	1762/1120/2550mm
Pallet Weight	1660kg
Pieces per Pallet	72pcs
Pieces per Container	936pcs

INTERNATIONAL CERTIFICATES

IEC 61215, IEC 61730

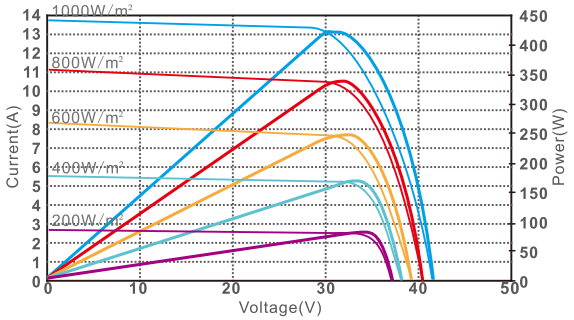
ISO 9001: 2015(Quality management systems)

ISO 14001: 2015 (Environmental management systems)

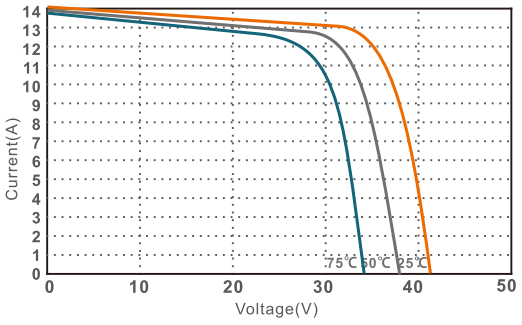
OHSAS 18001: 2015 (Occupational health and safety)

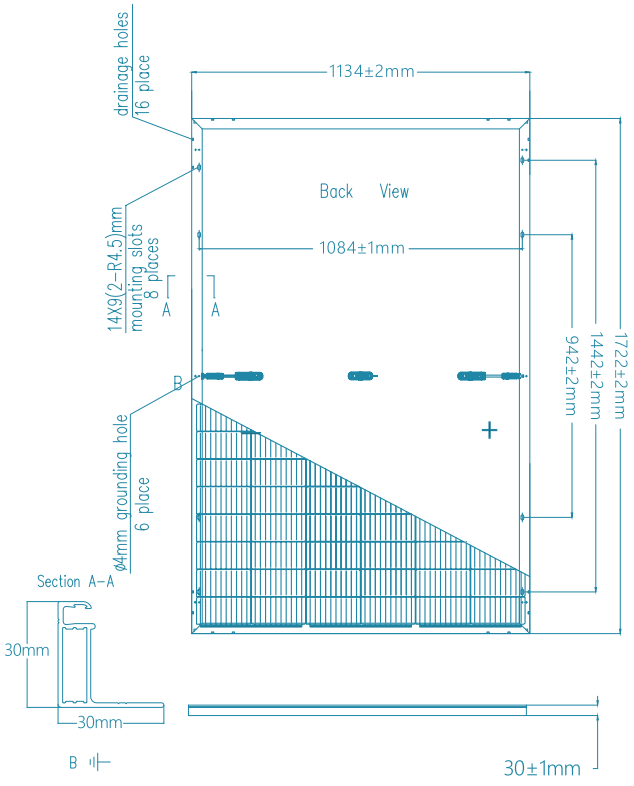
I-V CURVE

I-V characteristics at different irradiations



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.