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Solar Panel Guide Specification Data Sheet

Ningbo Ulica Solar Science & Technology Co., Ltd.

UL-295-310M-60DGB

UL-310M-60DGB

Also available on the web at
EnergyPal.com/ningbo-ulica-solar-science-technology-co-ltd-solar-panels/ul-310m-60dgb

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.

**N-Type Bifacial
Double Glass Module**



Bifacial Mono PERC Module (N-Type)
Capable of generating power at back side, at least 70% efficiency of the front side



Improved durability and reliability
Double tempered glass increases module robustness and minimize micro-cracks



PID Free and Snail Trail Free
PID free and reduced water permeability without back sheet and frame



Higher fire-resistance rating
1000°C heat resistant glass ensures higher fire rating test of class A.



Less daily maintenance
Frameless design results in reduced sand, dust and snow at the edge



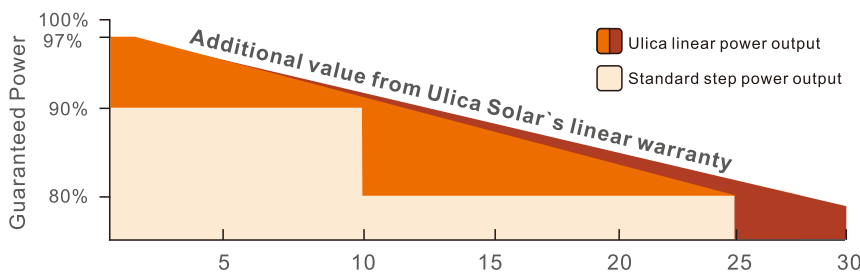
Excellent performance in harsh environmental conditions
5400Pa snow load Test, 2400Pa wind load Test
Better resistance to corrosion against high-temperature, high-humidity, acid, salty mist, sandy and other harsh conditions.



Longer lifetime
Annual power loss is less than 0.5%
30 years performance warranty



World famous insurance
Solar Insurance&Finance(Netherlands), AON(Japan)



12-year product warranty
30-year linear power warranty



ELECTRICAL PERFORMANCE

Electrical Parameters Standard Test Conditions

Module Type		UL-295M-60DGB	UL-300M-60DGB	UL-305M-60DGB	UL-310M-60DGB
Power Output	P _{max} W	295	300	305	310
Power Tolerance	ΔP _{max} W	0/+5W			
Module Efficiency	η _m %	17.83	18.13	18.43	18.74
Voltage at P _{max}	V _m V	39.4	39.6	39.8	40.0
Current at P _{max}	I _m A	9.53	9.64	9.74	9.83
Open-Circuit Voltage	V _{oc} V	32.3	32.5	32.7	32.9
Short-Circuit Current	I _{sc} A	9.13	9.23	9.33	9.42

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	0.390
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	1500V
Max. Series Fuse Rating	15A
Operating Temperature Range	-40°C~85°C
Max static snow load	5400Pa
Max static wind load	2400Pa
Application Class	A

CONSTRUCTION MATERIALS

Front Cover(material/type/thickness)	low-iron tempered glass/2.5mm
Cell(quantity/material/type/dimension)	60/monocrystalline/156.75x156.75mm
Encapsulant(material)	ethylene vinyl acetate(EVA)
Junction Box(protection degree)	IP67
Cable(length/cross-sectional area)	400mm/4mm ²
Plug Connector	MC4 compatible

GENERAL CHARACTERISTICS

Dimension(L/W/H)	1668/992/6mm
Weight	23.5kg

PACKING CONFIGURATION

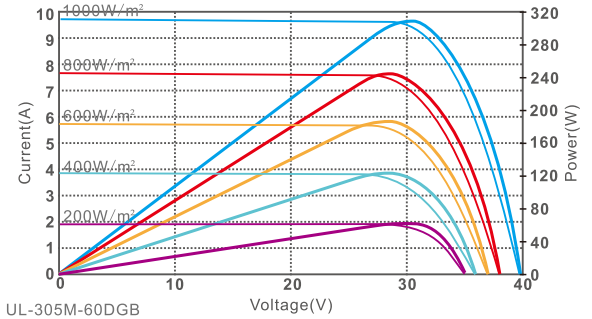
Pallet Size(L/W/H)	1730/1120/2350mm
Pallet Weight	1660kg
Pieces per Pallet	66pcs
Pieces per Container	858pcs

INTERNATIONAL CERTIFICATES

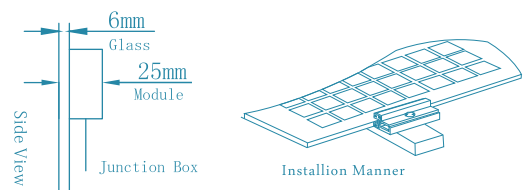
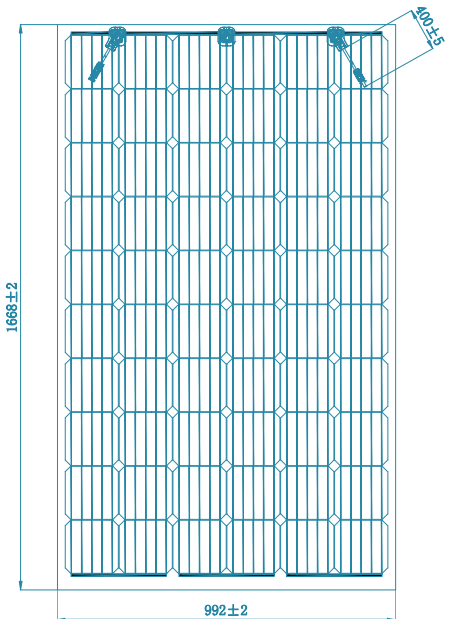
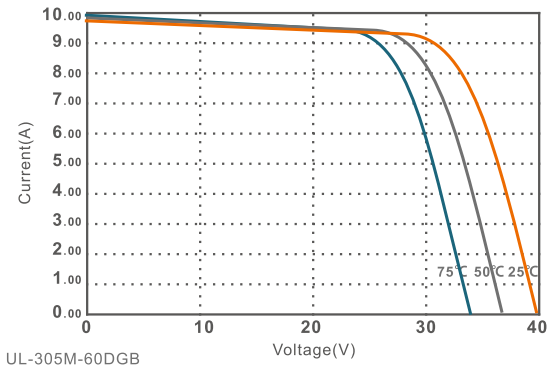
- TÜV SÜD, TÜV NORD, UL, CE, JET
- MCS, CQC, IMERTRO, NRE, KS
- ISO9001:2008
- ISO14001:2004
- BS OHSAS 18001:2007

I-V CURVE

I-V characteristics at different irradiancies



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.