

# DHOOP PP60 Cells 35mm SERIES POLY

DHOOP PP60 275  
DHOOP PP60 270  
DHOOP PP60 265  
DHOOP PP60 260  
DHOOP PP60 255  
DHOOP PP60 250



## AGRAWAL RENEWABLE ENERGY PVT LTD

Agrawal Group, Goa having interests in Solar aims to bring solar energy systems and solutions, to all rural and urban areas and bring about a revolution in the quality of life. As part of this initiative, we are manufacturing DHOOP series solar PV Modules and offering range of Products, systems and solutions – from solar Lantern, home lighting systems, street lighting systems, solar pump, roof top system to independent power plants- all based on solar energy.

Our product is IEC 61215, IEC 61730-1, IEC 61730-2, IEC 61701, IEC 62804 Approved.

## PERFORMANCE

- High efficiency, multi-crystalline silicon solar cells with high transmission and textured glass deliver a module efficiency of up to 16.67 %, minimizing installation costs and maximizing the kWh output of your system per unit area.
- Tight positive power tolerance of 0W to +5W ensures you receive modules at or above nameplate power and contributes to minimizing module mismatch losses leading to improved system yield.

## RELIABILITY

- Tests by independent laboratories prove that DHOOP Solar modules:
- Fully conform to certification and regulatory standards.
- Withstand wind loads of up to 2.4kPa and snow loads of up to 5.4kPa, confirming mechanical stability.
- Successfully endure salt-mist exposure at the highest severity level, ensuring their performance in adverse conditions.
- Manufacturing facility certified by UL India Private Limited.

## WARRANTIES

- 10-year limited product warranty<sup>1</sup>.
- Limited power warranty<sup>1</sup>: 10 years at 90 % of the minimal rated power output, 25 years at 80% of the minimal rated power output.

\*In compliance with our Warranty Terms and Conditions.

## INTERNATIONAL & NATIONAL CERTIFICATIONS

- IEC 61215
- IEC 61730-1
- IEC 61730-2
- IEC 61701- Salt Mist Corrosion Testing.
- IEC 62804 PID POLY/POLY PERC
- IEC 62804 PID MONO/MONO PERC



**AGRAWAL RENEWABLE ENERGY PVT LTD.**

**AnandBhavan, Station Road, Margao, Goa, India – 403 601**

# DHOOP PP60 Cell

## 35mm SERIES

### POLY



#### ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)								
DHOOP PP60 Series								
Power output	P <sub>max</sub>	W	250	255	260	265	270	275
Power output tolerances	ΔP <sub>max</sub>	Positive Tolerance Only						
Module efficiency	η <sub>m</sub>	%	15.16	15.46	15.76	16.07	16.37	16.67
Voltage at P <sub>max</sub>	V <sub>mpp</sub>	V	31.15	31.30	31.35	31.45	31.60	31.80
Current at P <sub>max</sub>	I <sub>mpp</sub>	A	8.05	8.15	8.30	8.45	8.55	8.65
Open-circuit voltage	V <sub>oc</sub>	V	37.10	37.50	37.80	37.90	38.00	38.15
Short-circuit current	I <sub>sc</sub>	A	8.90	9.00	9.10	9.15	9.20	9.25

STC: 1000W/m<sup>2</sup> irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3.  
Average relative efficiency reduction of 5% at 200W/m<sup>2</sup> according to EN 60904-1.

#### GENERAL CHARACTERISTICS

Dimensions (L / W / H)	1662mm / 992mm / 35mm
Weight	19kg

#### PACKAGING SPECIFICATIONS

Number of modules per pallet	30
Number of pallets per 20' Vehicle	10
Packaging box dimensions (L / W / H)	1675mm / 1060mm / 1005mm
Box weight	500

#### THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	46 +/- 2
Temperature coefficient of P <sub>max</sub>	γ	%/°C	-0.38
Temperature coefficient of V <sub>oc</sub>	β <sub>Voc</sub>	%/°C	-0.28
Temperature coefficient of I <sub>sc</sub>	α <sub>Isc</sub>	%/°C	0.0051
Temperature coefficient of V <sub>mp</sub>	β <sub>Vmpp</sub>	%/°C	-0.45

#### OPERATING CONDITIONS

Max. system voltage	1000V <sub>oc</sub>
Max. series fuse rating	20A
Limiting reverse current	20A
Operating temperature range	-40°C to 85°C
Max. static load, front (e.g., snow and wind)	5400Pa
Max. static load, back (e.g., wind)	2400Pa
Max. hailstone impact (diameter / velocity)	25mm / 23m/s

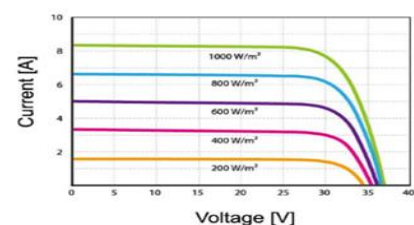
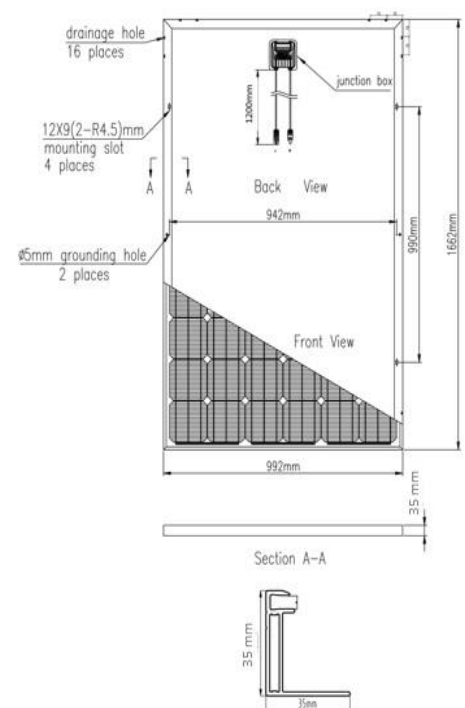
#### CONSTRUCTION MATERIALS

Front cover (material / thickness)	low-iron tempered glass / 3.2mm
Cell (quantity / material / dimensions / number of busbars)	60 / multi-crystalline silicon / 157mm x 157mm / 5
Encapsulate (material)	PID free ethylene vinyl acetate (EVA)
Frame (material / color / anodization color / edge sealing)	anodized aluminum alloy / silver / clear / silicone or tape
Junction box (protection degree)	TUV certified IP67 rated / Weatherproof PPO enclosure with 3 bypass diodes
Cable (length / cross-sectional area)	TUV certified cable with length 1.20 m / 4mm <sup>2</sup>
Plug connector (type / protection degree)	MC4 or compatible

Certificates: The Modules are certified to IEC 61215, IEC 61701 & IEC 61730, Electrical Protection Class II and the CE-guidelines. Moreover Agrawal Renewable is Certified and Registered to ISO 9001, ISO 14001 and OHSAS 18001  
**CAUTION:** READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT

**Note:**  
1. Agrawal Renewable Energy reserves the right to change the specification with prior notice  
2. All measurements and warranty/guarantee applicability under standard test conditions (1000W/m<sup>2</sup>, 25°C, AM 1.5), kindly refer our guarantee/warranty policy for further details.

#### BACK VIEW OF MODULE



Module characteristics at constant module temperatures of 25°C and variable levels of irradiance