

TWxxxP60-FA

Polycrystalline Silicon PV Module

Product Specification

(60pcs Multi 156×156mmCells,With Tongling J-box1000V System Voltage)

Typical Electrical Characteristics at Standard Test Conditions(STC)

Typical Type	Unit	TW225P60 - FA	TW230P60 - FA	TW235P60 - FA	TW240P60 - FA	TW245P60 - FA	TW225P60 - FA	TW230P60 - FA	TW235P60 - FA	TW240P60 - FA	TW245P60 - FA	
Max-Power	P_m (W)	225	230	235	240	245	162.0	166.3	169.8	173.2	176.2	
Power Tolerance	W	0 ~ + 5										
Max-Power Voltage	V_m (V)	29.2	29.4	29.8	30.0	30.4	26.6	27.2	27.4	27.6	27.8	
Max-Power Current	I_m (A)	7.71	7.82	7.89	8.00	8.06	6.7	6.11	6.2	6.28	6.34	
Open-Circuit Voltage	V_{oc} (V)	36.8	37.3	37.6	37.6	37.8	33.2	33.6	33.9	33.8	34.0	
Short-Circuit Current	I_{sc} (A)	8.20	8.22	8.29	8.38	8.50	6.70	6.71	6.77	6.85	6.94	
Encapsulated Cell Efficiency	η_c (%)	15.75	16.00	16.50	16.75	17.00						
Module Efficiency	η_m (%)	13.84	14.14	14.45	14.76	15.06						
STC:AM=1.5, 1000W/m ² , Cells Temperature 25°C						NOCT: 800W/m ² irradiance, 20°C ambient temperature, 1m/s wind speed						

MECHANICAL CHARACTERISTICS

Dimension (L×W×H)	1640mm×992mm×40mm
Standard Installation Hole Dimension	860mm×942mm
Weight	19.5kg
Front cover (material/type/thickness)	Low iron tempered glass 3.2mm
Cell (quantity/material/type/dimensions)	60(6×10)/Multicrystalline/ 156mm×156mm
Encapsulant (material)	EVA
Frame(material/color/anodization color)	Anodized aluminum alloy/silver/clear
Junction box(Protection degree)	Ip65 & IP67
Cable (length/cross-section area)	1100mm/4mm ²

OPERATING CONDITIONS

Max. hailstone impact (diameter/velocity)	25mm hail, form 1 m of distance at 23 m/s
Max. system voltage	Dc1000 V (TUV)
Max. series fuse rating	15 A
Operating temperature range	-40 °C~+85 °C
Max. static load, front (snow & wind)	5400 Pa
Max. static load, back (wind)	2400 Pa

PACKAGING

Container	20Ft (pcs)	40Ft (pcs)	40Hft (pcs)
Modules/pallet	23	23	26
Capacity	276	644	728

THERMAL CHARACTERISTICS

Nominal operating temperature	47±2°C
Temperature coefficient of Pmax	-0.44% / °C
Temperature coefficient of Voc	-0.34% / °C
Temperature coefficient of Isc	0.06% / °C

CERTIFICATIONS



WARRANTY

Manufacturing: 10 years

Power Output:

- Within the first one year, the output power shall not degrade more than 2%
- Within the first two years, the output shall not degrade more than 3%
- In the following 23 years, the average annual power degradation shall not exceed more than 0.7%

Typical Electrical Characteristics at Nominal Operating Cell Temperature (NOCT)

I-V Curves of TW235P60-FA at different irradiance

