

TWxxxP54-GA2 Series

Polycrystalline Silicon PV Module

Product Specification

(54 pcs Multi 156×156 mm Cells, With Tongling J-box 1000 V System Voltage)

Typical Electrical Characteristics

Typical Type	Unit	TW190P54-GA2	TW195P54-GA2	TW200P54-GA2	TW205P54-GA2	TW210P54-GA2	TW215P54-GA2	TW220P54-GA2
Max-Power	P_m (W)	190	195	200	205	210	215	220
Power Tolerance	%	0 ~ +5w			0 ~ +5w			
Max-Power Voltage	V_m (V)	25.8	26.2	26.5	26.7	26.9	27.0	27.2
Max-Power Current	I_m (A)	7.36	7.44	7.55	7.68	7.81	7.96	8.09
Open-Circuit Voltage	V_{oc} (V)	32.8	33.0	33.1	33.4	33.6	33.9	34.1
Short-Circuit Current	I_{sc} (A)	7.94	8.05	8.16	8.25	8.35	8.49	8.60
Encapsulated Cell Efficiency	η_c (%)	14.75%	15.25%	15.50%	16.00%	16.25%	16.75%	17.00%
Module Efficiency	η_m (%)	12.92%	13.26%	13.60%	13.94%	14.28%	14.62%	14.97%
Test Condition		STC:AM=1.5, 1000W / m ² , Cells Temperature 25 °C				STC:AM=1.5, 1000W / m ² , Cells Temperature 25 °C		

CONSTRUCTION MATERIALS

Front cover (material/type/thickness)	Low iron tempered glass 3.2 mm
Cell (quantity/material/type/dimensions)	54 (6×9) / Multicrystalline / 156 mm×156 mm
Encapsulant (material)	EVA
Frame (material/color/anodization color)	Anodized aluminum alloy / silver / clear
Junction box (protection degree)	Ip65 & IP67
Cable (length/cross-section area)	1100 mm / 4 mm ²

MECHANICAL CHARACTERISTICS

Dimension (L×W×H)	1482 mm×992 mm×40 mm
Installation Hole Dimension	702 mm×942 mm
Weight	18.5 kg
Packing Configuration	23 pcs / carton
Quantity/Pallet	1 carton/pallet
Loading Capacity	644 pcs / 40 ft or 322 pcs / 20 ft

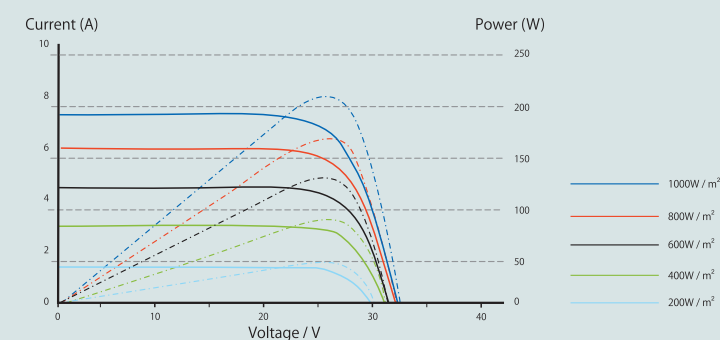
OPERATING CONDITIONS

Max. system voltage	Dc1000 V (TUV)
Max. series fuse rating	15 A
Limiting reverse current	Do not apply external voltages large than Voc of the module
Operating temperature range	-40 °C~+85 °C
Max. static load, front(snow & wind)	5400 Pa
Max. static load, back(wind)	2400 Pa
Max. hailstone impact(diameter/velocity)	25 mm / 23 m / s

CERTIFICATIONS

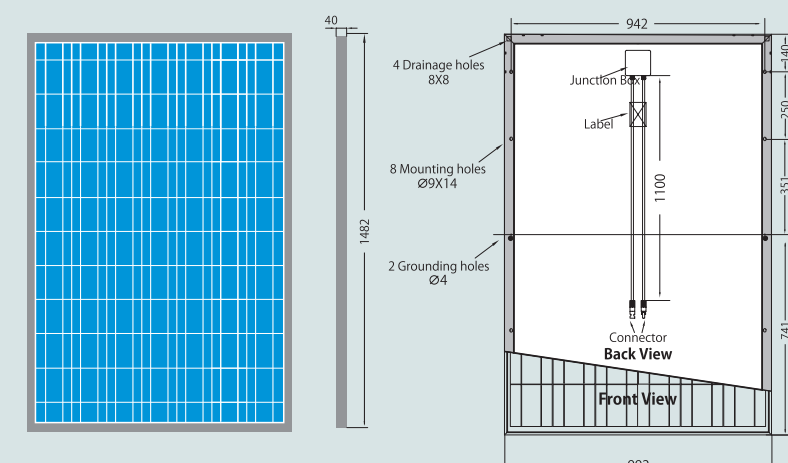


TW200P54-GA2 Module IV Curves



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



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%