



# TES Group Limited

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## TESPV Polycrystalline Module

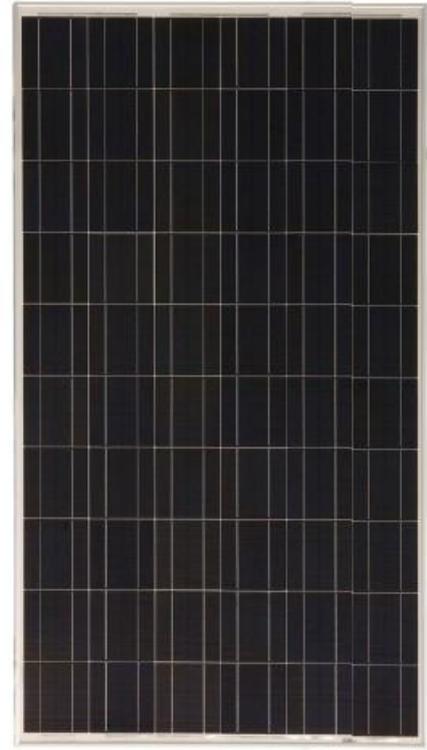
TESPV-220W,225W,230W,235W,240W Polycrystalline Solar Module

### EFFICIENCY

- Low voltage-temperature coefficient allows higher Power output at high-temperature condition
- High efficient, high reliable solar cells ensure our Product output stability

### MATERIALS

- Advanced EVA encapsulation system with triple-layer back sheet meets the most stringent safety requirements for high-voltage operation
- The sturdy, anodized aluminum frame allows the modules to be mounted on a variety of standard racking systems and to withstand harshest conditions
- Ultra reliable bypass diodes prevent damage through Overheating due to shaded or defective cells
- Innovative, environmentally friendly packing method Using pile-edges insures modules arrive in perfect condition
- New frame design incorporating hexagonal shaped Drainage holes, with more grounding holes, provide Flexible installation and use



### BENEFITS

- Manufactured in an IEC61215,IEC61730,ISO 9001:2000, CE certified plant
- High efficiency ,high safety, high reliability
- Output power tolerance of +3 %
- 25-years Limited warranty on Power output,10-years limited warranty on materials and workmanship



### NOTE

This publication summarizes product warranty and specifications, which are subject to change without notice, additional information may be found on our web site: [www.tessolarwater.com](http://www.tessolarwater.com)

### SPECIFICATIONS—TUV certified



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ITEM NO.	TESPV-220W Polycrystalline	TESPV-225W Polycrystalline	TESPV-230W Polycrystalline	TESPV-235W Polycrystalline	TESPV-240W Polycrystalline
Maximum Power(Pmax)	220	225	230	235	240
Maximum Power Voltage(Vmp)	29.8	29.9	30	30.1	30.2
Maximum Power Current(Imp)	7.4	7.53	7.67	7.81	7.95
Open Circuit Voltage(Voc)	36.5	36.7	36.8	36.8	37
Short Circuit Current(Isc)	8.12	8.18	8.34	8.44	8.54
Size of Module(mm)	1650× 992 × 50				
Size of Glass(mm)	1644 × 986× 3.2				
Size of solar cells(mm)	Poly 156mm×156mm				
Number of cells(pcs)	6 x 10				
Maximum System Voltage (V )	1000 (TUV)				
Temperature Coefficients of Isc(%/°C)	0.065%/°C				
Temperature Coefficients of Voc(%/°C)	-0.35%/°C				
Temperature Coefficients of Pm(%/°C)	-0.40%/°C				
Nominal operating cell temperature(°C)	47°C±2°C				
Temperature Range(°C)	-40°C +85°C				
Surface Maximum Load Capacity Maximum Wind Load Capacity	2400 Pa 5400 Pa				
Allowable Hail Load	25mm@80km/h				
Weight Per Piece (kg)	19				
Efficiency for module (%)	13.4	13.7	14.0	14.3	14.6
Efficiency for cell (%)	15.40%	15.80%	16.2%	16.50%	16.75%
Warranty	10 years product warranty and 90% of power output for the first 12 years of the modules life and 80% for the next 13 years for a total of 25 years warranty				
Packing	546pcs/40'' container ,13 pallets,42pcs per pallet 210pcs/20'' container , 6 pallets ,35pcs per pallet				

Note: the specifications are obtained under the Standard Test Conditions (STC):1000W/ m<sup>2</sup> solar irradiance, 1.5 Air Mass, and cell temperature of 25°C



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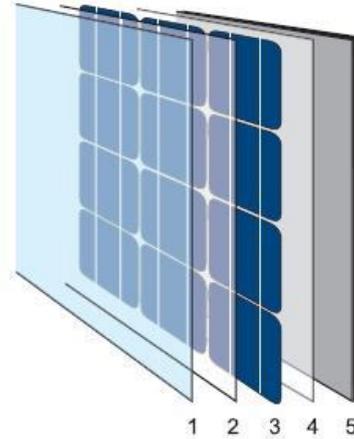
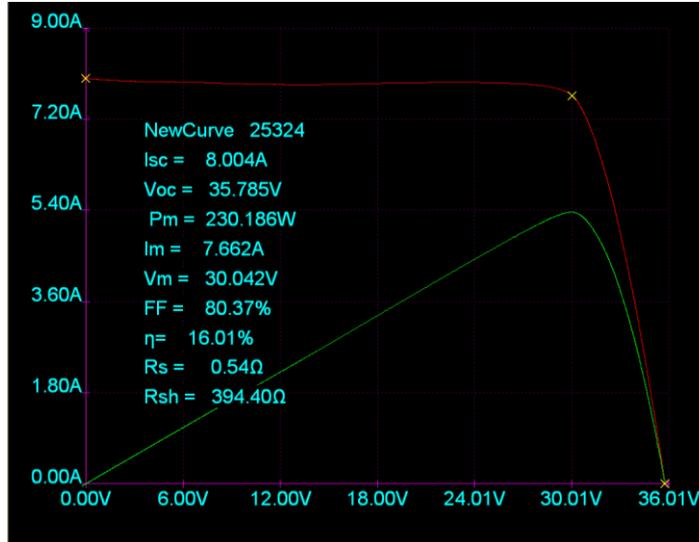
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## ELECTRICAL SPECIFICATIONS:



- 1 Tempered glass
- 2 EVA
- 3 Cells
- 4 EVA
- 5 Multi-layer back sheet

## FRAME PHYSICAL DRAWINGS

