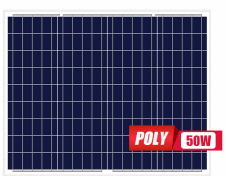
50W Polycrystalline Solar Panel

This 50W polycrystalline solar panel is designed for efficient solar energy conversion. It is ideal for off-grid applications, battery charging, and small power systems.

ADDITIONAL IMAGES



Overview

Versatile 50W Polycrystalline Solution

This 50W polycrystalline solar panel is designed for high-efficiency energy conversion in a compact form factor. It is highly customizable in terms of dimensions, voltage, and cell size, making it an ideal choice for residential off-grid systems and specialized solar lighting projects. Built with durable materials including anti-reflective glass and a robust aluminum frame, it ensures long-term reliability even in challenging environmental conditions.

Electrical Specifications

Performance Metrics

50 W	18.1 V	2.77 A
Max Power (Pmax)	Voltage at Pmax (Vmp)	Current at Pmax (Imp)

Open Circuit Voltage (Voc)	22 V
Short Circuit Current (Isc)	2.99 A
Maximum System Voltage	1000 VDC

Physical Characteristics

Dimensions	535 x 670 x 30 mm
Weight	4 kg
Number of Cells	36

Construction Materials

Detailed view of the high-efficiency solar cells, anti-reflective glass, and robust junction box construction.

Material Specifications

Component	Features
Glass	Anti-reflective, 92% light transmittance
Encapsulant	EVA film with UV resistance
Frame	Anodized aluminum, 5400 Pa load resistance
Back Sheet	High flame resistant TPT, low moisture permeability
Junction Box	IP67/IP68 rated with 3 bypass diodes

Operating Conditions

Temperature Coefficients

- PMAX: -0.37%/°C
- VOC: -0.29%/°C
- ISC: 0.05%/°C

Operating Temperature	-40°C to +85°C

Compliance & Quality

Warranty Period

15-25 Years

Certifications	CE, TUV, IEC, ISO, SGS, PV CYCLE

Applications

Recommended Applications

- Residential off-grid solar systems
- Solar garden light systems (5-10V)
- Battery charging
- Small-scale power projects
- Utility and on-roof installations