

# 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**

Max Power (P<sub>max</sub>)

**18.1 V**

Voltage at P<sub>max</sub> (V<sub>mp</sub>)

**2.77 A**

Current at P<sub>max</sub> (I<sub>mp</sub>)

Open Circuit Voltage (V <sub>oc</sub> )	22 V
Short Circuit Current (I <sub>sc</sub> )	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

- P<sub>MAX</sub>: -0.37%/°C
- V<sub>OC</sub>: -0.29%/°C
- I<sub>SC</sub>: 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