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# **EnergyPal**

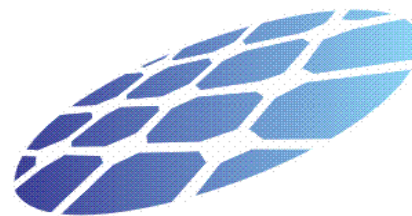
## **Solar Panel Guide Specification Data Sheet**

**PV Silicon Technologies (Pvt) Ltd.  
Battery Charging Application 60-100W  
PVST/SP/80W**

Also available on the web at  
[EnergyPal.com/pv-silicon-technologies-pvt-ltd-solar-panels/pvst-sp-80w](http://EnergyPal.com/pv-silicon-technologies-pvt-ltd-solar-panels/pvst-sp-80w)

# BATTERY CHARGING APPLICATION

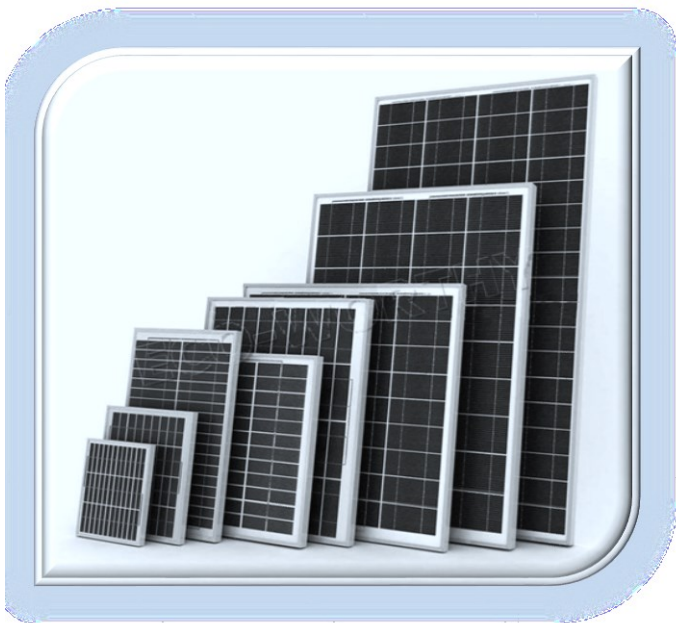
SERIES



PV SILICON TECHNOLOGIES

## HIGHEST QUALITY MODULE NEVER HERE BEFORE

*Independently tested for proven product quality and long-term reliability.*



### HIGH

CELL EFFICIENCY

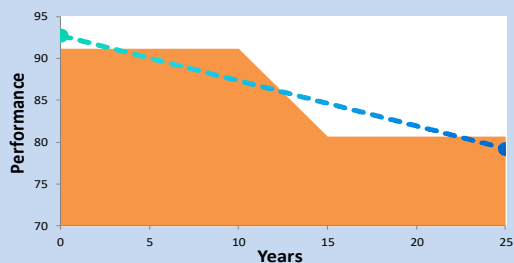
### WARRANTIED

PRODUCT

### 0 - 5 W

POWER TOLERANCE

### 25 Years Performance Warranty



#### Durability

Durable PV modules, independently tested for harsh environmental conditions such as exposure to salt-mist, ammonia and known PID risk factors.



#### Advanced Glass

Our high-transmission glass features a unique anti-reflective coating that directs more light on the solar cells, resulting in a higher energy yield.



#### Corner Locking

The corner locking technique through aluminium corners furnishes our modules with more strength to bear the air pressure. It also strengthens glass for encountering the hails of size up to 25mm.



#### PID Resistant

Our PV modules have demonstrated resistance against PID (Potential Induced Degradation), which translates to security for your investment.

[pvsilicontech.com](http://pvsilicontech.com)  
[info@pvsilicontech.com](mailto:info@pvsilicontech.com)

#### Factory:

8KM Raiwind Road, Bhutian, Lahore.  
Ph. No: 042-36162312

#### Head Office

Plot # 73-C, Al Ghani Street, Islamabad Farming Society D-17, Islamabad  
Ph. no: 051-2361314-15, Fax: 051-2361316

# BATTERY CHARGING APPLICATIONS 60W TO 100W SERIES

## ELECTRICAL PERFORMANCE

### Electrical parameters at Standard Test Conditions (STC)

Module type		PVST/SP/60W	PVST/SP/70W	PVST/SP/80W	PVST/SP/90W	PVST/SP/95W	PVST/SP/100W
Power output	Pmax	60 W	70 W	80 W	90 W	95 W	100 W
Power output Tolerances	%Pmax	3%					
Module efficiency	$\eta_m$	15.2%	17.7%	16.8%	15.6%	17.2%	17.7%
Open-circuit Voltage	Voc	21.6 V	21.6 V	21.6 V	21.6 V	21.6 V	21.6 V
Voltage at Pmax	Vmp	17.4 V	17.4 V	17.4 V	17.4 V	17.4 V	17.4 V
Short-circuit Current	Isc	3.84 A	4.48 A	5.12 A	5.76 A	6.08 A	6.40 A
Current at Pmax	Imp	3.46 A	4.03 A	4.61 A	5.18 A	5.47 A	5.75 A
Maximum System Voltage	Vmax	1000 V	1000.0 V	1000.0 V	1000.0 V	1000.0 V	1000.0 V

STC: 1000W/m<sup>2</sup> irradiance, 25°C module temperature, AM1.5g spectrum according to EN 60904-3. Average relative efficiency reduction of 3.3% at 200W/m<sup>2</sup> for Poly Crystalline and 1.9% for PANDA according to EN 60904-1.

## THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	46 +/- 2
Temperature coefficient of Pmax	$\gamma$	%/°C	-0.42
Temperature coefficient of Voc	$\beta_{Voc}$	%/°C	-0.32
Temperature coefficient of Isc	$\alpha_{Isc}$	%/°C	0.05
Temperature coefficient of Vmpp	$\beta_{Vmpp}$	%/°C	-0.42

## OPERATING CONDITIONS

Max. system voltage	1000VDC
Max. series fuse rating	15A
Limiting reverse current	15A
Operating temperature range	-40°C to 85°C
Max. load, front (e.g., snow)	5400Pa
Max. load, back (e.g., wind)	2400Pa
Max. hailstone impact	25mm / 23m/s

## CONSTRUCTION MATERIALS

Front cover (material / thickness)	low-iron tempered glass / 4.0mm
Cell (material)	Multi/Mono crystalline silicon
Cell (Cell Type /number of busbars)	Cuttet Cells/ 2 or 3
Frame (material / color)	anodized aluminum alloy / silver
Frame (anodization color /edge sealing)	clear / silicone or tape
Junction box (protection degree)	≥ IP65
Plug connector (type / protection degree)	MC4 / IP67

Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without prior notice. The specifications may deviate slightly and are not guaranteed.