

# V-Series

# 270-280 Watt Mono Solar Panel

**+5 / -0  
Wp**

## Positive power tolerance

+5 / -0 Wp

**PID  
FREE**

## PID-Free

PID stands for Potential Induced Degradation  
Module power loss is less than 5% under IEC 62804

**HOT  
SPOT**

## Hot-spot protection

Design to withstand localized heating caused by cracked, mismatched cells, interconnection failures, or partial shadowing

**Snow  
Load**

## Maximum load

Design to withstand heavy snow and wind pressure under IEC 61215 & 61730

**EL  
TEST**

## In-House EL tests

Use electroluminescence (EL) measurements to rule out invisible defects such as microcracks, finger defects, and low-current output areas in modules



## Warranty & Insurance

25-year limited warranty on power output  
10-year limited warranty on workmanship  
Contact TSEC AMERICA for warranty information

## Product & Management System | Certificates



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## 270-280 Watt Mono Solar Panel

### Performance at standard test condition (STC)\*

		TS60-6M3-270S	TS60-6M3-275S	TS60-6M3-280S	
Maximum Power	P <sub>max</sub>	270	275	280	W
Open Circuit Voltage	V <sub>oc</sub>	38.79	39.28	39.56	V
Maximum Power Voltage	V <sub>mp</sub>	31.19	31.57	31.90	V
Short Circuit Current	I <sub>sc</sub>	9.37	9.39	9.46	A
Maximum Power Current	I <sub>mp</sub>	8.69	8.73	8.80	A
Tolerance of Maximum Power		+5 / -0			W
Module Efficiency		16.60	16.90	17.21	%
PTC Rating		245.5	250.2	254.8	W

\*STC: Standard Test Condition, 1000 W/m<sup>2</sup>, AM 1.5, 25°C

\*PTC: PVUSA Test Condition

### Thermal Characteristics

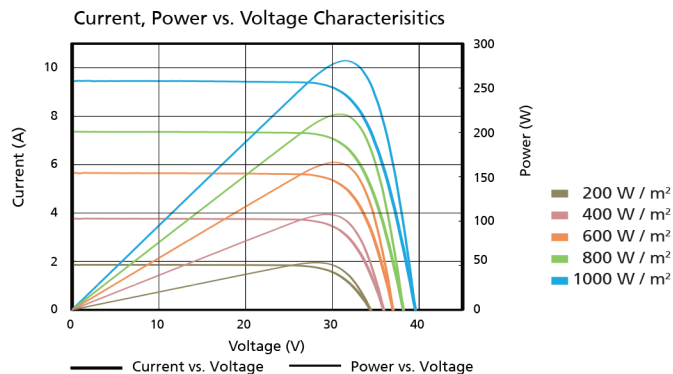
NOCT*	113.9 °F / 45.5°C
TC I <sub>sc</sub>	+0.069 % / °C
TC V <sub>oc</sub>	-0.312 % / °C
TC P <sub>max</sub>	-0.432 % / °C

\*NOCT: Nominal Operating Cell Temperature  
800 W/m<sup>2</sup>, AM 1.5, Ambient Temperature 20°C, Wind Speed 1 m/s

### System Integration Parameters

Maximum DC system voltage	1000 V (IEC / UL)
Maximum series fuse	15 A
Number of bypass diodes	3
Snow load	112 psf / 5,400 Pascal
Wind load	50 psf / 2,400 Pascal
Operating range	-40 to 185°F / -40 to 85°C
Fire performance	Type 2 (UL 1703)

### IV Curve

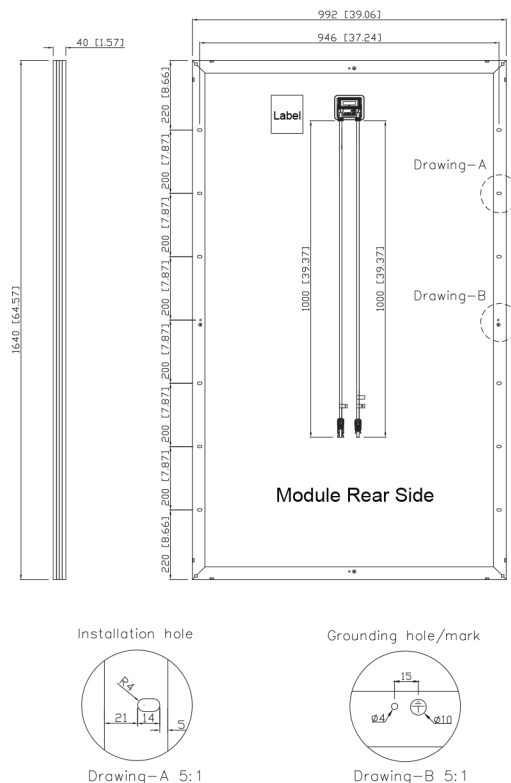


### Performance at 800 W/m<sup>2</sup>, NOCT, AM 1.5

		TS60-6M3-270S	TS60-6M3-275S	TS60-6M3-280S	
Maximum Power	P <sub>max</sub>	198.59	202.35	206.11	W
Open Circuit Voltage	V <sub>oc</sub>	35.83	36.29	36.57	V
Maximum Power Voltage	V <sub>mp</sub>	28.45	28.81	29.12	V
Short Circuit Current	I <sub>sc</sub>	7.61	7.63	7.69	A
Maximum Power Current	I <sub>mp</sub>	6.98	7.02	7.08	A

### Module Characteristics

Cell Configuration	60 in series
Cell Type	6" Monocrystalline Silicon
Length	64.57 in / 1640 mm
Width	39.06 in / 992 mm
Height	1.57 in / 40 mm
Weight	40.79 lbs / 18.5 Kg
Glass	Low iron tempered with ARC
Frame	Black anodized aluminum
Junction Box	IP 67
Connectors	MC4 Compatible



\*TSEC reserves the rights of final interpretation and revision of datasheet Version: September 2015.