

Characteristics of a PV module

Manufacturer, model : **sunportpower, SPP315P60**

Availability : Prod. Since 2018

Data source : R&D department

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STC power (manufacturer)	Pnom	315 Wp	Technology	Si-poly
Module size (W x L)	0.992 x 1.640	m ²	Rough module area	Amodule 1.63 m ²
Number of cells	1 x 60		Sensitive area (cells)	Acells N/A m ²

Specifications for the model (manufacturer or measurement data)

Reference temperature	TRef	25 °C	Reference irradiance	GRef	1000 W/m ²
Open circuit voltage	Voc	39.6 V	Short-circuit current	Isc	10.22 A
Max. power point voltage	Vmpp	32.2 V	Max. power point current	Imp	9.79 A
=> maximum power	Pmpp	315.2 W	Isc temperature coefficient	mulsc	6.1 mA/°C

One-diode model parameters

Shunt resistance	Rshunt	570 ohm	Diode saturation current	IoRef	0.010 nA
Serie resistance	Rserie	0.27 ohm	Voc temp. coefficient	MuVoc	-121 mV/°C
			Diode quality factor	Gamma	0.93
Specified Pmax temper. coeff.	muPMaxR	-0.36 %/°C	Diode factor temper. coeff.	muGamma	0.000 1/°C

Reverse Bias Parameters, for use in behaviour of PV arrays under partial shadings or mismatch

Reverse characteristics (dark)	BRev	3.20 mA/V ²	(quadratic factor (per cell))	
Number of by-pass diodes per module		3	Direct voltage of by-pass diodes	-0.7 V

Model results for standard conditions (STC: T=25° C, G=1000 W/m², AM=1.5)

Max. power point voltage	Vmpp	32.5 V	Max. power point current	Imp	9.72 A
Maximum power	Pmpp	315.5 Wc	Power temper. coefficient	muPmpp	-0.35 %/°C
Efficiency(/ Module area)	Eff_mod	19.4 %	Fill factor	FF	0.780
Efficiency(/ Cells area)	Eff_cells	N/A %			

