

### Characteristics of a PV module

Manufacturer, model : **sunportpower, SPP295P60**

Availability : Prod. Since 2018

Data source : R&D department

File : SPP295P60.pan of 03/01/19 13h53

<b>STC power (manufacturer)</b>	<b>Pnom</b>	<b>295 Wp</b>	<b>Technology</b>	<b>Si-poly</b>
Module size (W x L)	0.992 x 1.640	m <sup>2</sup>	Rough module area	Amodule 1.63 m <sup>2</sup>
Number of cells	1 x 60		Sensitive area (cells)	Acells N/A m <sup>2</sup>

**Specifications for the model (manufacturer or measurement data)**

Reference temperature	TRef	25 °C	Reference irradiance	GRef	1000 W/m <sup>2</sup>
Open circuit voltage	Voc	38.8 V	Short-circuit current	Isc	9.90 A
Max. power point voltage	Vmpp	31.4 V	Max. power point current	Imp	9.40 A
=> maximum power	Pmpp	295.2 W	Isc temperature coefficient	mulsc	5.9 mA/°C

**One-diode model parameters**

Shunt resistance	Rshunt	570 ohm	Diode saturation current	IoRef	0.017 nA
Series resistance	Rserie	0.32 ohm	Voc temp. coefficient	MuVoc	-116 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 <sup>2</sup>	(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/m<sup>2</sup>, AM=1.5)**

Max. power point voltage	Vmpp	31.4 V	Max. power point current	Imp	9.39 A
Maximum power	Pmpp	295.2 Wc	Power temper. coefficient	muPmpp	-0.35 %/°C
Efficiency(/ Module area)	Eff_mod	18.1 %	Fill factor	FF	0.768
Efficiency(/ Cells area)	Eff_cells	N/A %			

