Characteristics of a PV module

Manufacturer, model : **sunportpower, SPP320M60B**

Availability : Prod. Since 2018

Data source : R&D department

STC power (manufacturer)	**Pnom**	**320**	**Wp**	**Technology**		**Si-mono**	
Module size (W x L)		0.992 x 1.640	m²	Rough module area	Amodule	1.63	m²
Number of cells		1 x 60		Sensitive area (cells)	Acells	N/A	m²

Specifications for the model (manufacturer or measurement data)

Reference temperature	TRef	25	° C	Reference irradiance	GRef	1000	W/m²
Open circuit voltage	Voc	39.6	V	Short-circuit current	Isc	10.36	A
Max. power point voltage	Vmpp	32.4	V	Max. power point current	Impp	9.88	A
=> maximum power	Pmpp	320.1	W	Isc temperature coefficient	muIsc	6.2	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/V²	(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	Impp	9.86	A
Maximum power	Pmpp	320.2	Wc	Power temper. coefficient	muPmpp	-0.35	%/° C
Efficiency(/ Module area)	Eff_mod	19.7	%	Fill factor	FF	0.780	
Efficiency(/ Cells area)	Eff_cells	N/A	%				

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