

Characteristics of a PV module

Manufacturer, model : **PERLIGHT, PLM-14.5MB-6**

Availability : Prod. from 2015

Data source : PERLIGHT

STC power (manufacturer)	Pnom	14.5 Wp	Technology	Si-mono
Module size (W x L)	0.280 x 0.330	m ²	Rough module area	Amodule 0.09 m ²
Number of cells	1 x 6		Sensitive area (cells)	Acells 0.07 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	4.0 V	Short-circuit current	Isc	4.74 A
Max. power point voltage	Vmpp	3.3 V	Max. power point current	Impp	4.44 A
=> maximum power	Pmpp	14.5 W	Isc temperature coefficient	mulsc	5.8 mA/°C

One-diode model parameters

Shunt resistance	Rshunt	300 ohm	Diode saturation current	IoRef	0.005 nA
Serie resistance	Rserie	0.07 ohm	Voc temp. coefficient	MuVoc	-15 mV/°C
			Diode quality factor	Gamma	0.93
Specified Pmax temper. coeff.	muPMaxR	-0.40 %/°C	Diode factor temper. coeff.	muGamma	-0.001 1/°C

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

Max. power point voltage	Vmpp	3.2 V	Max. power point current	Impp	4.51 A
Maximum power	Pmpp	14.5 Wc	Power temper. coefficient	muPmpp	-0.38 %/°C
Efficiency(/ Module area)	Eff_mod	15.7 %	Fill factor	FF	0.775
Efficiency(/ Cells area)	Eff_cells	19.9 %			

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