

### Characteristics of a PV module

Manufacturer, model : **Hyundai, HIS-M227SG**

Availability : Prod. from 2009

Data source : Manufacturer 2011

<b>STC power (manufacturer)</b>	<b>Pnom</b>	<b>227 Wp</b>	<b>Technology</b>	<b>Si-poly</b>
Module size (W x L)	0.983 x 1.645	m2	Rough module area	Amodule 1.62 m2
Number of cells	1 x 60		Sensitive area (cells)	Acells 1.46 m2
<b>Specifications for the model (manufacturer or measurement data)</b>				
Reference temperature	TRef	25 oC	Reference irradiance	GRef 1000 W/m2
Open circuit voltage	Voc	36.8 V	Short-circuit current	Isc 8.30 A
Max. power point voltage	Vmpp	29.3 V	Max. power point current	Impp 7.80 A
=> maximum power	Pmpp	228.5 W	Isc temperature coefficient	mulsc 4.7 mA/oC
<b>One-diode model parameters</b>				
Shunt resistance	Rshunt	300 ohm	Diode saturation current	IoRef 4 nA
Series resistance	Rserie	0.30 ohm	Voc temp. coefficient	MuVoc -118 mV/oC
			Diode quality factor	Gamma 1.11
Specified Pmax temper. coeff.	muPMaxR	-0.43 %/oC	Diode factor temper. coeff.	muGamma -0.000 1/oC

<b>Model results for standard conditions (STC: T=25oC, G=1000 W/m2, AM=1.5)</b>				
Max. power point voltage	Vmpp	29.6 V	Max. power point current	Impp 7.74 A
Maximum power	Pmpp	228.7 Wc	Power temper. coefficient	muPmpp -0.43 %/oC
Efficiency(/ Module area)	Eff_mod	14.1 %	Fill factor	FF 0.749
Efficiency(/ Cells area)	Eff_cells	15.7 %		

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