PV module - SS8-72HD-540M-IND

Manufacturer	UNIMACTS	**Commercial data**	
Model	SS8-72HD-540M-IND	Data source :	DEKRA Testing and Certification
Pnom STC power (manufacturer)	540 Wp	Technology	Si-mono
Module size (W x L)	1.134 x 2.278 m²	Rough module area (Amodule)	2.58 m²
Number of cells	2 x 72	Sensitive area (cells) (Acells)	2.38 m²

Specifications for the model (manufacturer or measurement data)

Reference temperature (TRef)	25 °C	Reference irradiance (GRef)	1000 W/m²
Open circuit voltage (Voc)	49.6 V	Short-circuit current (Isc)	13.85 A
Max. power point voltage (Vmpp)	41.7 V	Max. power point current (Impp)	12.97 A
=> maximum power (Pmpp)	540.2 W	Isc temperature coefficient (muIsc)	6.2 mA/°C

One-diode model parameters

Shunt resistance (Rshunt)	1500 Ω	Diode saturation current (IoRef)	0.015 nA
Serie resistance (Rserie)	0.23 Ω	Voc temp. coefficient (MuVoc)	-136 mV/°C
Specified Pmax temper. coeff. (muPMaxR)	-0.33 %/°C	Diode quality factor (Gamma)	0.97
		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)	40.9 V	Max. power point current (Impp)	13.25 A
Maximum power (Pmpp)	541.6 Wp	Power temper. coefficient (muPmpp)	-0.33 %/°C
Efficiency(/ Module area) (Eff_mod)	21.0 %	Fill factor (FF)	0.788
Efficiency(/ Cells area) (Eff_cells)	22.7 %