

**PV module - CSPL-144MHC-WF-550**

Manufacturer	CITIZEN SOLAR PRIVATE LIMITED	Commercial data	
Model	CSPL-144MHC-WF-550	Data source :	UL INDIA
P _{nom} STC power (manufacturer)	550 Wp	Technology	Si-mono
Module size (W x L)	1.134 x 2.278 m ²	Rough module area (A _{module})	2.58 m ²
Number of cells	2 x 72	Sensitive area (cells) (A _{cells})	2.38 m ²
Specifications for the model (manufacturer or measurement data)			
Reference temperature (T _{Ref})	25 °C	Reference irradiance (G _{Ref})	1000 W/m ²
Open circuit voltage (V _{oc})	49.9 V	Short-circuit current (I _{sc})	13.98 A
Max. power point voltage (V _{mpp})	42.0 V	Max. power point current (I _{mpp})	13.12 A
=> maximum power (P _{mpp})	550.4 W	I _{sc} temperature coefficient (mulsc)	5.3 mA/°C
One-diode model parameters			
Shunt resistance (R _{shunt})	2000 Ω	Diode saturation current (I _{oRef})	0.212 nA
Serie resistance (R _{serie})	0.17 Ω	V _{oc} temp. coefficient (MuVoc)	-118 mV/°C
Specified P _{max} temper. coeff. (muPMaxR)	-0.30 %/°C	Diode quality factor (Gamma)	1.08
		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) (B _{Rev})	3.20 mA/V ²	(quadratic factor (per cell))	
Number of by-pass diodes per module	3	Direct voltage of by-pass diodes	-0.6 V
Model results for standard conditions (STC: T=25 °C, G=1000 W/m², AM=1.5)			
Max. power point voltage (V _{mpp})	41.4 V	Max. power point current (I _{mpp})	13.32 A
Maximum power (P _{mpp})	551.1 Wp	Power temper. coefficient (muP _{mpp})	-0.30 %/°C
Efficiency(/ Module area) (Eff _{mod})	21.3 %	Fill factor (FF)	0.791
Efficiency(/ Cells area) (Eff _{cells})	23.1 %		

