



PV module - JAM54S30-420/LR

Manufacturer	JA Solar	Commercial data	
Model	JAM54S30-420/LR	Availability :	Prod. Since 2020
		Data source :	JA Internal
Pnom STC power (manufacturer)	420 W _p	Technology	Si-mono
Module size (W x L)	1.134 x 1.762 m ²	Rough module area (A _{module})	2.00 m ²
Number of cells	2 x 54	Sensitive area (cells) (A _{cells})	1.79 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})	37.2 V	Short-circuit current (I _{sc})	14.25 A
Max. power point voltage (V _{mpp})	31.1 V	Max. power point current (I _{mpp})	13.50 A
=> maximum power (P _{mpp})	420.0 W	Isc temperature coefficient (μI _{sc})	6.3 mA/°C
One-diode model parameters			
Shunt resistance (R _{shunt})	400 Ω	Diode saturation current (I _{oRef})	0.030 nA
Serie resistance (R _{serie})	0.14 Ω	Voc temp. coefficient (μV _{oc})	-108 mV/°C
Specified P _{max} temper. coeff. (μP _{MaxR})	-0.35 %/°C	Diode quality factor (Gamma)	1.00
		Diode factor temper. coeff. (μGamma)	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	-0.7 V

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

Max. power point voltage (V _{mpp})	31.0 V	Max. power point current (I _{mpp})	13.60 A
Maximum power (P _{mpp})	420.0 W _p	Power temper. coefficient (μP _{mpp})	-0.35 %/°C
Efficiency(/ Module area) (Eff _{mod})	21.0 %	Fill factor (FF)	0.793
Efficiency(/ Cells area) (Eff _{cells})	23.5 %		

