



PV module - TSM-570DE19R

Manufacturer	Trina Solar	Commercial data	
Model	TSM-570DE19R	Availability :	Prod. Since 2021
		Data source :	TSL 2022 08
Pnom STC power (manufacturer)	570 W _p	Technology	Si-mono
Module size (W x L)	1.134 x 2.384 m ²	Rough module area (A _{module})	2.70 m ²
Number of cells	2 x 66	Sensitive area (cells) (A _{cells})	2.52 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})	45.8 V	Short-circuit current (I _{sc})	15.95 A
Max. power point voltage (V _{mpp})	38.5 V	Max. power point current (I _{mpp})	14.79 A
=> maximum power (P _{mpp})	569.4 W	Isc temperature coefficient (μI _{sc})	6.4 mA/°C
One-diode model parameters			
Shunt resistance (R _{shunt})	610 Ω	Diode saturation current (I _{oRef})	0.090 nA
Serie resistance (R _{serie})	0.17 Ω	Voc temp. coefficient (μV _{oc})	-125 mV/°C
Specified P _{max} temper. coeff. (μP _{MaxR})	-0.34 %/°C	Diode quality factor (Gamma)	1.04
		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})	37.7 V	Max. power point current (I _{mpp})	15.16 A
Maximum power (P _{mpp})	571.7 W _p	Power temper. coefficient (μP _{mpp})	-0.34 %/°C
Efficiency(/ Module area) (Eff _{mod})	21.1 %	Fill factor (FF)	0.783
Efficiency(/ Cells area) (Eff _{cells})	22.7 %		

