



PV module - TSM-710NEG21C.20

Manufacturer	Trina Solar	Commercial data	
Model	TSM-710NEG21C. 20	Availability :	Prod. Since 2024
		Data source :	UL 2024.01
Pnom STC power (manufacturer)	710 W _p	Technology	Si-mono
Module size (W x L)	1.303 x 2.384 m ²	Rough module area (A _{module})	3.11 m ²
Number of cells	2 x 66	Sensitive area (cells) (A _{cells})	2.91 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})	49.2 V	Short-circuit current (I _{sc})	18.40 A
Max. power point voltage (V _{mpp})	40.9 V	Max. power point current (I _{mpp})	17.36 A
=> maximum power (P _{mpp})	710.0 W	Isc temperature coefficient (μI _{sc})	6.9 mA/°C
One-diode model parameters			
Shunt resistance (R _{shunt})	1200 Ω	Diode saturation current (I _{oRef})	0.021 nA
Serie resistance (R _{serie})	0.18 Ω	Voc temp. coefficient (μV _{oc})	-112 mV/°C
Specified P _{max} temper. coeff. (μP _{MaxR})	-0.29 %/°C	Diode quality factor (Gamma)	1.05
		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})	40.4 V	Max. power point current (I _{mpp})	17.57 A
Maximum power (P _{mpp})	710.6 W _p	Power temper. coefficient (μP _{mpp})	-0.29 %/°C
Efficiency(/ Module area) (Eff _{mod})	22.9 %	Fill factor (FF)	0.785
Efficiency(/ Cells area) (Eff _{cells})	24.4 %		

