

Device Modeling Report

Components: Solar Cell

Product Name:DSP-100W

Manufacture:Jinhua Dokio Technology Co., Ltd.

Kawatta-



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OverView

This report shows LTspice simulation results of DSP-100W characteristics from datasheet.

I-V and P-V characteristics work in condition of datasheet.

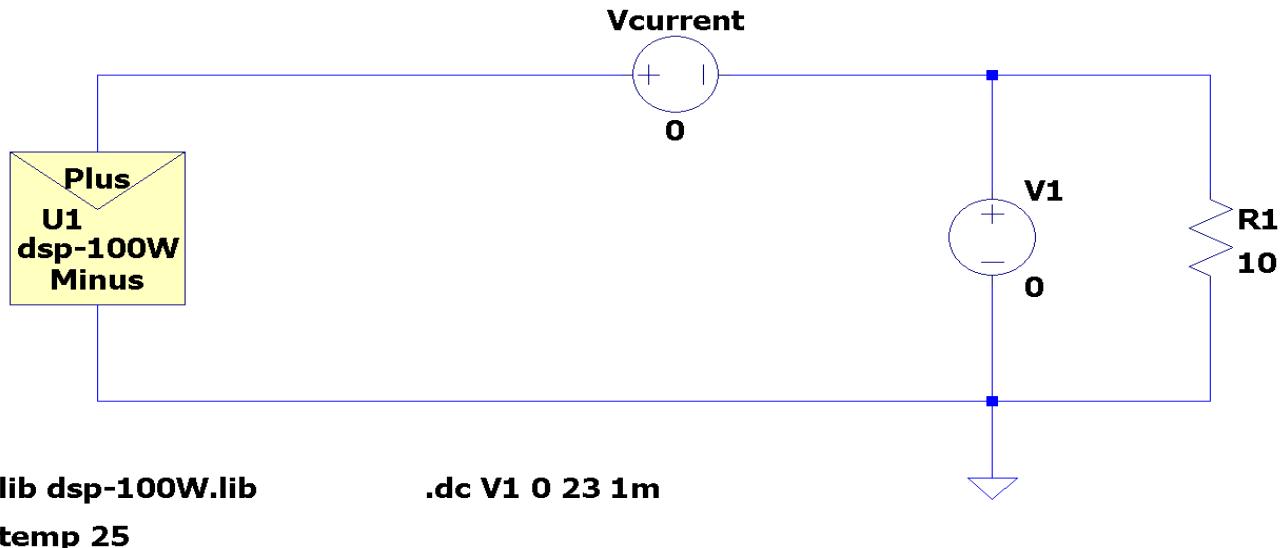
*STC is Irradiance 1000W/m², AM1.5 spectrum, module temperature 25°C

*This model only works at 25°C of LTspice setting and works voltage from 0V – 22.5V

Specification of electrical performance form datasheet (STC)

Parameter	Value
Maximum Power (Pmax)	100W
Maximum Power Voltage (Vmpp)	18V
Maximum Power Current (Impp)	5.6A
Open Circuit Voltage (Voc)	22.5V
Short Circuit Current (Isc)	5.8A

Simulation Circuit



*Vcurrent works as Ammeter.

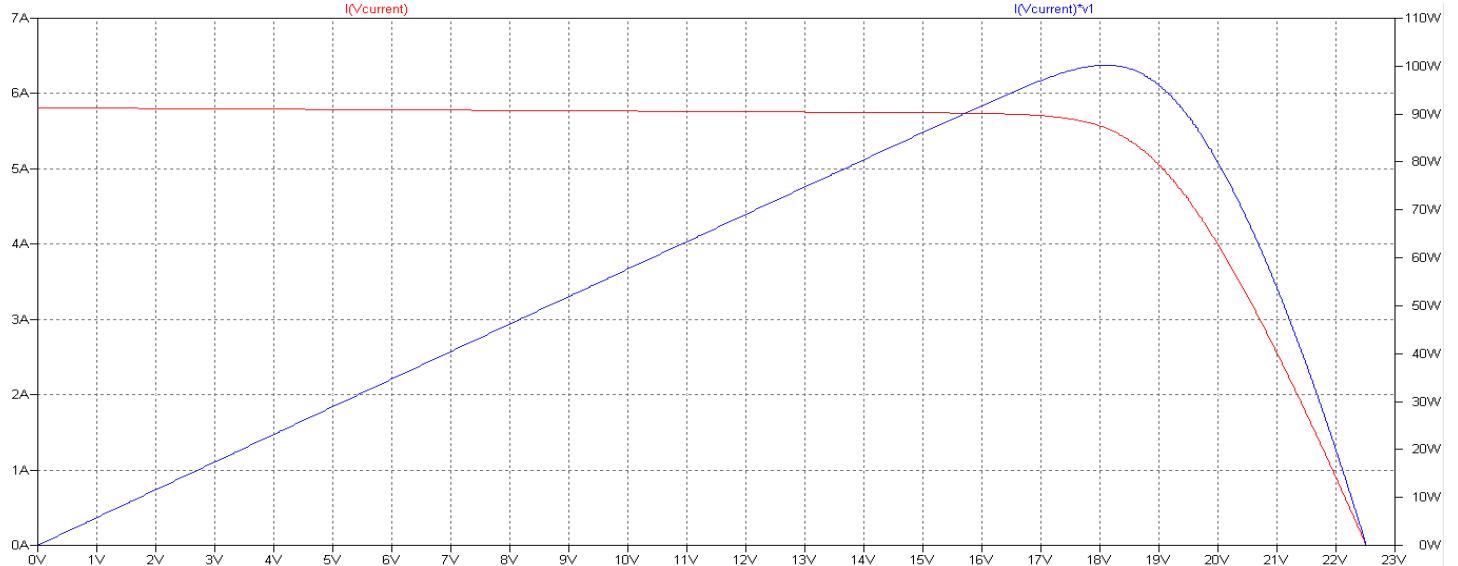
*V1 works as source of dc sweep of DSP-100W(0V- 23V).

(*This model works from voltage 0V – 22.5V)

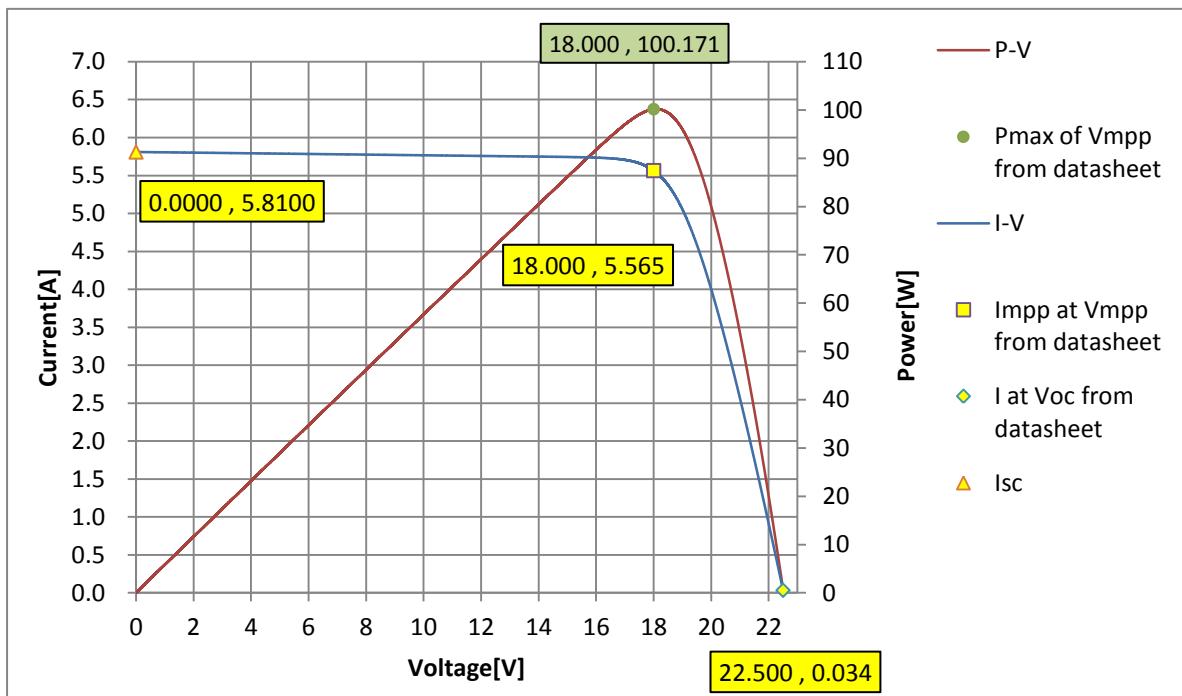
*R1 is load resistance (arbitrary value, EX:10Ω).

*“.temp” works as temperature in STC(25°C)

Simulation result



Results of applied to voltage value of datasheet(Electrical performance in STC)



Error between specification and Simulation.

Symbol	Specification	Simulation	%Error
Isc	5.810	5.810	0.000%
Voc	22.500	22.519	0.084%
Vmpp	18.000	18.085	0.472%
Impp	5.560	5.541	-0.349%
Pmax(Impp*Vmpp)	100.080	100.201	0.121%