

Device Modeling Report

Components: Solar Cell

Product Name:SX320

Manufacture:BP Solar

Kawatta-



All rights reserved © 2020 Kawatta-

OverView

This report shows LTspice simulation results of SX320 characteristics from datasheet.

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

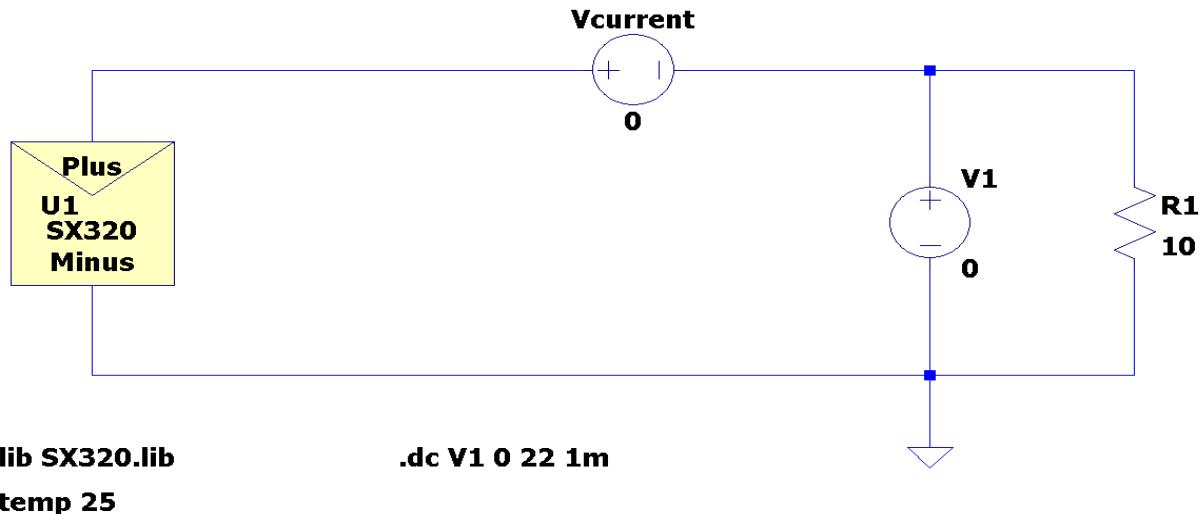
*STC is Irradiance 1000W/m², AM1.5 spectrum, module temperature 25°C

*This model only works at 25°C of LTspice setting and works voltage from 0V – 21V

Specification of electrical performance form datasheet (STC)

Parameter	Value
Maximum Power (Pmax)	20W
Maximum Power Voltage (Vmpp)	16.8V
Maximum Power Current (Impp)	1.19A
Open Circuit Voltage (Voc)	21.0V
Short Circuit Current (Isc)	1.29A

Simulation Circuit



*Vcurrent works as Ammeter.

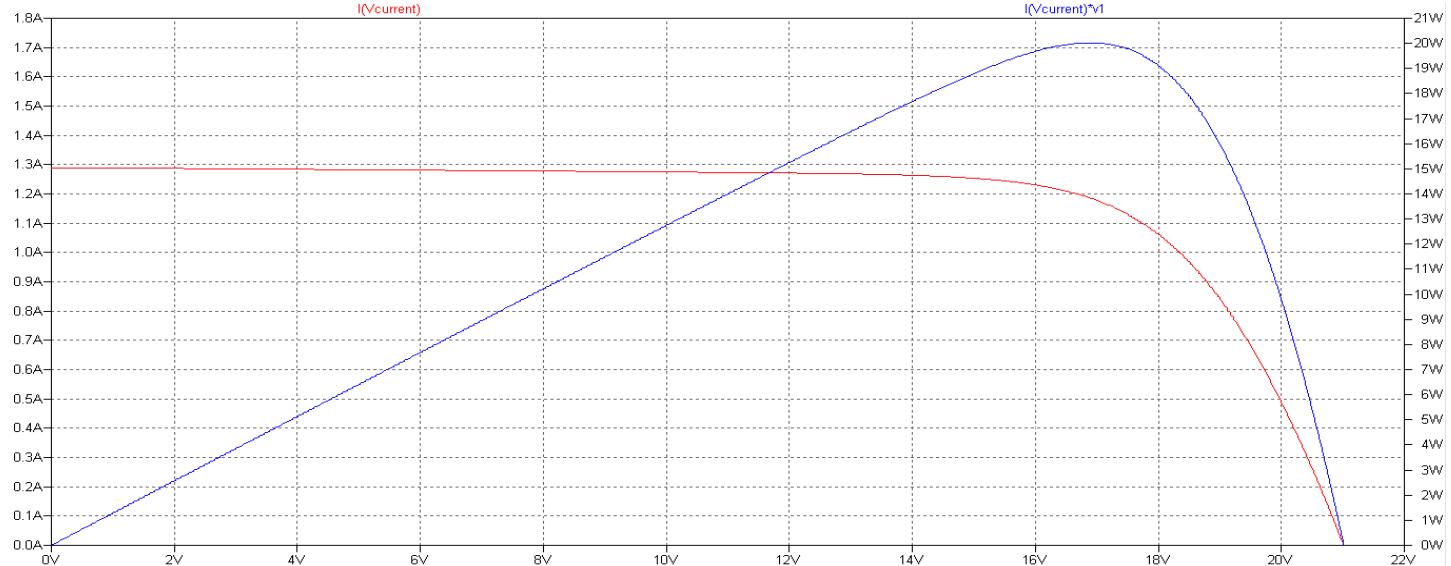
*V1 works as source of dc sweep of SX320(0V- 22V).

(*This model works from voltage 0V – 21V)

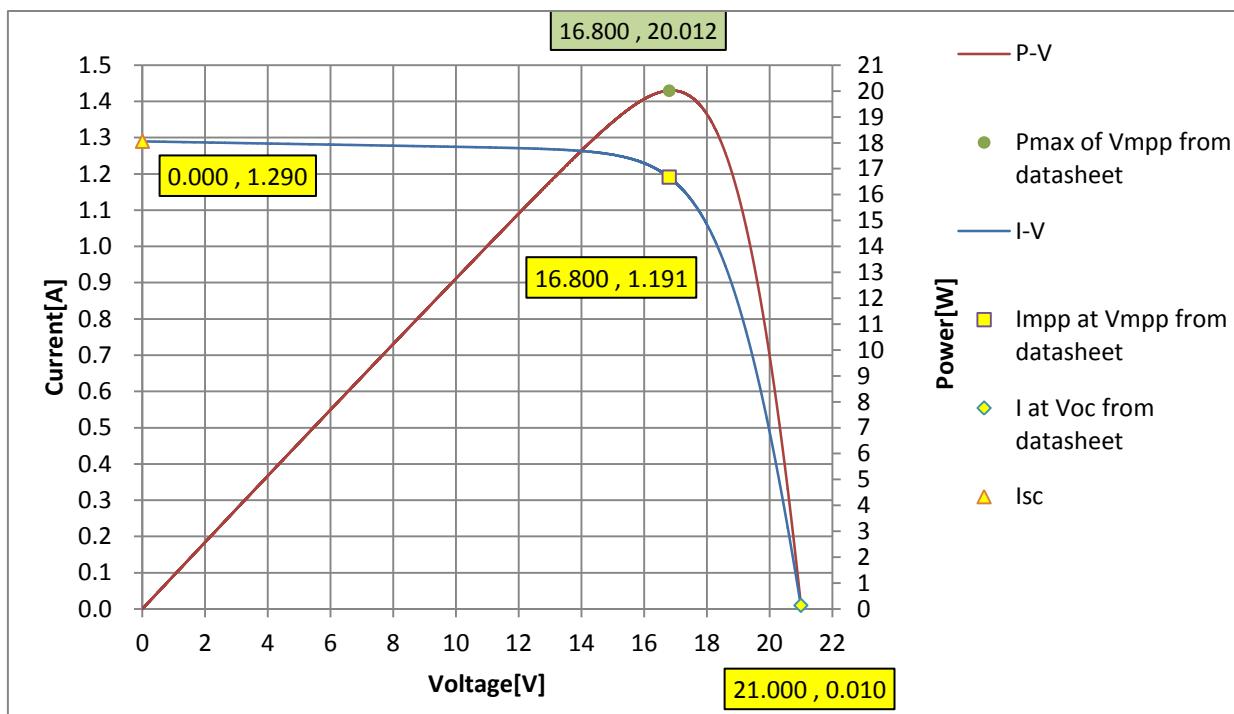
*R1 is load resistance (arbitrary value, EX:10Ω).

*“.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	1.290	1.290	0.000%
Voc	21.000	21.018	0.086%
Vmpp	16.800	16.873	0.435%
Impp	1.190	1.186	-0.318%
Pmax(Impp*Vmpp)	19.992	20.015	0.115%