

Device Modeling Report

Components: Solar Cell

Product Name: KC200GT

Manufacture: KYOCERA

Kawatta-



OverView

This report shows LTspice simulation results of KC200GT characteristics from datasheet.

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

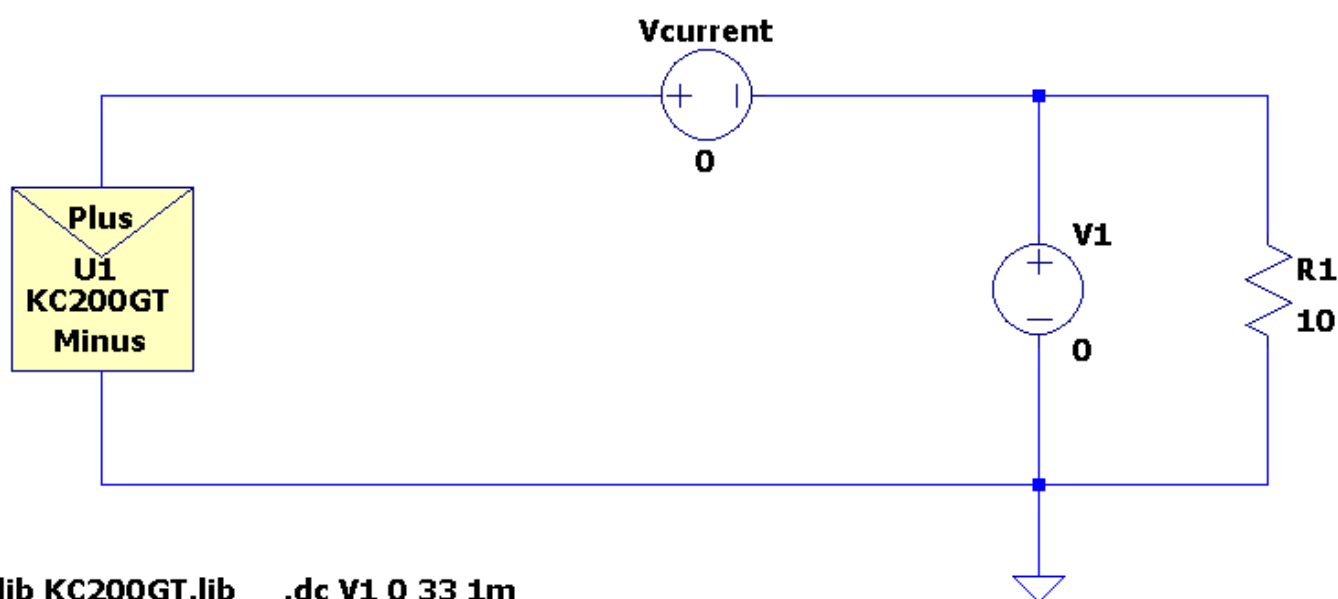
*STC is Irradiance 1000W/m², AM1.5 spectrum, module temperature 25°C

*This model only works at 25°C

Specification of electrical performance in STC

Parameter	Value
Maximum Power (Pmax)	200W(+ 10%/ - 5%)
Maximum Power Voltage (Vmpp)	26.3V
Maximum Power Current (Impp)	7.61A
Open Circuit Voltage (Voc)	32.9V
Short Circuit Current (Isc)	8.21A

Simulation Circuit



```
.lib KC200GT.lib .dc V1 0 33 1m
```

```
.temp 25
```

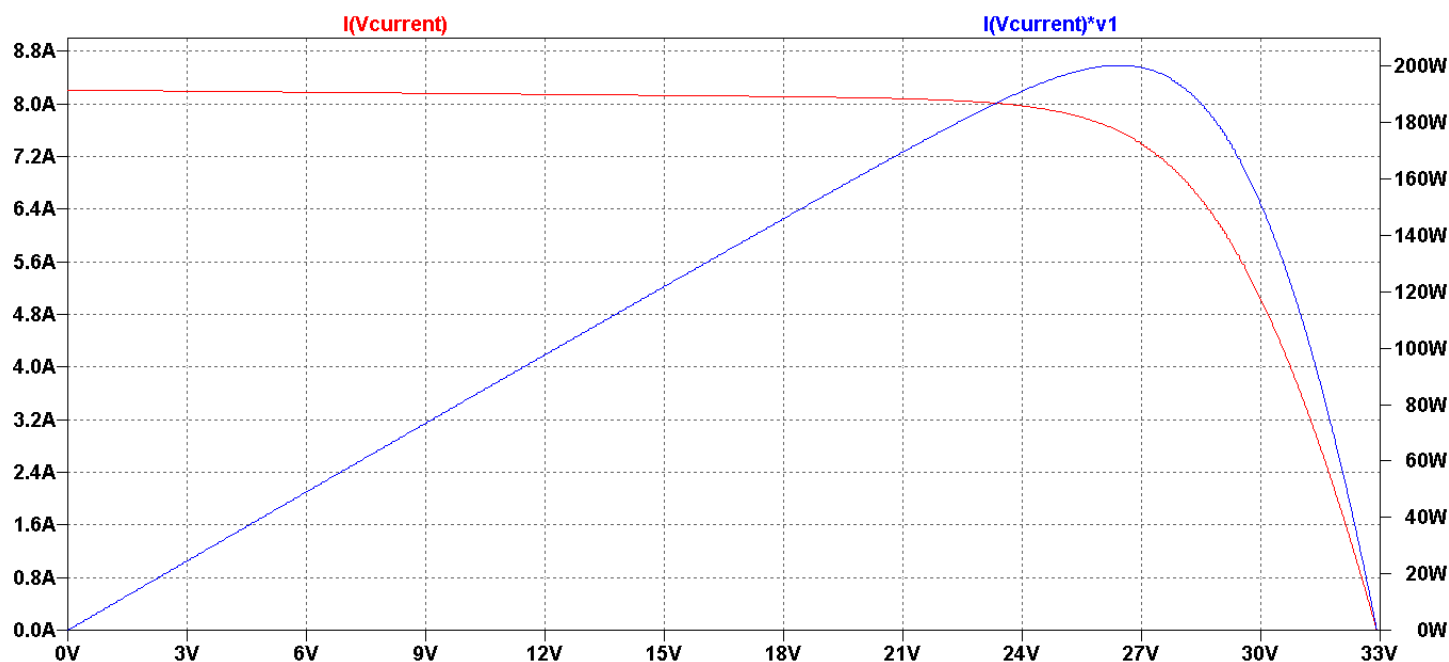
*Vcurrent works as Ammeter.

*V1 works as source of dc sweep of KC200GT(0V - 33V).

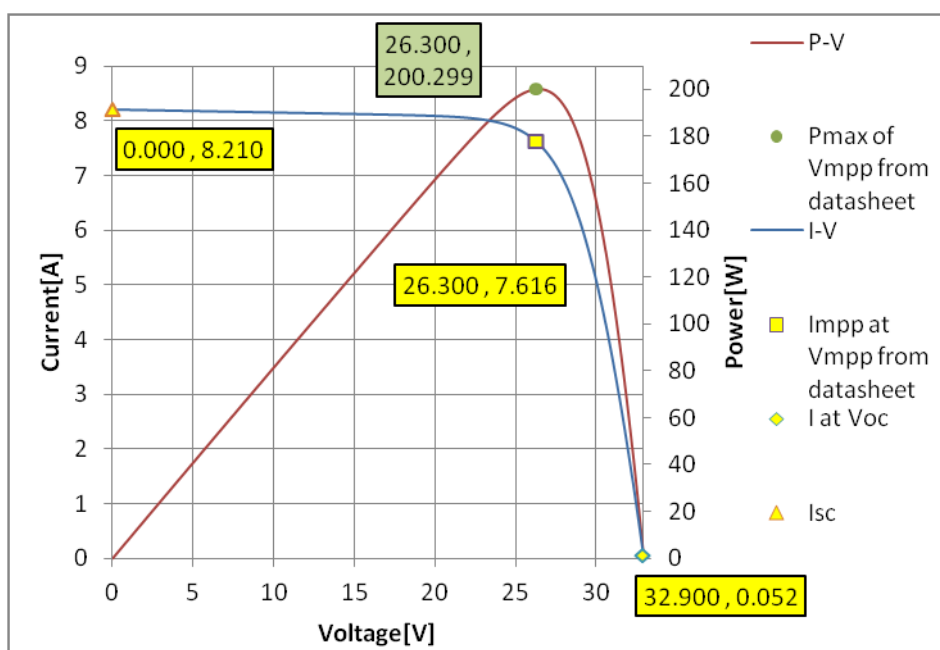
*R1 is load resistance (arbitrary value, EX:10Ω).

*“.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	8.210	8.210	0.000%
Voc	32.900	32.924	0.073%
Vmpp	26.300	26.420	1.590%
Imp	7.610	7.583	0.360%
Pmax (Imp*Vmpp)	200.143	200.332	0.094%