Device Modeling Report

Components: Solar Cell
Product Name:KK275P-3CD3CG
Manufacture: KYOCERA

Kawatta-

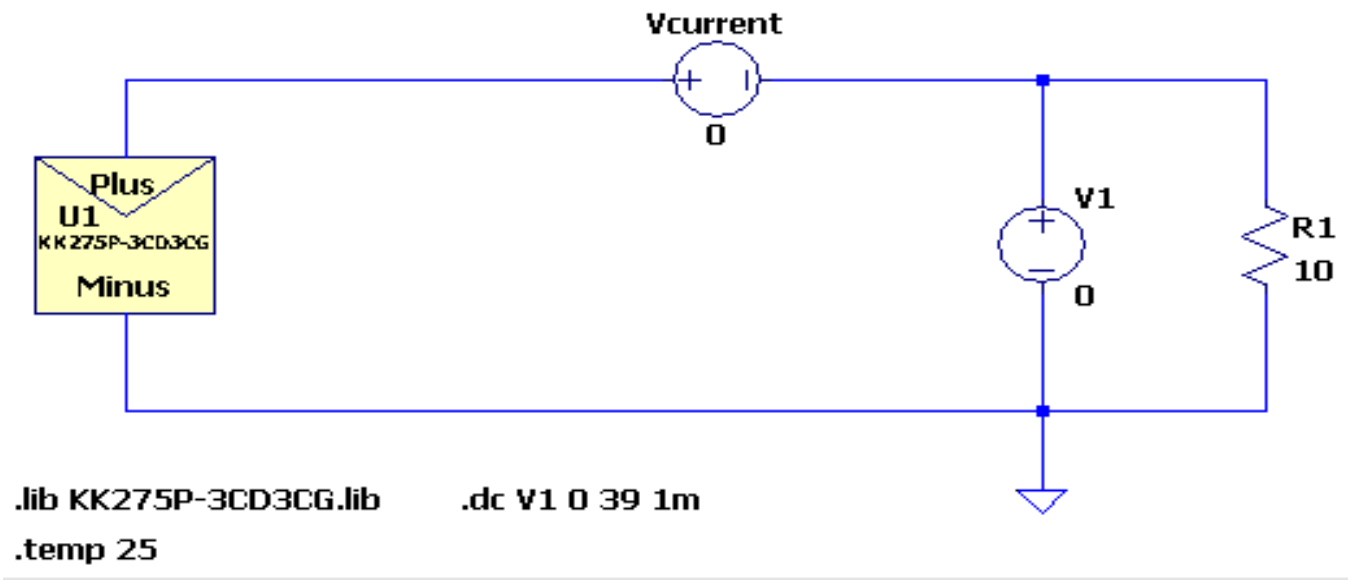
OverView

This report shows LTspice simulation results of KK275P-3CD3CG characteristics from datasheet.
I-V and P-V characteristics work in JIS C 8990 condition of datasheet.
*JIS C 8990 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 – 38.6V

Specification of electrical performance form datasheet (JIS C 8990)

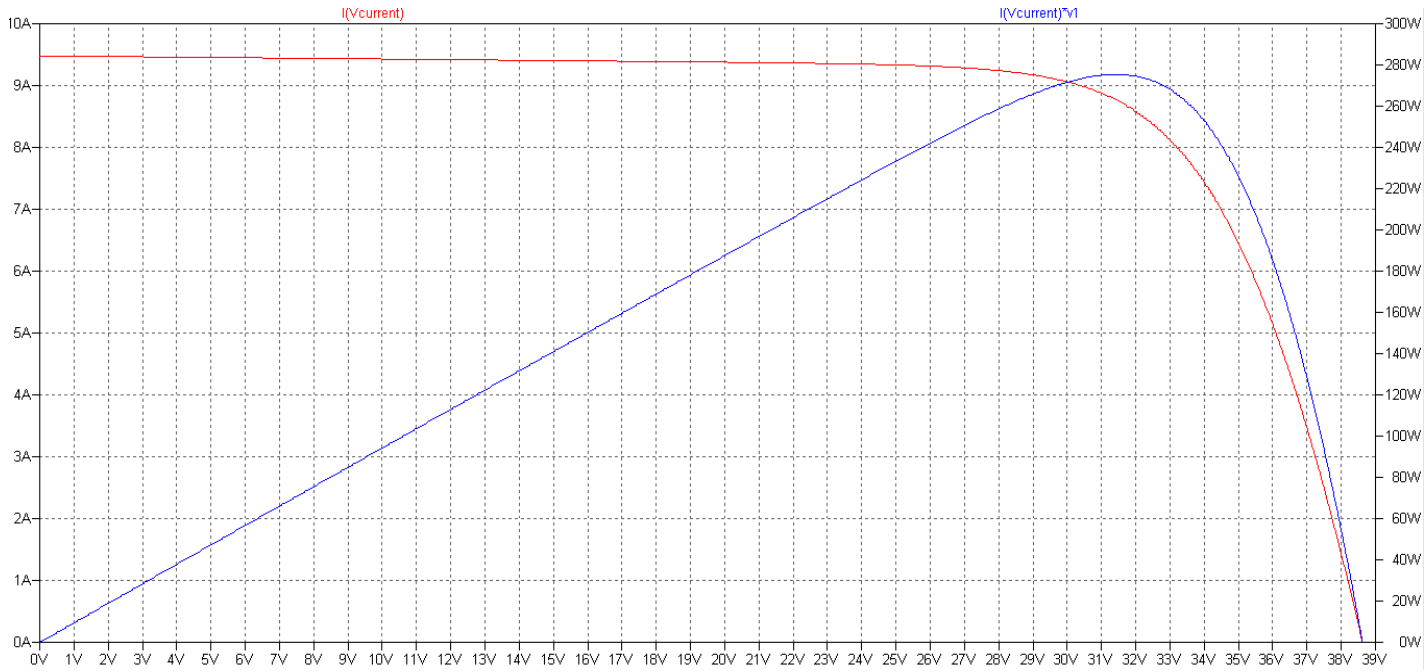
Parameter	Value
Maximum Power (Pmax)	275W
Maximum Power Voltage (Vmpp)	31.3V
Maximum Power Current (Impp)	8.79A
Open Circuit Voltage (Voc)	38.6V
Short Circuit Current (Isc)	9.48A

Simulation Circuit

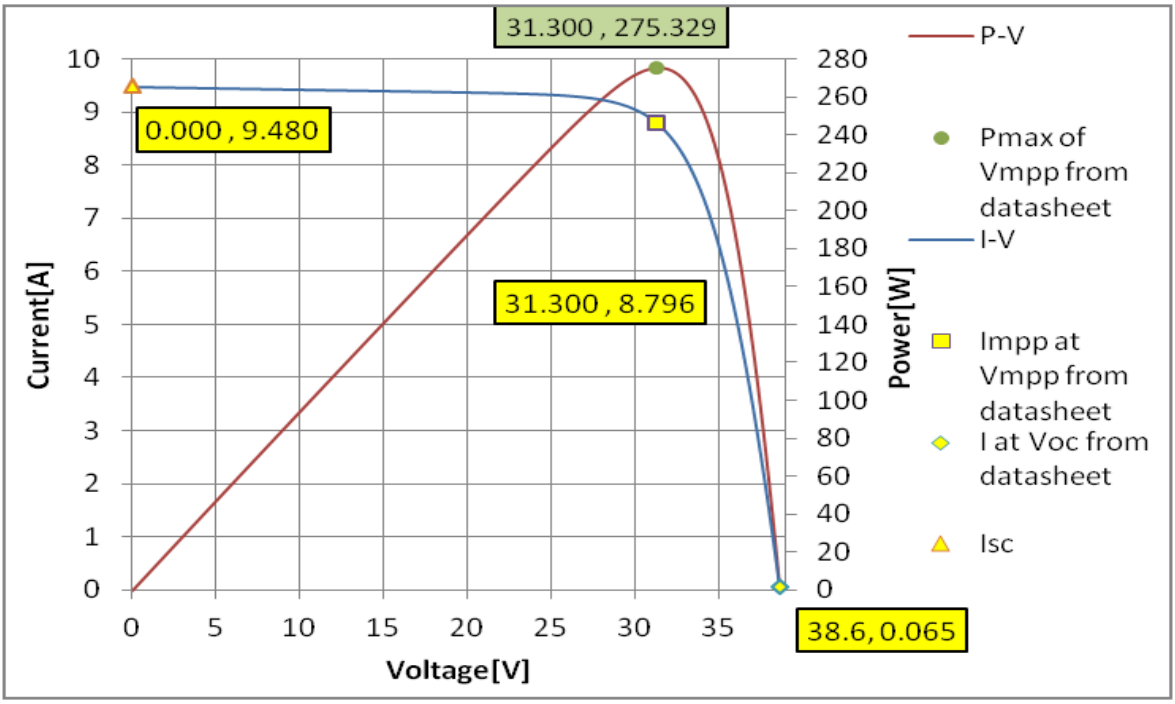


*Vcurrent works as Ammeter.
*V1 works as source of dc sweep of KK275P-3CD3CG(0V- 39V).
(*This model works from voltage 0V – 38.6V)
*R1 is load resistance (arbitrary value, EX:10Ω).
*".temp" works as temperature in JIS C 8990(25°C)

Simulation result



Results of applied to voltage value of datasheet(Electrical performance in JIS C 8990)



Error between specification and Simulation.

Symbol	Specification	Simulation	%Error
Isc	9.480	9.480	0.000%
Voc	38.600	38.627	0.070%
Vmpp	31.300	31.408	0.345%
Impp	8.790	8.767	-0.261%
Pmax(Impp*Vmpp)	275.127	275.355	0.083%