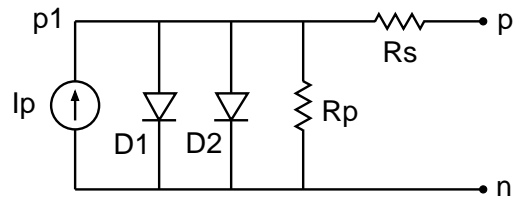


solar_cell_1.ece



Attributes

```
mainnodes: p n
auxnodes: p1
outvar:
+ i1=cur(p)_of_r_series
+ i_d1=cur(p)_of_d1
+ i_d2=cur(p)_of_d2
rparms:
+ is_d1=1e-12
+ is_d2=1e-12
+ n_d1=1
+ n_d2=2
+ i_photo=1
+ r_series=1
+ r_shunt=10e3
+ area=1
+ t1=300.15
```

Description

`solar_cell_1.ece` is a solar cell model with the equivalent circuit shown in the figure. The real parameter `i_photo` specifies the source current in I_p . `is_d1` and `is_d2` are the reverse saturation current densities, and `n_d1` and `n_d2` are the ideality factors of the two diodes. The diode area is given by the parameter `area`; it multiplies the current densities to give the diode currents. The temperature of the two diodes (assumed to be the same) is given by the parameter `t1`. Parameters `r_series` and `r_shunt` denote the resistance values for R_s and R_p , respectively. AC behaviour is not implemented.