## Block PVA2C

The PVA2C block calculates the photocurrent parameters of the two-diode model from the short-cicuit current at standard test conditions and its temperature coefficient.




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|---|---|
| **Name** | PVA2C |
| **Function** | se0033 |
| **Inputs** | 0 |
| **Outputs** | 2 |
| **Parameters** | 3 . . . [4] |
| **Strings** | 0 |
| **Group** | C |

### Inputs

None

### Outputs

1 Coefficient $c_{ph}$
2 Coefficient $c_t$

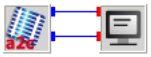
### Parameters

1 Short-circuit current at STC / A
2 Temperature coefficient of short-circuit current $\alpha_I$ / $\mathrm{A\,K^{-1}}$.
3 Single cell area / $\mathrm{m^2}$
4 Number of cells in parallel

### Strings

None

pva2c.vseit



For a short-circuit current of 8.4 A and its temperature coefficient $\alpha_I$ = 0.0042 A/K at standard test conditions – as usually provided on a data sheet of a PV module – the PVA2C block converts these data to the model parameters required by the PVI and PVV blocks, for instance.

The single cell area is assumed to be 0.026 $m^2$ with one cell in parallel. The number of cells in series has no influence on the calculations here.

The SCREEN block is used to show the results.

```
0.27491421  0.00016154
```

so that the photocurrent density is given by

$$i_{\mathrm{ph}} = (0.27491421 + 0.00016154\,T)\;G$$

where $T$ is the module temperature in kelvin and $G$ the gobal irradiance in the module's plane given in W/$m^2$.

See also Blocks PVI, PVV, PVDET1, PVFIT2.