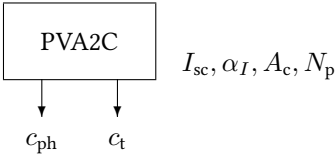


Block PVA2C

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



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 α_I / A K⁻¹.
- 3 Single cell area / m²
- 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

$$i_{\text{ph}} = (0.27491421 + 0.00016154 T) G$$

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

See also Blocks [PVI](#), [PVV](#), [PVDET1](#), [PVFIT2](#).