



## vsrca3.ece

### Attributes

```

mainnodes: a b c n
rparams: v_a=0 v_b=0 v_c=0 f_hz=1
+ phi_a=0 phi_b=-120 phi_c=-240
+ t0=0

```

### Description

vsrca3.ece is a 3-phase AC voltage source connected as shown in the figure. The real parameters,  $v\_a$ ,  $v\_b$ ,  $v\_c$ ,  $\phi\_a$ ,  $\phi\_b$ ,  $\phi\_c$ ,  $f\_hz$ , and  $t0$  represent  $\hat{V}_a$ ,  $\hat{V}_b$ ,  $\hat{V}_c$ ,  $\phi_a$ ,  $\phi_b$ ,  $\phi_c$ ,  $f$ , and  $t_0$ , respectively, in the following equations for the voltages:

$$\begin{aligned}
 V_a(t) &= \hat{V}_a \sin(2\pi f(t - t_0) + \phi_a), \\
 V_b(t) &= \hat{V}_b \sin(2\pi f(t - t_0) + \phi_b), \\
 V_c(t) &= \hat{V}_c \sin(2\pi f(t - t_0) + \phi_c) .
 \end{aligned}$$

(1)

In AC analysis, the three voltages are given by  $\hat{V}_a \angle \phi_a$ ,  $\hat{V}_b \angle \phi_b$ , and  $\hat{V}_c \angle \phi_c$ .