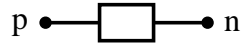


**z.ece**



### Attributes

```
mainnodes: p n
auxnodes: p1
outvar: i1=cur(p)_of_r1
rparms: r=1 x=1 f0=1
outvar_ac: i1ac=cur(p)_of_r1
```

### Description

**z.ece** is an impedance  $\mathbf{Z} = R + jX$  connected between nodes **p** and **n**.

In transient simulation,  $jX$  is replaced by the equivalent capacitance  $C$  or inductance  $L$ . For computing  $C$  or  $L$ , the frequency is required, and that is supplied by the real parameter **f0**. The output variable **i1** gives the branch current.

In AC simulation,  $\mathbf{Z} = R + jX$  is used directly, and there is no need to compute the equivalent capacitance  $C$  or inductance  $L$ . The frequency **f0** is therefore ignored. The AC output variable **i1ac** gives the AC branch current.

Note that **r=0** or **x=0** is not allowed; instead, a suitably small value of **r** or **x** should be specified. For example, an impedance of  $0 + j4\Omega$  may be specified with **r=1u** and **x=4**.