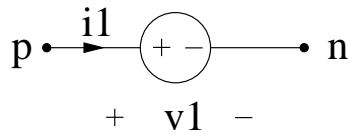


## vpulse20.ece



### Attributes

```
mainnodes: p n
outvar: i1=cur_p_of_v0
iparms: i0=0 n=2
rparms:
+   t1 =1      t2 =2      t3 =3      t4 =4      t5 =5
+   t6 =6      t7 =7      t8 =8      t9 =9      t10=10
+   t11=11     t12=12     t13=13     t14=14     t15=15
+   t16=16     t17=17     t18=18     t19=19     t20=20
+   v_low=0    v_high=5    t_rise=10n  t_fall=10n
```

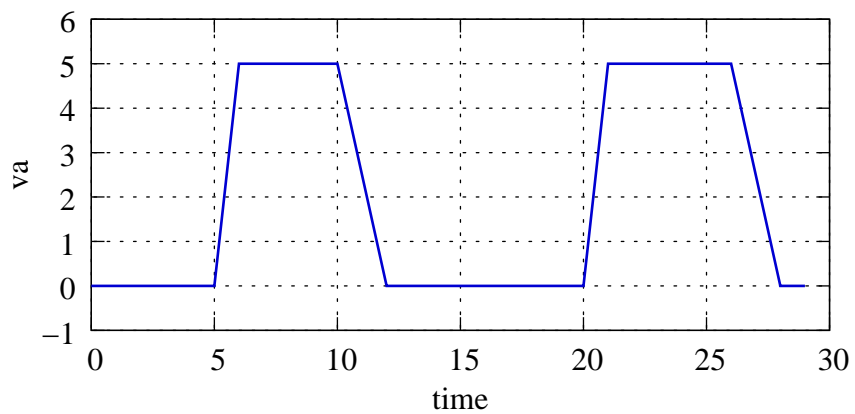
### Description

vpulse20.ece is a voltage source connected between nodes `p` and `n`. Up to 20 transitions between `v_low` and `v_high` are allowed, and the actual number of transitions is set by the integer parameter `n`. The real parameters `t1`, `t2`, etc. are the *starting* times of the transitions. `t_rise` and `t_fall` are the rise and fall times of the transitions, respectively.

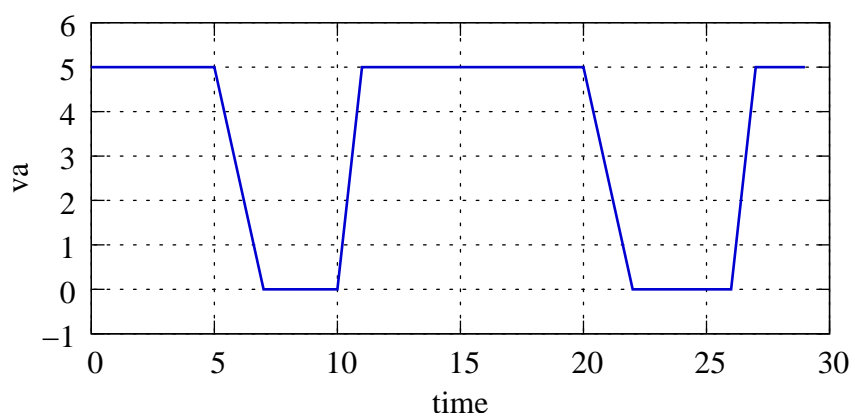
If the integer parameter `i0` is 0, then the output voltage is equal to `v_low` at the beginning; else, it is `v_high`. The effect of the various parameters on the output waveform is illustrated in the following plots.

The output variables `i1` and `v1` are the branch current and branch voltage, respectively.

AC behaviour is not implemented.



$v_{\text{low}}=0$ ,  $v_{\text{high}}=5$ ,  $n_1=4$ ,  
 $t_1=5$ ,  $t_2=10$ ,  $t_3=20$ ,  $t_4=26$ ,  
 $t_{\text{rise}}=1$ ,  $t_{\text{fall}}=2$ ,  $i_0=0$



$v_{\text{low}}=0$ ,  $v_{\text{high}}=5$ ,  $n_1=4$ ,  
 $t_1=5$ ,  $t_2=10$ ,  $t_3=20$ ,  $t_4=26$ ,  
 $t_{\text{rise}}=1$ ,  $t_{\text{fall}}=2$ ,  $i_0=1$