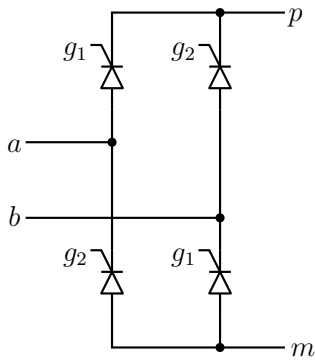


thyristor_bridge_1ph_2.gme



Attributes

```
mainnodes_anlg: a b p m
aux_var: g1 g2
iparms:
+ flag_frequency=1
+ flag_period=0
rparms:
+ r_on=1m
+ r_off=100k
+ g_high=1.0
+ t_period=20m
+ frequency=50
+ tw_deg=10
+ alpha=0
+ dt=0.1u
+ cap=0.2n
outvar_anlg:
+ g1=var_of_g1
+ g2=var_of_g2
+ i_T1=i1_of_t1
+ i_T2=i1_of_t2
+ i_T3=i1_of_t3
+ i_T4=i1_of_t4
```

Description

thyristor_bridge_1ph_2.gme is a single-phase thyristor bridge as shown in the figure.

R_{on}/R_{off} -type thyristors are used in the model. The gate signals, **g1** and **g2**, are internally generated. If a gate input is greater than **g_high**/2, it is considered to be high.

The other parameters have the following meaning:

flag_frequency: If this parameter is set to 1, the period of the gate signals is computed using the real parameter **frequency**.

flag_period: If this parameter is set to 1, the period of the gate signals is given by the real parameter **t_period**.

tw_deg: Pulse width in degrees (with T corresponding to 360°).

alpha: Offset of **g1** (with respect to $t = 0$) in degrees, where one period corresponds to 360° . (**g2** lags **g1** by 180° .)

dt: Rise and fall times of the gate pulses. **dt** should be generally set to $1/10$ of the pulse width or smaller.

cap: Capacitance added between **a** and **m**, and between **b** and **m**. It may help convergence of the Newton-Raphson process in some cases.

AC behaviour is not implemented.