```
* Qucs 0.0.19
* Qucs 0.0.19  TD.sch
.SUBCKT TD _net0 _net1 VT=0.025 Is=1e-12 Ip=1e-5 Iv=1e-6 Vp=0.1 Vv=0.4 K=5 C=0.01p
BD1I0 _net0 _net1 I=Is*(exp((V(_net0)-V(_net1))/VT)-1.0)
GD1Q0 _net0 _net1 nD1Q0 _net1 1.0
LD1Q0 nD1Q0 _net1 1.0
BD1Q0 nD1Q0 _net1 I=-(C*(V(_net0)-V(_net1)))
BD1I1 _net0 _net1 I=Iv*exp(K*((V(_net0)-V(_net1))-Vv))
BD1I2 _net0 _net1 I=Ip*((V(_net0)-V(_net1))/Vp)*exp((Vp-(V(_net0)-V(_net1)))/Vp)
.ENDS
XTD2 _net0 0 TD VT=0.025 Is=1E-12 Ip=1E-5 Iv=1E-6 Vp=0.1 Vv=0.4 K=5 C=0.01P
VI_TD1 _net1 _net0 DC 0 AC 0
V1 _net1 0 DC 0.1
.control
set filetype=ascii
DC V1 -0.05 0.4 0.000997783
write _dc.txt VI_TD1#branch
destroy all
exit
.endc
.END
```