

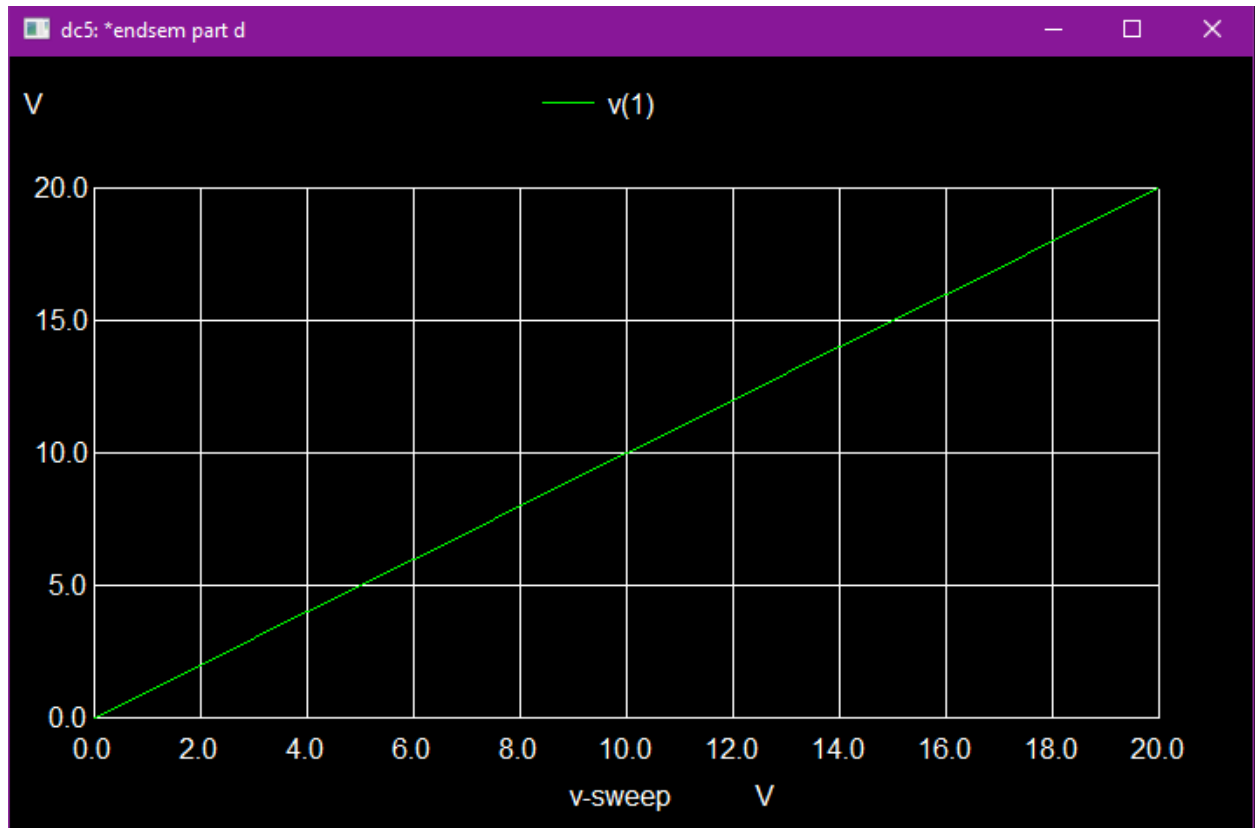
Netlist:

```
*Endsem Part D
.include ua741.txt
Vin 1 0 dc=0
.dc Vin 0 20 1
Vcc 4 0 dc 15v
Vee 5 0 dc -15v
X1 2 3 4 5 6 UA741
d1 7 0 D1N750
R1 1 2 10k
R2 2 6 10k
R3 3 0 10k
R4 3 6 10k
RL 2 7 1k

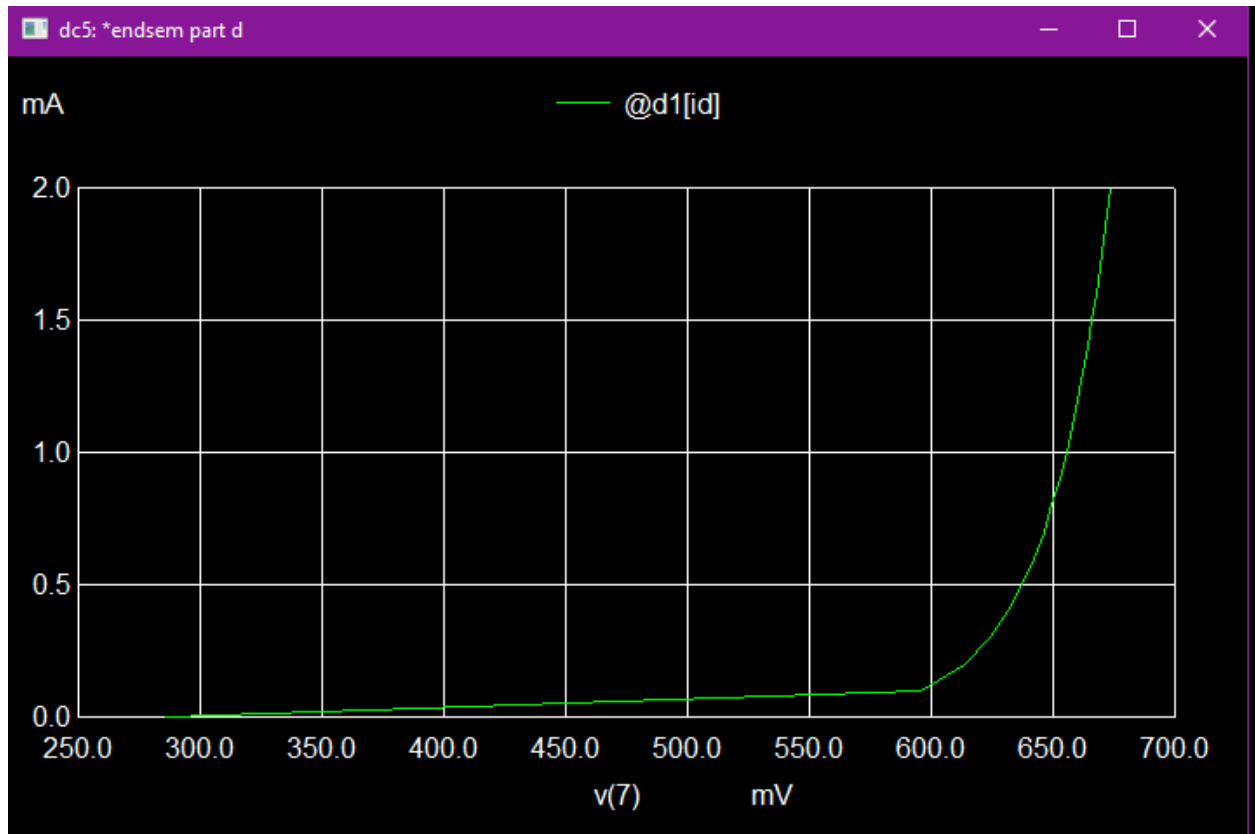
.model D1N750 D(Vj=.75 Cjo=175p Rs=.25 Eg=1.11 M=.5516 Nbv=1.6989 N=1 Bv=8.1 Fc=.5
lkf=0 lbv=20.245m)
.save all @d1[id]

.control
run
plot @d1[id] vs v(7)
plot v(1)

.endc
.end
```

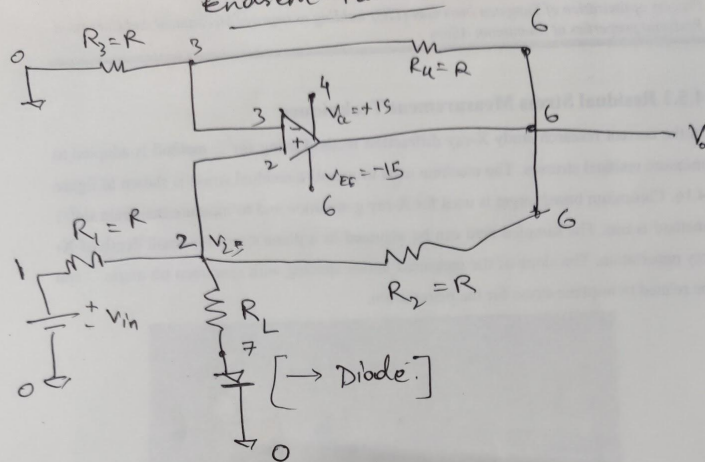


Input Voltage graph



Diode Current vs Diode Voltage

Endsem-Part-D :-



Let $R_L = 100\Omega$

$[I]$ is ranging from 0 to 2 mA

$\Rightarrow V_{in}$ is ranging from 0 to $2\text{mA} \times 10\text{K}$

$= 0 \text{ to } 20 \times 10^{-3} \times 10^3$

$= [0 \text{ to } 20\text{V}]$