PINCH_RESISTOR

```
*
*                XRpinch
*     Vtest    _________
*       _|_____|_/\  /\  /\_
*      |_ __\     \/  \/   |_
*    /_/   \      :       7//
*   //\   \       :
*   \   \_//      :         Rset
*    \____/       :./\  /\  /\_
*      _|_            \/  \/  _|_
*     7//     VRset          7//
*    Vramp


Vramp    Vtest  0    PWL(   0     0.1  5  5.0)
XRpinch  Vtest  0    VRset  Rpinch
Rset     VRset  0    1k
.tran    100m   5     0     100m
```

.control

```
run
plot  -vramp#branch
dump
```

.endc

```
*                                 .SUBCKT  Rpinch   INP   INN  VRS
*  |INP|_______|          |VRS|
*  |___|       |_ _|_     |___|
*            _ /   \ _|_    ==>   |INP|_|_/\  /\  /\_|INN|
*           |Bpinc|   / _ \        |___|     \/  \/   |___|
*            __|     \/ \/                      _:_
*          |  \___/   /\_/\                     |VRS|
*          |   |      \ _ /Isen                 |___|
*          |   |       _|_
*  |INN|__|____|       7//
*  |___|
*
```

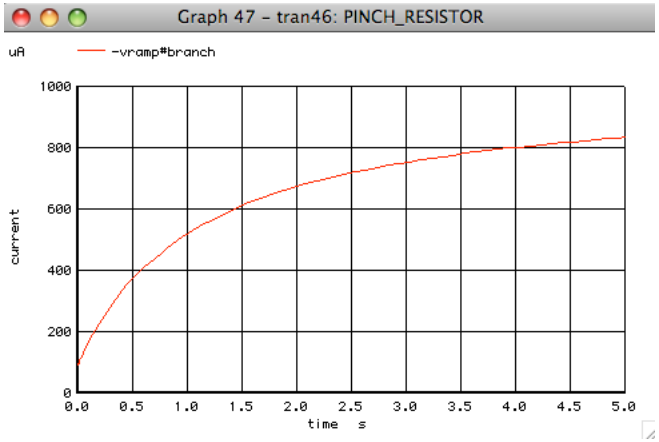
.SUBCKT Rpinch INP INN VRS

```
Isen     VRS      0     -1u
Bpinc    INP   INN   I = .000001*(v(INP) - v(INN))/(v(VRS)*(1+1*(v(INP) - v(INN))))
```

.ENDS Rpinch

```
*
*     Attach Pin 2 to highest voltage
*
*
*        ____________________________________________________
*       /                                                    /
*      /  ___________ /.................../_______________  /
*     / / _________ /                    /               /  /
*    / / /___1 /   /         2          /     /___3 / /  /
*   / / //___/| /   /                  /     //___/| / /  /
*  / / / |___|//   /                  /     / |___|// /  /
* _/_/_/_____/___/_________________/_____/_____/_/__/___
*  | | | p+imp | | |       n+imp       |     | p+imp | | |
*  | \ \_____/   \_________________/ base  \_____/ /
*  |  \_____________________________________________/      Psub
*  |  _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ |
*  | /   N BURIED LAYER                                    \|
*  \  _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ /
*        P-Substrate
*
```

.end


Graph 47 - tran46: PINCH_RESISTOR
uA
-vramp#branch
current
1000
800
600
400
200
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
time s