

2.22 EX= 1.715 KG1=1155.0 KP=87.74
CT=0.00 RGI=1000
=3P CCP=1.9P
 $\sqrt{1 + \exp(KP \cdot (1/\mu + (V(2,3) + VCT) \cdot \sqrt{KVB + V(1,3) \cdot V(1,3)}))}$
(PWR(V(7),EX)+PWR(V(7),EX))/KG1
TO AVOID FLOATING NODES IN MU-FOLLOWER
CATHODE-GRID;
GRID-PLATE;
CATHODE-PLATE;
OR GRID CURRENT
OR GRID CURRENT
 $\approx 1N$ RS=1 CJO=10PF TT=1N)

23
WITH THERMAL RC NETWORK

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etry Design Systems
served
LICENSED SOFTWARE
tary Information
roperty of
ITS LICENSORS
Resale Restricted
ense Agreement

n Sep 5, 01
SPICE3
r MOS Model (Version 1.0)
signations

Qu W=100u
LEVEL=1 IS=1e-32
BDA=0.00806114 KP=112.25
GDO=1e-11
565e-11 RS=0.006486 N=1.1328 BV=100
.2 XT1=3.32496 TT=0
6.16363 M=0.840542 FC=0.5

id in MD1:
TI=3.0 TT=0
ImA
e-32 N=50
VJ=0.899032 M=0.9 FC=1e-08
id in MD2:
TT=0 CJO=0
ImA
e-10 N=0.4 RS=3e-06
.tran 0 200m 10m 1u
.four 20K V(out)
:ac oct 10 1000 20000

-09
id in MD3:
TT=0 CJO=0
IBV=1mA
e-10 N=0.4

del Subcircuit
0
3 0.158
2 0.274
1 0.29
3 0.00131
2 0.001686
1 0.022562

0.3685 FC=0.5 CJC=6.8291E-11 VJC=0.5499 MJC=0.3668 XCJC=0.5287 XTB=1.4883 EG=1.2343 XTI=3.0)
E=0.3300 FC=0.5 CJC=4.8831E-11 VJC=0.5258 MJC=0.3928 XCJC=0.5287 XTB=1.1398 EG=1.2105 XTI=3.0)

:-1)

547p N=1 TI=295n)
0.1p N=1 TI=137n)
69.8f N=1 TI=220n)
67f N=4 TI=8800n)

E=0.64 XTB=0.95)
47E-11 VJC=0.541 MJC=0.329 TF=8.262E-10 XTB=1.125 EG=0.75 XTI=3)

470E-18 N=2 TI=325n Vds=200 Ron=3000m Qg=11n)

1.33 Xtf=5.982 Vtf=10 Rb=1)
5.68 Xtf=1.163 Vtf=10 Rb=1)

5 MJC=.39)

.MODEL 2SK1058 NMOS (VTO=403.969M KP=20U L=2U W=29.7482M GAMMA=0 PHI=600M LAMBDA=184.988F RD=60.8251M CBD=2.56138N IS=10F CGSO=1.13517N CGDO=1.13517N TOX=0 NSUB=0 TPG=1 UO=600 RG=50 RDS=1MEG)
.MODEL 2SJ162 PMOS (VTO=842.193M KP=20U L=2U W=21.3317M GAMMA=0 PHI=600M LAMBDA=20.7067M RD=837.199M CBD=2.96862N IS=10F CGSO=1.13517N CGDO=1.13517N TOX=0 NSUB=0 TPG=1 UO=600 RG=50 RDS=1MEG)

.MODEL 2SC2911 NPN (IS=1.91E-13 ISE=4.9E-11 NF=1.073 NE=2.57 BF=274 IKF=0.0836 VAF=320 CJC=6.4E-12 TF=8.84E-10 MJC=0.31 VJC=0.98 CJE=6.4E-12 MJE=0.3 VJE=0.4 LEVEL=1)
.MODEL 2SA1209 PNP (IS=1.6E-13 ISE=5.2E-11 NF=1.073 NE=2.57 BF=257 IKF=0.081 VAF=125 CJC=8.7E-12 TF=9.95E-10 MJC=0.313 VJC=0.975 CJE=8.7E-12 MJE=0.3 VJE=0.4 LEVEL=1)

.MODEL MPSA92 PNP (IS=218.9f XTI=3 Eg=1.11 Vaf=100 Bf=99 Ne=1.307 Ise=218.9f Ikf=2016 XTB=1.5 Br=24.67 Nc=2 Isc=0 Ikr=0 Rc=7 Cjc=19.88p Mjc=.4876 Vjc=.75 Fc=.5 Cje=81.49p Mje=.3493 Vje=.75 Tr=1.395n Itf=1.5 Vtf=22 Xtf=270 Rb=10)
.MODEL MPSA42 NPN (IS=34.9f XTI=3 Eg=1.11 Vaf=100 Bf=2.65K Ne=1.708 Ise=16.32p Ikf=23.79m XTB=1.5 Br=9.769 Nc=2 Isc=0 Ikr=0 Rc=7 Cjc=14.23p Mjc=.5489 Vjc=.75 Fc=.5 Cje=48.62p Mje=.4136 Vje=.75 Tr=934.3p TI=1.69n Itf=5 Vtf=20 Xtf=150 Rb=10)

