

SPICE PARAMETER

EMZ7

```
* QEMZ7_NPN BJT model
* Date: 2006/11/30
.MODEL QEMZ7_NPN NPN
+ IS=130.00E-15
+ BF=394.21
+ VAF=31.700
+ IKF=2.0336
+ ISE=130.00E-15
+ NE=1.7644
+ BR=166.53
+ VAR=100
+ IKR=16.665
+ ISC=977.07E-15
+ NC=1.4276
+ NK=.73285
+ RE=.13
+ RB=5.8745
+ RC=.22758
+ CJE=43.128E-12
+ MJE=.38969
+ CJC=12.019E-12
+ MJC=.18215
+ TF=270.44E-12
+ XTF=29.534
+ VTF=38.684
+ ITF=24.166
+ TR=2.3199E-9
+ XTB=1.5000
```

```
* QEMZ7_PNP BJT model
* Date: 2006/11/30
.MODEL QEMZ7_PNP PNP
+ IS=110.00E-15
+ BF=394.09
+ VAF=21.739
+ IKF=.52024
+ ISE=110.00E-15
+ NE=1.6818
+ BR=28.439
+ VAR=100
+ IKR=1.3710
+ ISC=2.0285E-12
+ NC=2.1543
+ NK=.56117
+ RE=.1
+ RB=4.9687
+ RC=.26205
+ CJE=44.776E-12
+ MJE=.43395
+ CJC=8.9662E-12
+ MJC=.25891
+ TF=371.39E-12
+ XTF=24.384
+ VTF=41.974
+ ITF=32.155
+ TR=10.676E-9
+ XTB=1.5000
```