

```
.MODEL QBSP31 PNP(
+ IS=6.330E-14
+ NF=0.9938
+ ISE=8.576E-17
+ NE=1.045
+ BF=191.4
+ IKF=1.3660
+ VAF=106.1
+ NR=0.9976
+ ISC=6.121E-15
+ NC=1.021
+ BR=11.65
+ IKR=0.2553
+ VAR=13.41
+ RB=2
+ IRB=1E-06
+ RBM=2
+ RE=5.555E-02
+ RC=0.1597
+ XTB=0
+ EG=1.11
+ XTI=3
+ CJE=1.036E-10
+ VJE=0.7589
+ MJE=0.3930
+ TF=7.518E-10
+ XTF=8.402
+ VTF=1.806
+ ITF=1.9360
+ PTF=0
+ CJC=5.025E-11
+ VJC=0.7124
+ MJC=0.5012
+ XCJC=0.3899
+ TR=2.25E-07
+ CJS=0
+ VJS=0.75
+ MJS=0.333
+ FC=0.800 )
*
```