**.model QnB NPN**

**(16 parâmetros)**

IS=19.22105f BF=272.7546 VAF=66.4 XTB=.3 NF=1.0022 BR=10 NR=1 XTI=5.98 CJC=6.517p VJC=0.6148 MJC=0.3362 CJE=12.5p VJE=.6 MJE=.55 TF=820p Vceo=45 Icrating=100m mfg=Veronese

**.model BC547B NPN**

**(37 parâmetros)**

IS=2.39E-14 NF=1.008 ISE=3.545E-15 NE=1.541 BF=294.3 IKF=0.1357 VAF=63.2 NR=1.004 ISC=6.272E-14 NC=1.243 BR=7.946 IKR=0.1144 VAR=25.9 RB=1 IRB=1.00E-06 RBM=1 RE=0.4683 RC=0.85 XTB=0 EG=1.11 XTI=3 CJE=1.358E-11 VJE=0.65 MJE=0.3279 TF=4.391E-10 XTF=120 VTF=2.643 ITF=0.7495 PTF=0 CJC=3.728E-12 VJC=0.3997 MJC=0.2955 XCJC=0.6193 TR=1.00E-32 CJS=0 VJS=0.75 MJS=0.333 FC=0.9579 Vceo=45 Icrating=100m mfg=NXP