

.SUBCKT PZTM1101 1 2 3 4

\*QTr NPN 2=B 3=E 4=C

\*SBD1 Schottky 1=A 4=C

\*SBD2 Schottky 1=C 4=A

\*

Q1 4 2 3 QTr

D1 1 4 SBD1

D2 4 1 SBD2

\*

.MODEL QTr NPN(

+ IS=4.639E-15

+ NF=0.9995

+ ISE=2.091E-14

+ NE=1.6

+ BF=160.1

+ IKF=0.12

+ VAF=98.69

+ NR=1.001

+ ISC=3.257E-12

+ NC=1.394

+ BR=5.944

+ IKR=0.06

+ VAR=19.29

+ RB=1

+ IRB=1E-06

+ RBM=1

+ RE=0.3614

+ RC=1.755

+ XTB=0

+ EG=1.11

+ XTI=3

+ CJE=5.631E-12

+ VJE=0.7002

+ MJE=0.3385

+ TF=3.001E-10

+ XTF=27

+ VTF=1.461

+ ITF=0.2723

+ PTF=0

+ CJC=4.949E-12

+ VJC=0.5969

+ MJC=0.1928

+ XCJC=0.864

+ TR=9.4E-8

+ CJS=0

+ VJS=0.75

+ MJS=0.333

+ FC=0.5582 )

\*

.MODEL SBD1 D(

+ IS=4.752E-6

+ N=1

+ BV=35

+ IBV=2E-5

```
+ RS=1.165
+ CJO=3.285E-10
+ VJ=0.225
+ M=0.5376
+ FC=0.5
+ TT=0
+ EG=0.69
+ XTI=2)
*
.MODEL SBD2 D(
+ N=1
+ IS=6.178E-5
+ RS=1.077E6
+ EG=0.69
+ XTI=2)
.ENDS
*
```