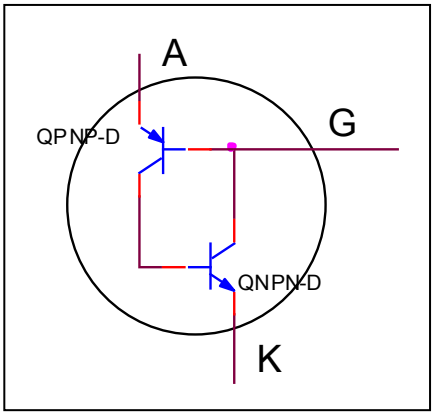
Device Modeling Report

COMPONENTS: Programmable Unijunction Transistor
PART NUMBER: N13T2
MANUFACTURER: NEC

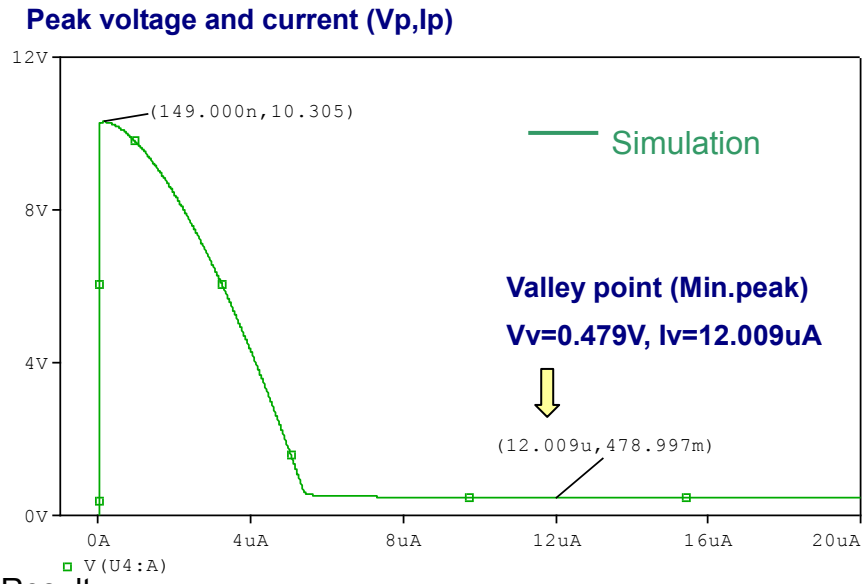
Bee Technologies Inc.

Pspice model parameter	Model description
IS	Saturation Current
ISE	Non-ideal Base-Emitter Diode Saturation Current
RC	Series Collector Resistance
TR	Reverse transit time
TF	Forward Transit Time

Equivalent circuit



Peak Voltage (Vp) and Peak Current (Ip) Characteristics

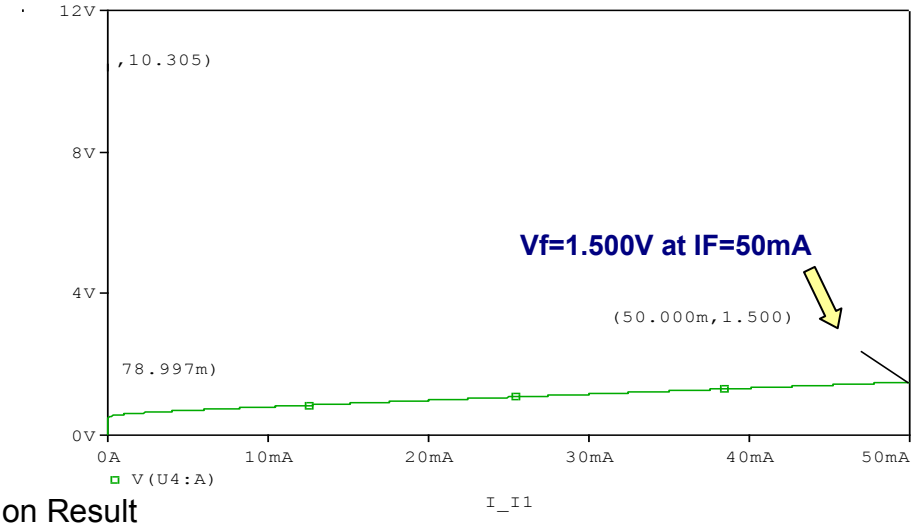


Simulation Result

Vp=10.305(V) at Ip=0.149u(A)

SPEC: Vp=10.2(V) to 10.6(V) at Ip(max.)=0.15u(A)

Forward Voltage Characteristics

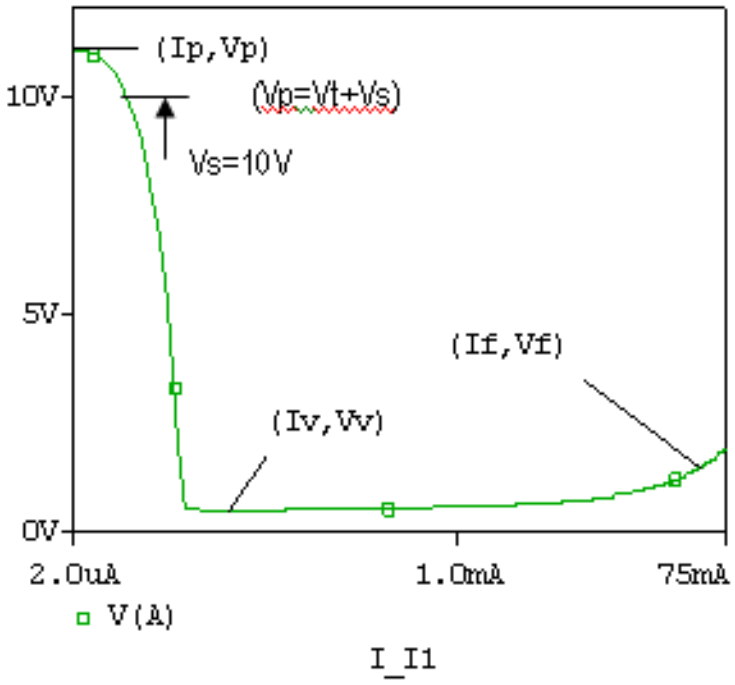


Simulation Result

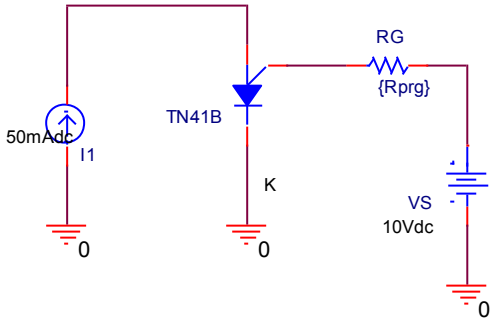
Vf=1.5(V) at If=50m(A)

SPEC: Vf=1.5(V)MAX. at If=50m(A)

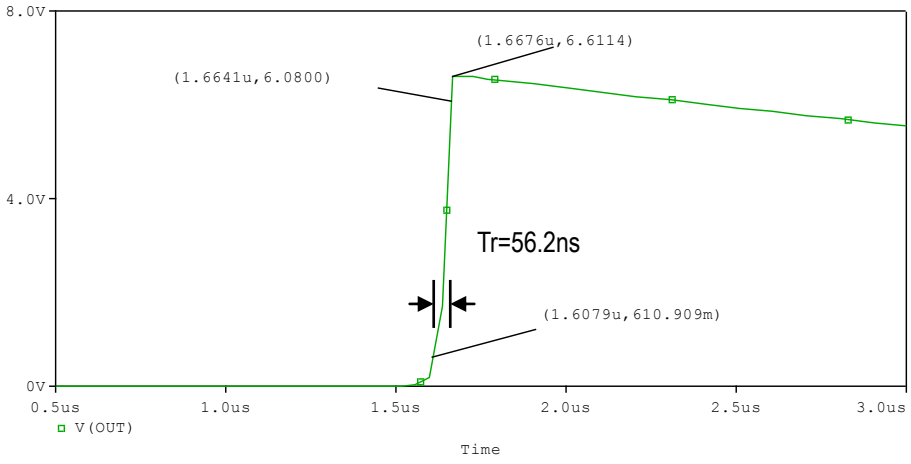
Voltage and Current Characteristics Reference



Evaluation Circuit



Pulse Output Voltage and Pulse Output Rise Time



Vo=6.611(V) at Vi=20(V), Ct=0.2u(F)

SPEC: Vo=6(V) to 10(V) at Vi=20(V), Ct=0.2u(F)

tr=56.2(ns) at Vi=20(V), Ct=0.2u(F)

SPEC: 50(ns)[Typ.] to 80(ns)[Max.] at Vi=20(V), Ct=0.2u(F)

Evaluation circuit